



NBP

Narodowy Bank Polski

Economic Institute

Inflation projection of Narodowy Bank Polski based on the NECMOD model

Warsaw / 9 November 2015



Outline:

Changes between
rounds

Projection 2015 - 2017

Uncertainty

Outline

1 Changes between projection rounds

2 Projection 2015 - 2017

3 Uncertainty

Outline:

Changes between
rounds

Projection 2015 - 2017

Uncertainty

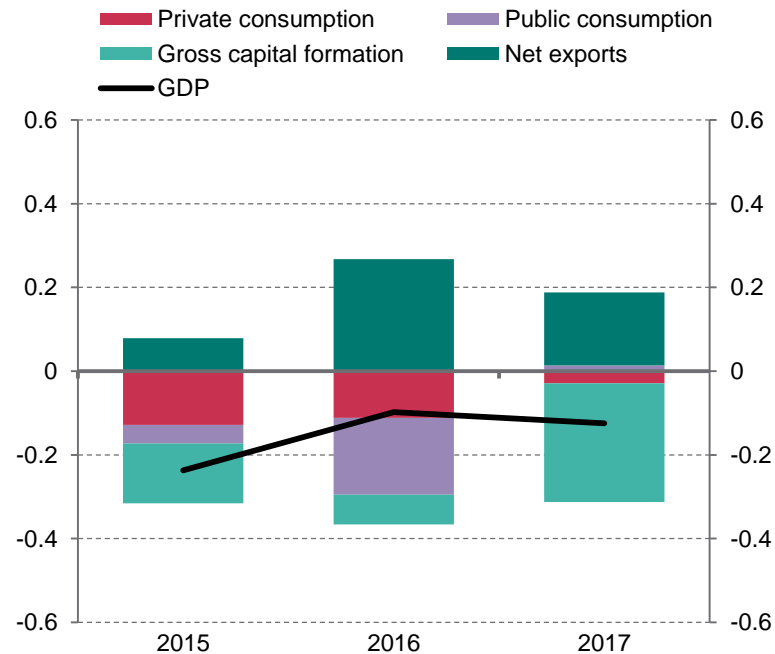
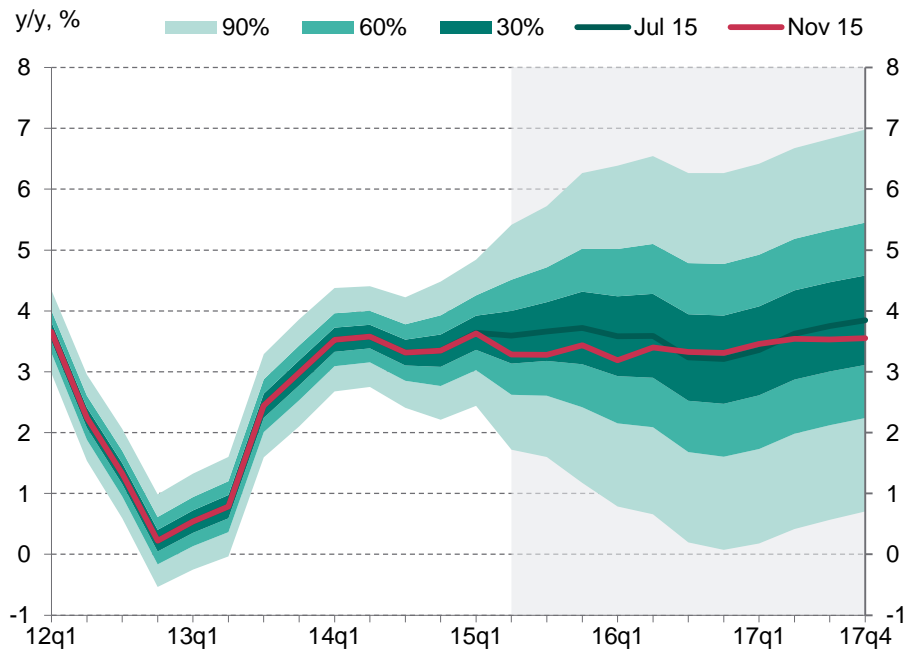
Changes between projection rounds

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

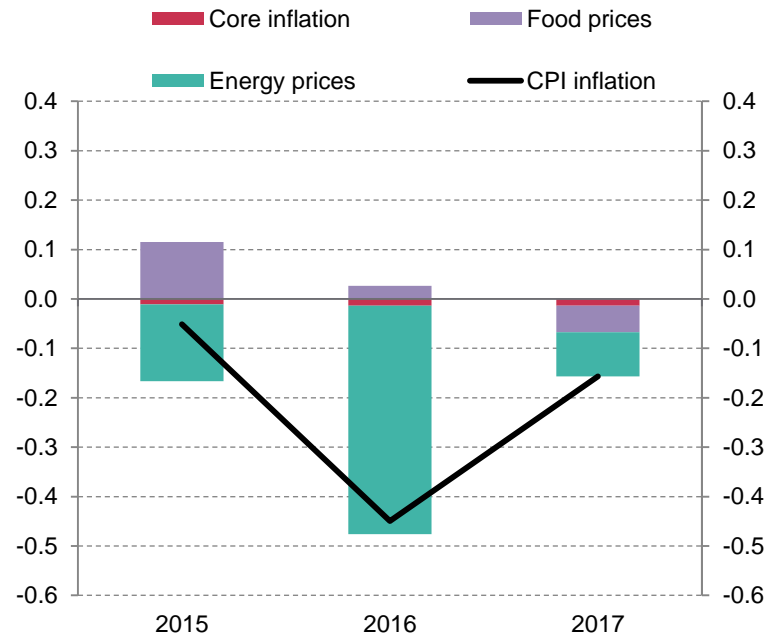
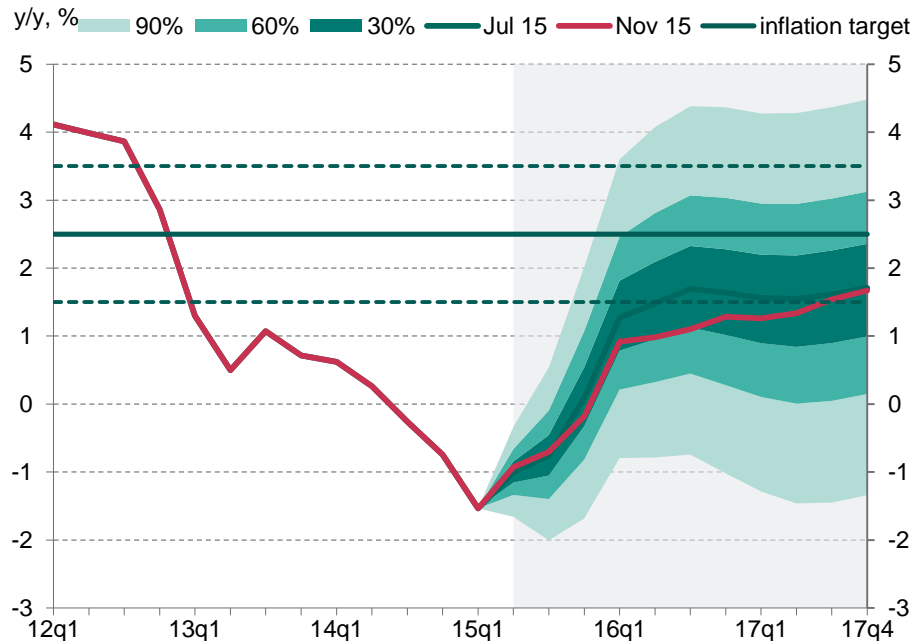
Changes in the projection assumptions

- External environment:
 - Lower forecast of global energy commodities' prices,
 - Similar forecast for GDP growth abroad.
- GDP data for 2015Q2 below expectations from the July projection, with lower consumption and investment and higher inventories and contribution of net exports to growth.
- Lower public consumption in 2016 (due to relatively low dynamics of current expenditure of budgetary entities assumed in the 2016 Budget Act draft).
- Lower than expected drop in domestic food prices in 2015 (the effect of drought lasting this summer in Poland and some other European countries).
- Weaker EUR/PLN exchange rate in the projection starting point.

November GDP projection compared to July projection



November CPI inflation projection compared to July projection



Source: CSO data, NBP calculations

Outline:

Changes between
rounds

Projection 2015 - 2017

Uncertainty

Projection for 2015-2017

- Projection scenario
- Economic conditions abroad
- Aggregate demand
- Inflation

Projection scenario

- Economic growth will be driven by rising individual consumption and investment outlays, while net exports remain negative.
- Individual consumption growth supported by good situation on the labour market (an unemployment rate decline, pick-up in wage growth), with relatively high voluntary savings rate and possibility of financing consumption with consumer credit (low interest rates).
- Investment growth will continue at a robust pace and will exceed GDP growth. It will be supported by the assumption of constant (currently low) interest rates and sound financial condition of enterprises. However it may be hampered by moderate expectations of demand.
- Output gap closing gradually (negative since mid-2012) and remaining close to zero in 2016-2017.
- Negative CPI inflation till the end of 2015 will be mainly due to supply-side factors, i.e. a sharp fall in oil prices and large supply of agricultural products. Low inflation is also supported by weak demand pressure and low cost pressure, manifested in falling import prices and the long-lasting decrease in domestic producer prices.
- Over the projection horizon, the impact of these factors on inflation will gradually fade away, yet inflation will remain below the NBP inflation target until the end of 2017.

Outline:

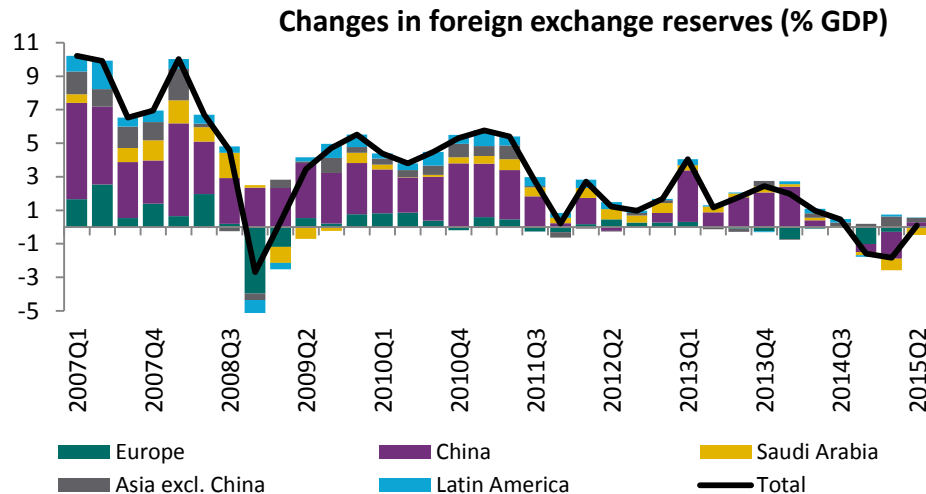
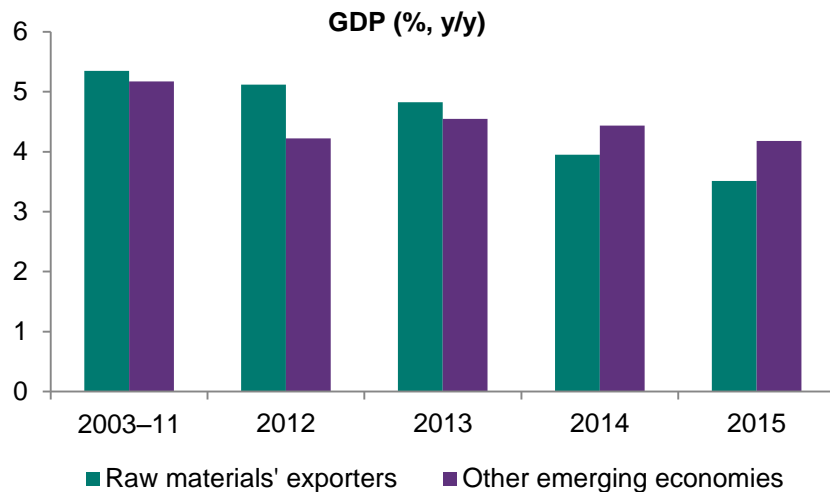
Changes between
rounds

Projection 2015 - 2017

Uncertainty

Economic conditions abroad

Economic situation in emerging markets

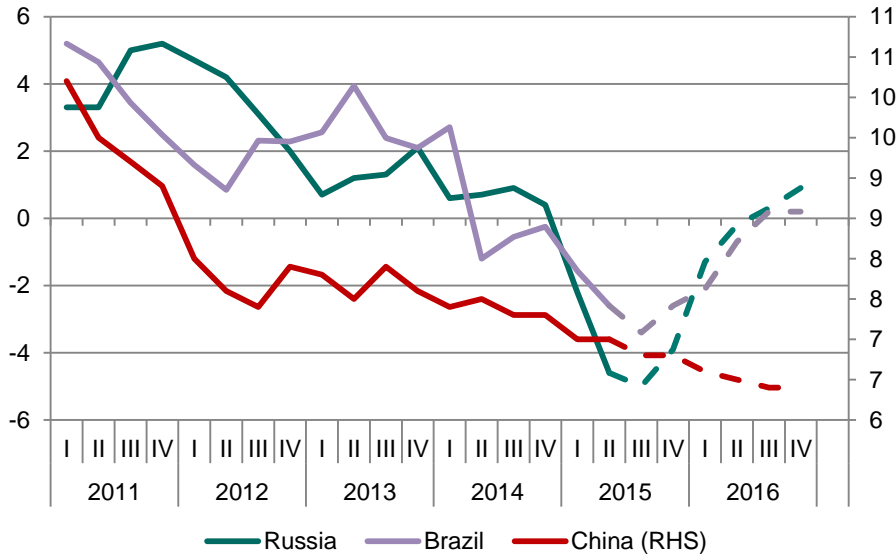


Sources of emerging economies' slowdown:

- slump in raw materials' prices,
- structural changes in China economy,
- capital outflow due to the perspective of US monetary policy normalization,
- slowing down of credit cycle,
- political uncertainty in some countries.

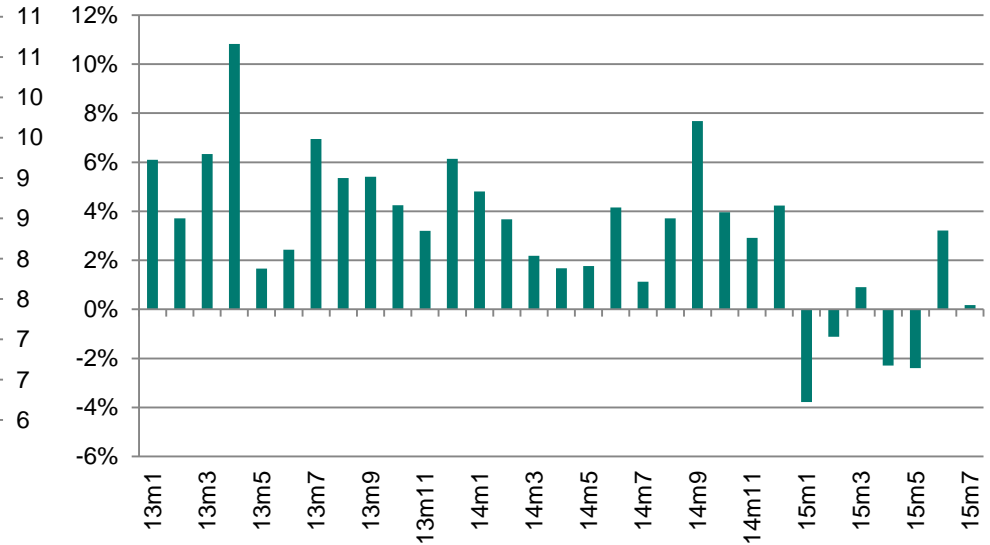
Emerging economies

GDP (% , y/y)



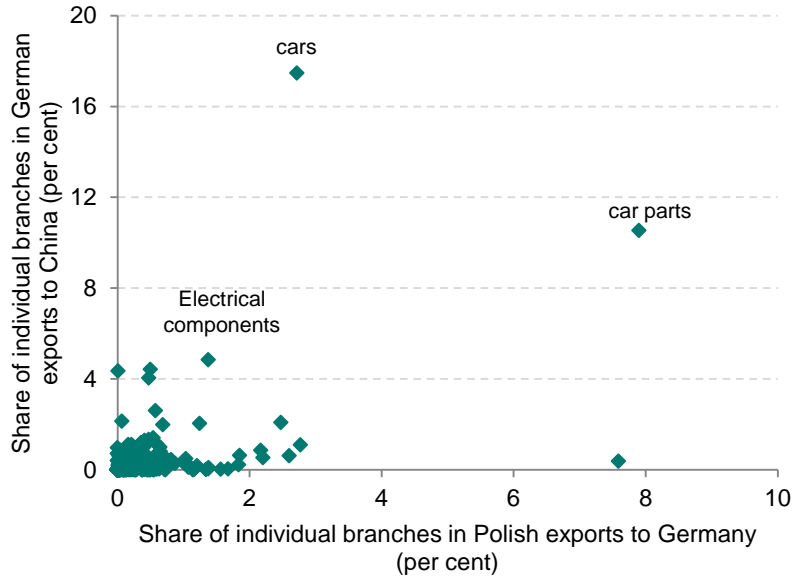
Source: Bloomberg data

Exports from developed countries to emerging countries (% , y/y)

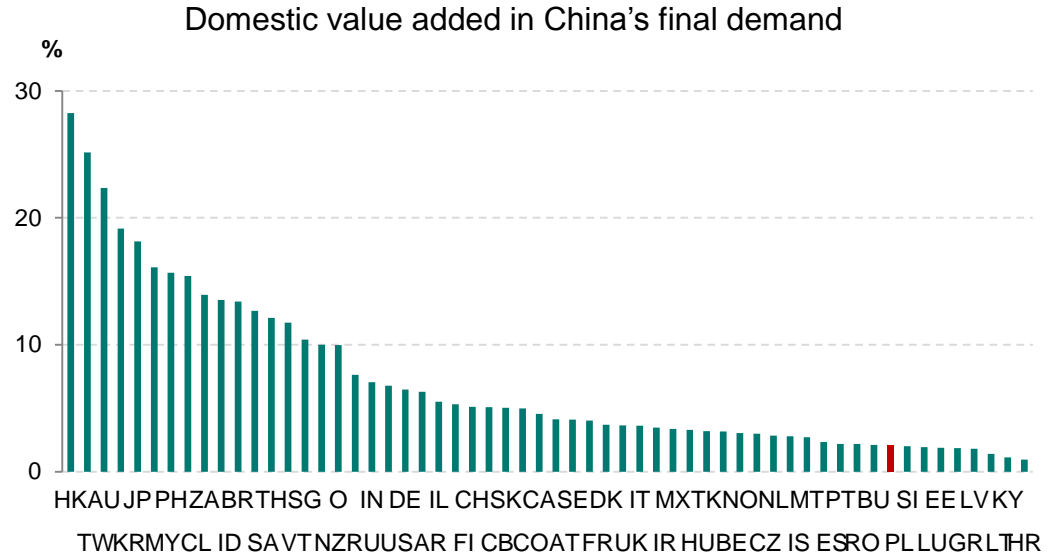


Source: CPB World Trade Monitor

Polish GVC exposure to China



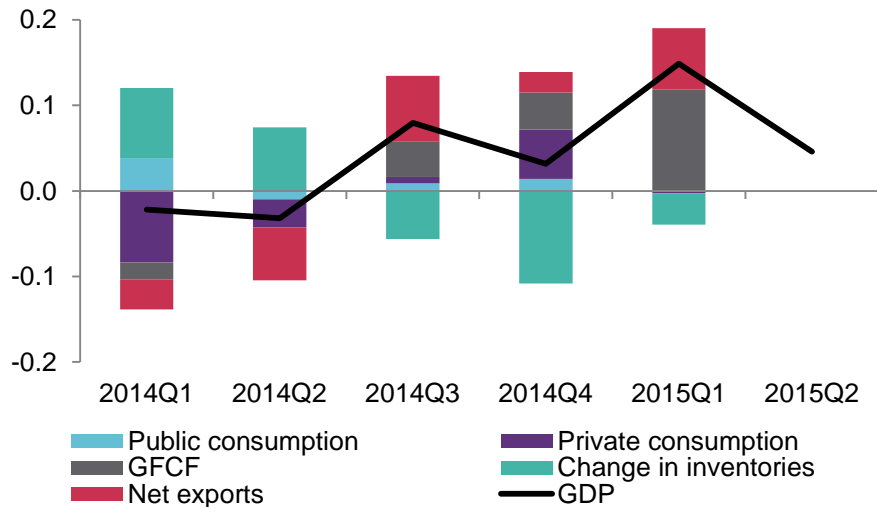
Source: NBP calculation based on Eurostat data



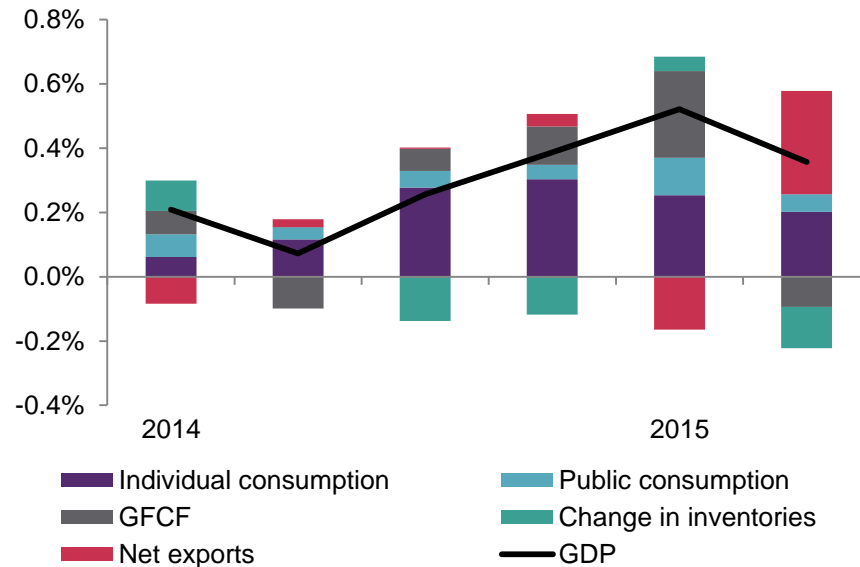
Source: OECD TIVA

GDP in the euro area

Revision of quarterly GDP growth in the euro area (p.p.)



GDP in 2015Q2 (% q/q)

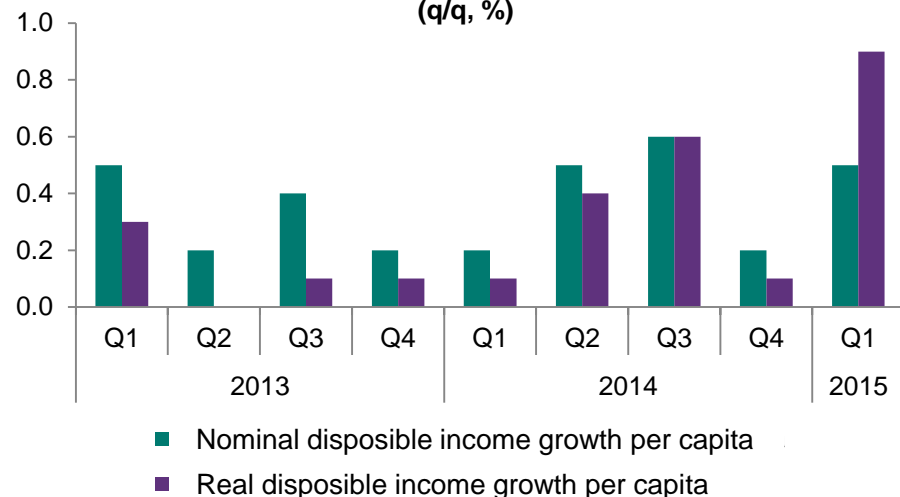


- Lower GDP growth in the 1st half of 2015 in the euro area than expected.
- Higher investment and net exports.

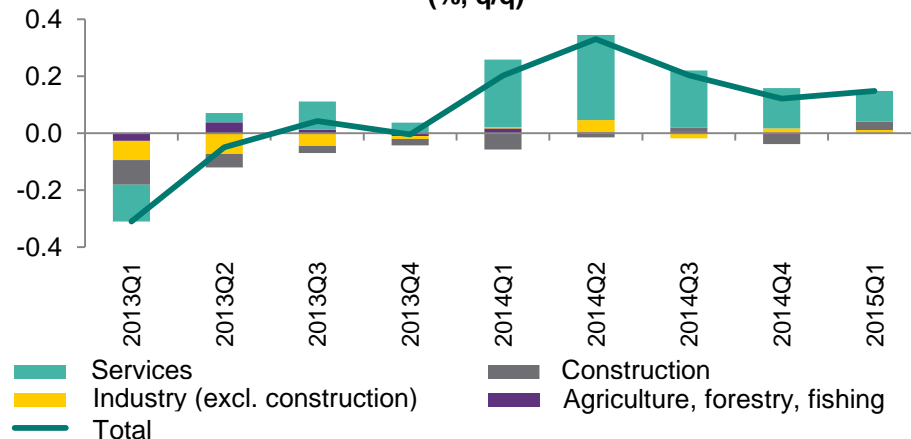
- Households' consumption is the main driving force of growth in the euro area.

Households in the euro area

Disposable income in the euro area
(q/q, %)

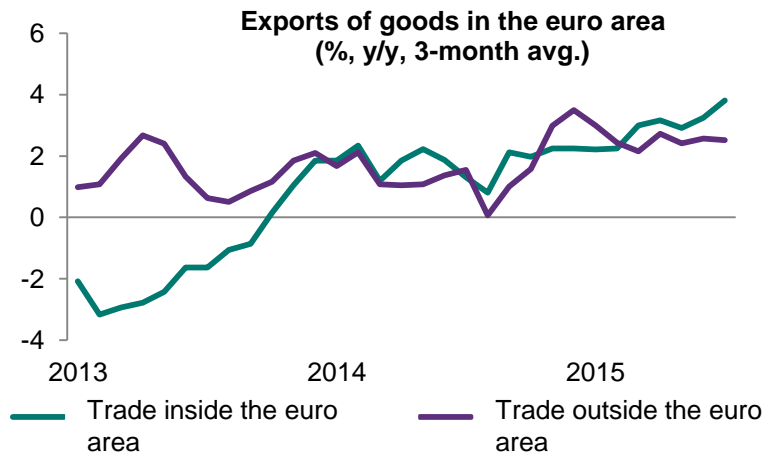
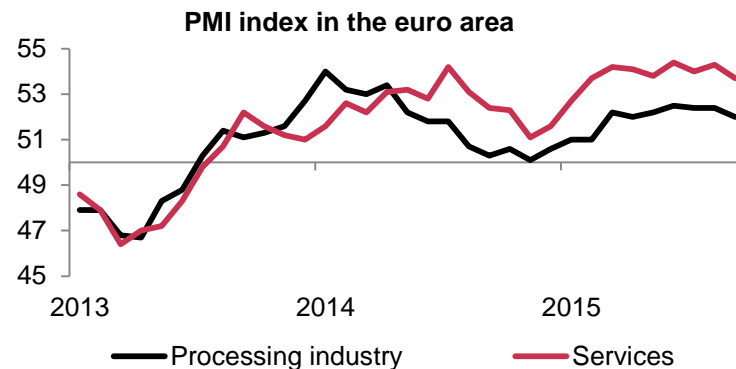
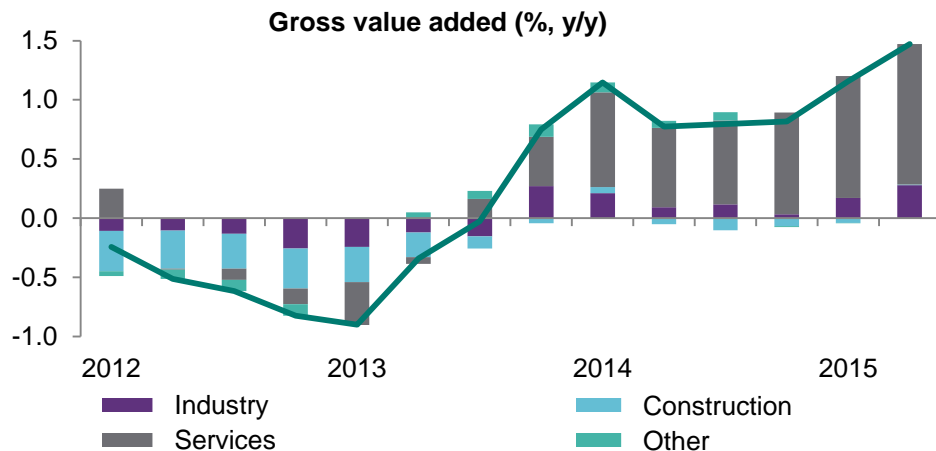


Employment growth in the euro area
(%, q/q)



- Drop in raw materials' prices increase the real disposable income growth of households in the euro area.
- Other factors supporting consumption: 1) slow increase in the labour demand (mainly in the services sector); 2) stable although still low growth of wages; 3) positive consumer sentiment; 4) growing credit availability for households.

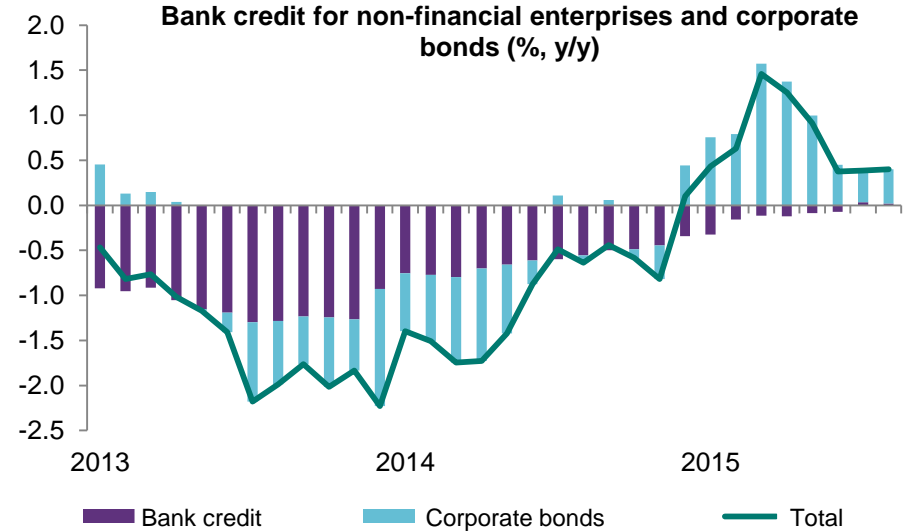
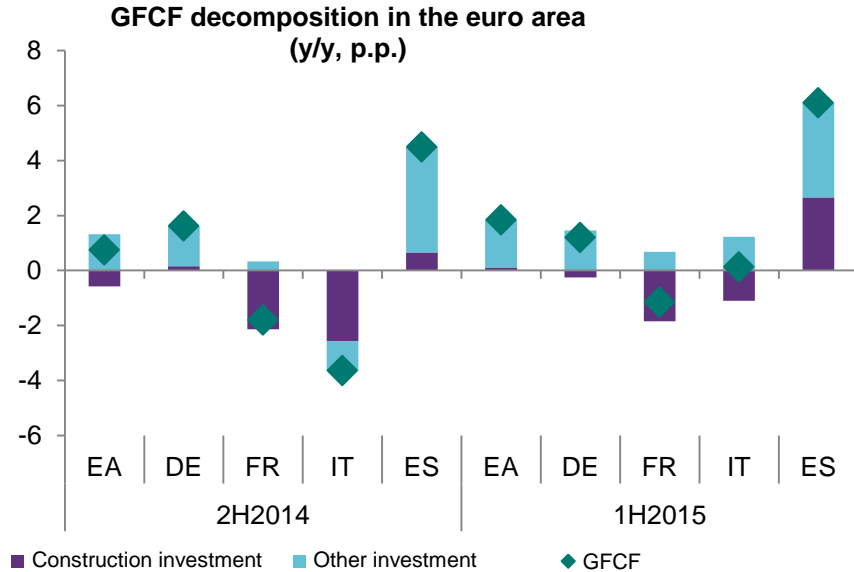
Enterprises in the euro area



- Enterprises remain optimistic (services) or moderately optimistic (industry), planning to increase employment.
- Weaker demand from BRIC countries compensated with growing exports to other regions (positive influence of euro depreciation) and growing trade inside the euro area.

Source: Eurostat data, Markit.

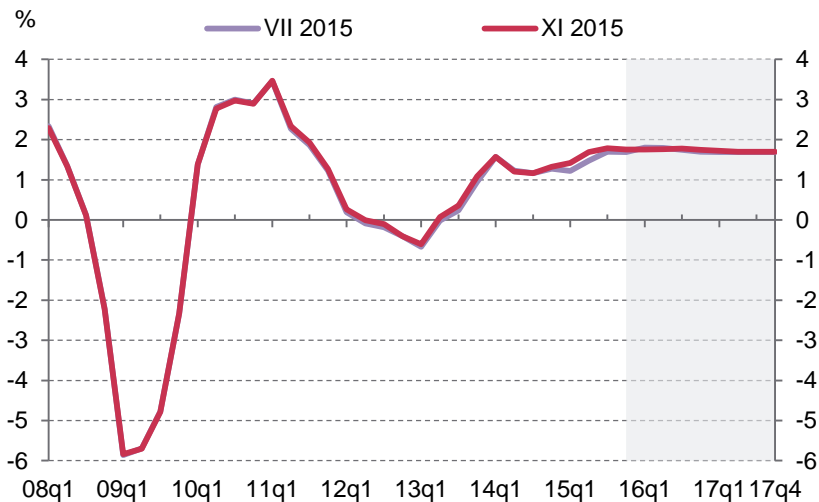
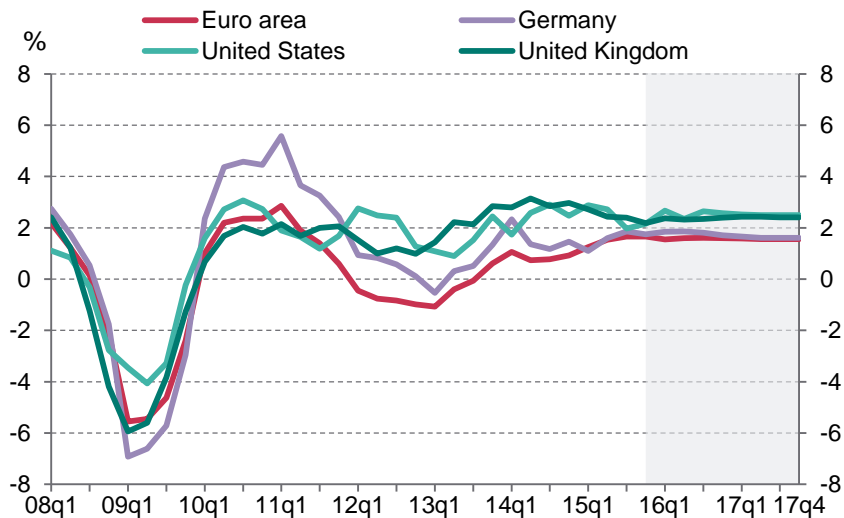
Gross fixed capital formation in the euro area



- As expected, the investment demand's growth remain weak despite broader access to credit for enterprises.

GDP abroad

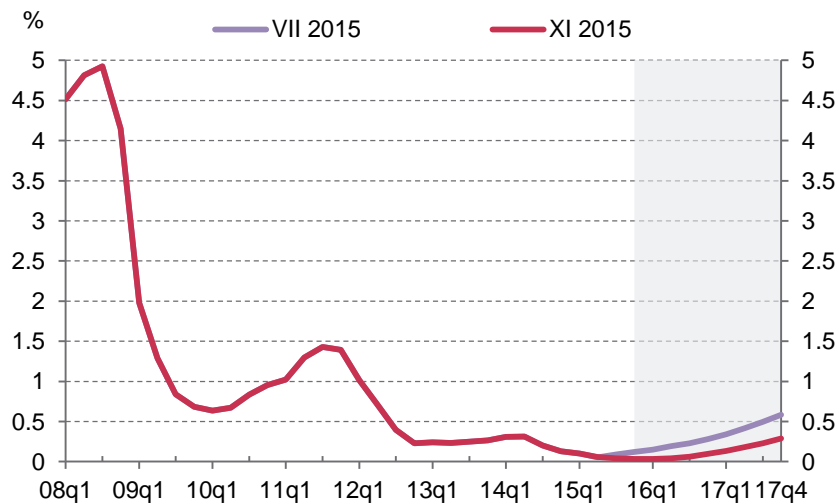
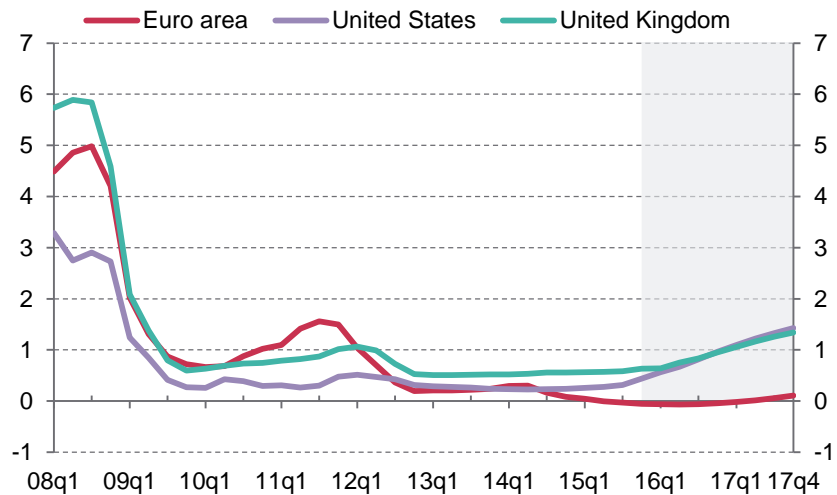
(similar)



Source: Bloomberg, Eurostat data, NBP calculations

Interest rates abroad

(lower)



Source: Bloomberg data, NBP calculations

Outline:

Changes between
rounds

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Uncertainty

Aggregate demand

- Consumption demand
- Government demand
- Investment demand
- Foreign trade

GDP and its components – 2015Q2 and 2015Q3

	15q2		15q3	
GDP (y/y) (%)	3.3	(3.6)	3.3	(3.7)
Domestic demand (y/y) (%)	3.3	(4.0)	3.8	(3.9)
Private consumption (y/y) (%)	3.0	(3.2)	3.0	(3.3)
Public consumption (y/y) (%)	2.6	(3.3)	3.3	(3.6)
Gross fixed capital formation (y/y) (%)	6.4	(9.8)	7.2	(8.9)
Exports (y/y) (%)	5.2	(6.8)	4.6	(8.4)
Imports (y/y) (%)	5.4	(7.7)	5.7	(9.0)
Net exports contribution (p.p.)	0	(-0.3)	-0.4	(-0.2)

Source: CSO data, NBP calculations

Values from the July projection are given in brackets (seasonally adjusted).

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

Outline:

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rounds

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Consumption demand

Labour market – 2015Q2 and 2015Q3

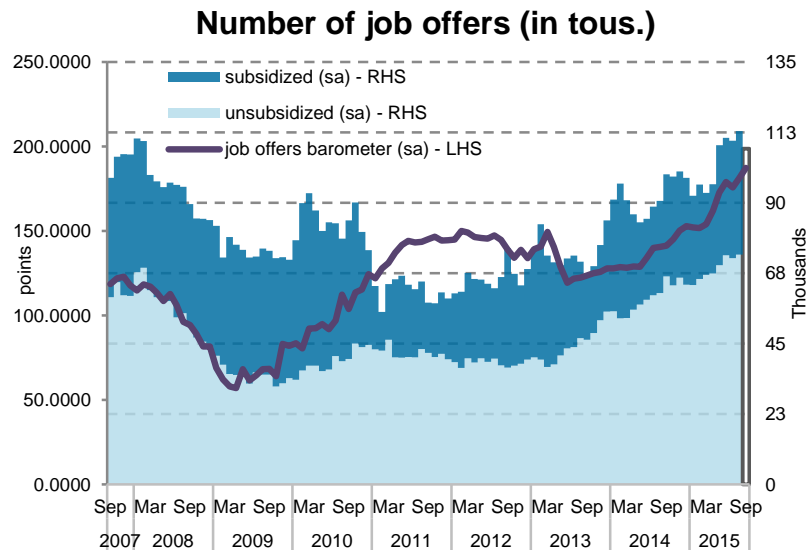
	15q2		15q3	
ULC (y/y) (%)	0.5	(1.3)	1.0	(1.0)
Labour productivity (y/y) (%)	2.1	(2.1)	2.7	(3.0)
Gross wages (y/y) (%)	3.1	(3.8)	3.8	(3.9)
Total employment LFS (y/y) (%)	1.2	(1.4)	0.6	(0.7)
Unemployment rate LFS (%)	7.5	(7.8)	7.1	(7.7)
Participation rate (%)	56.0	(56.4)	55.9	(56.3)

Source: CSO data, NBP calculations

Values from the July projection are given in brackets (seasonally adjusted).

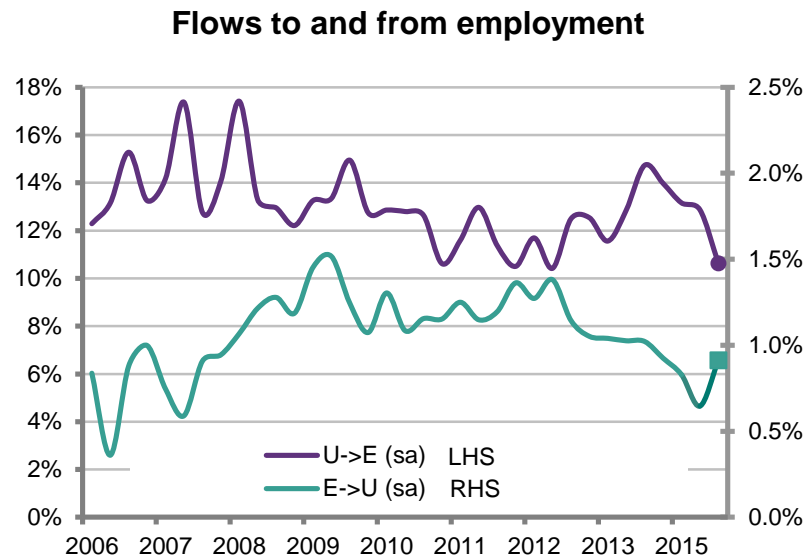
Indicators with values higher than in the July projection are marked green, whereas indicators with lower values are marked red.

Number of vacancies and probability of finding a job



Source: Ministry of Labour and Social Policy data, BIEC

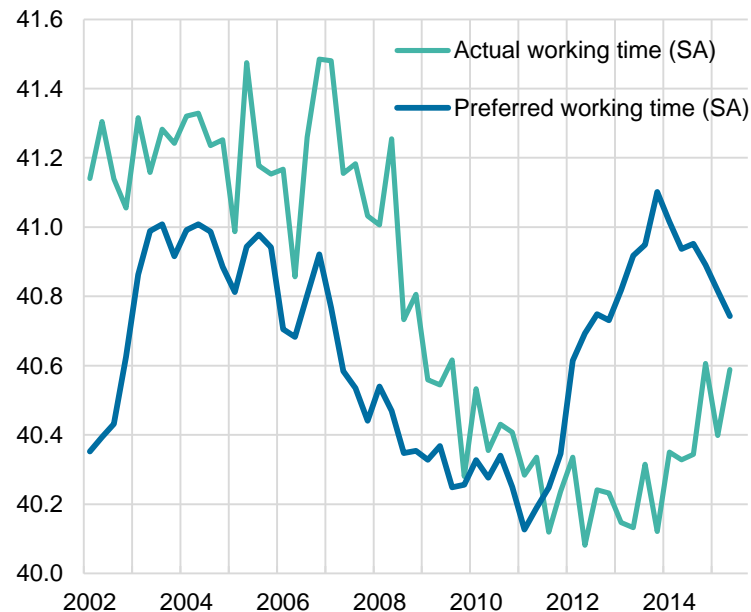
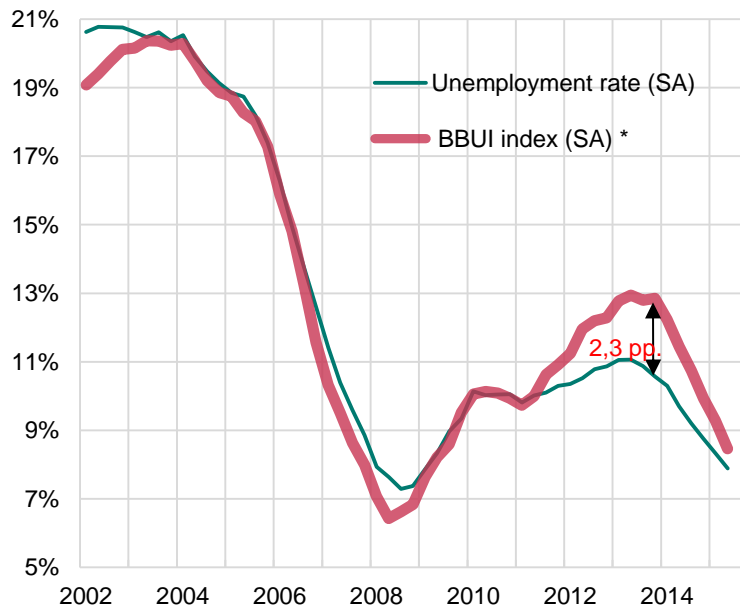
- In August 2015 number of vacancies reached the peak in its recorded history, though in September we observed a slight correction.
- The upward trend is confirmed by other indicators (as BIEC job offers barometer)



Source: LFS data, NBP estimates

- Significantly lower probability of finding a job and prolonged period of looking for a new employee.

Working time still shorter than preferred by employees

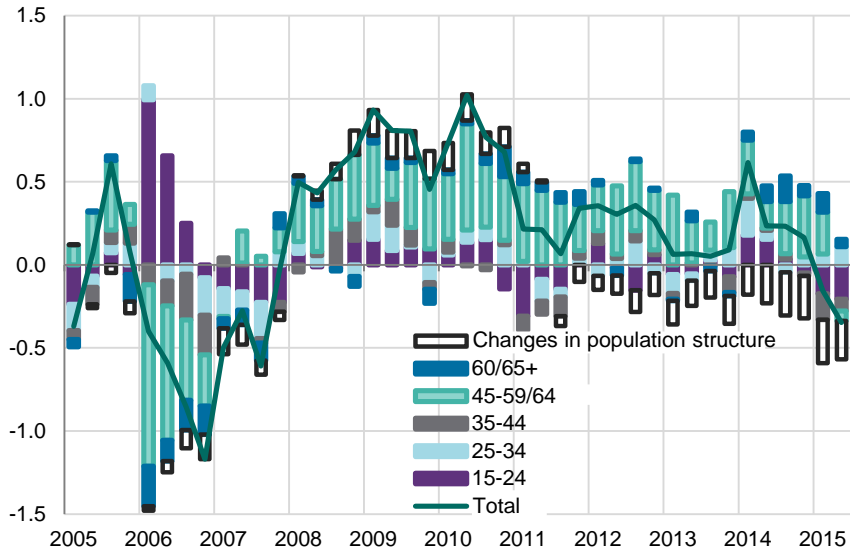


*BBUI – *Bell & Blanchflower Underemployment Index*

Source: NBP calculations based on LFS data

No further increase in participation rate

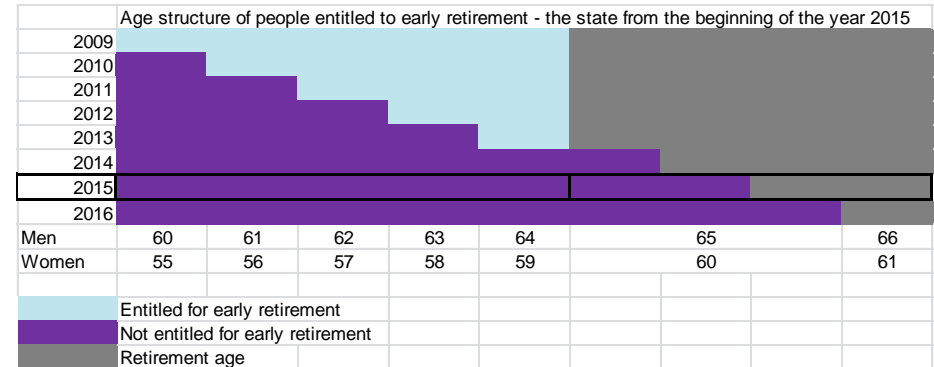
Participation rate – breakdown



Source: NBP calculations based on LFS data

- Participation rate of people in pre-retirement age group diminished in 2015Q2 for the first time since 2008.

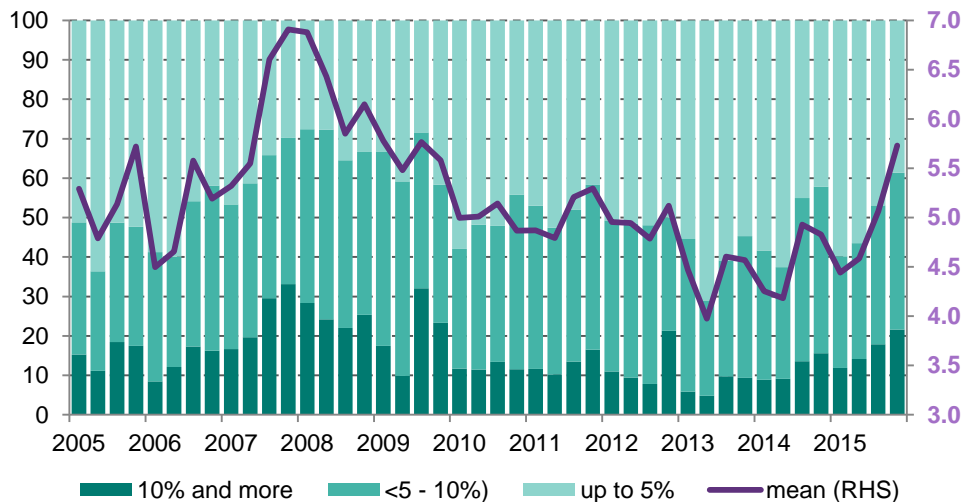
People entitled to early retirement



- In 2015, the effect of replacement of the people in the pre-retirement age entitled for an early retirement by people not entitled for an early retirement (after changes implemented in the retirement reform in 2009) came to an end.
- This might have hampered the upward trend in the participation rate of this group.

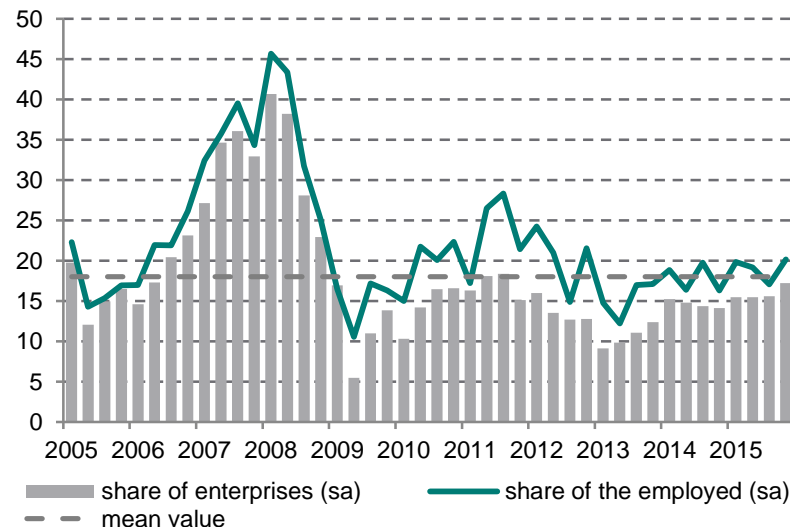
Wages in the enterprises sector

Planned wages increases *



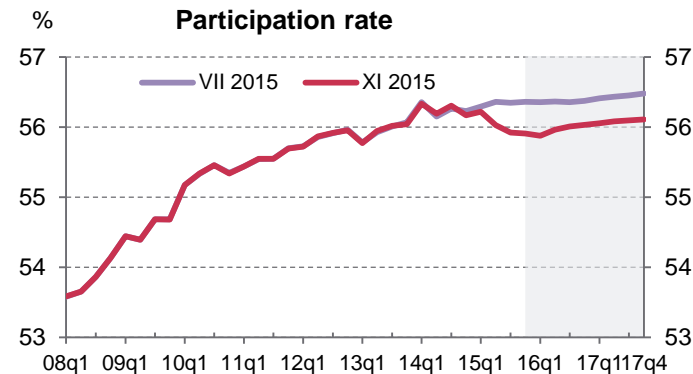
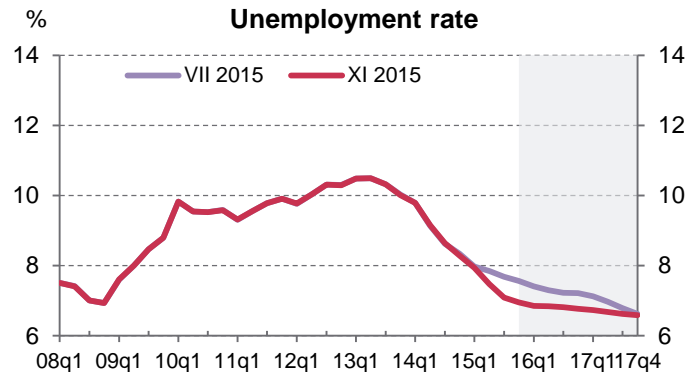
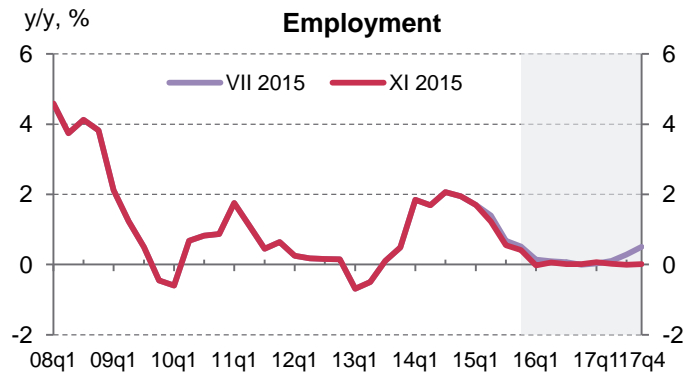
* In the subgroup of enterprises which plan to increase wages.

Share of enterprises planning wage increases



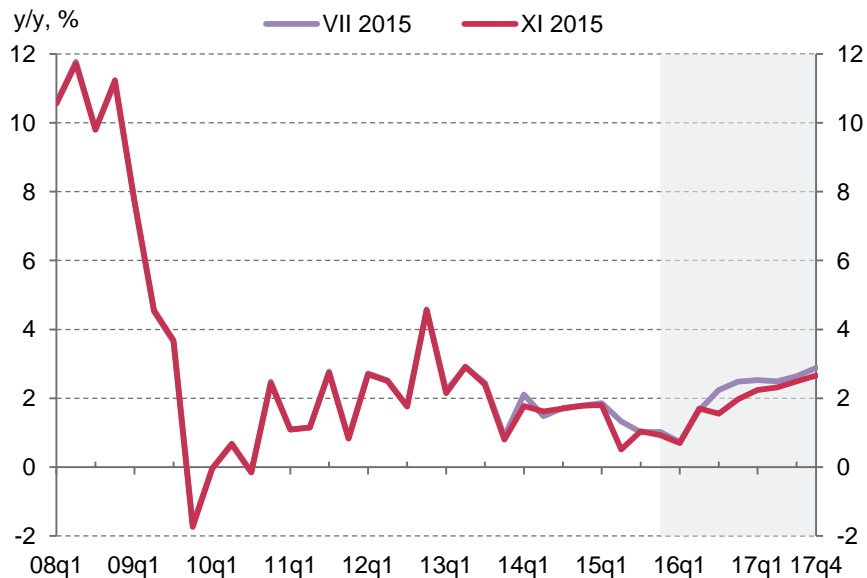
Source: NBP Quick Monitoring Survey

Labour market



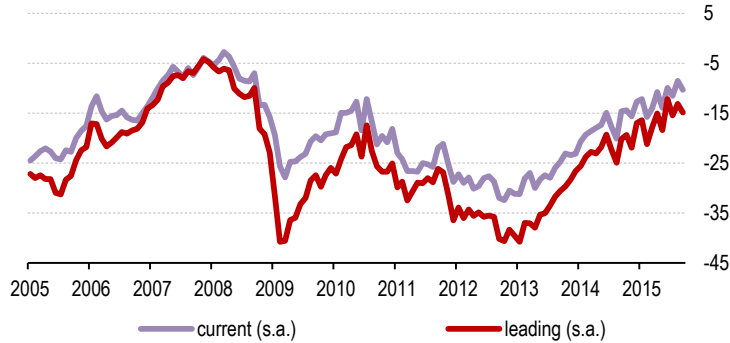
Unit labour cost

Unit labour cost (ULC) (slightly lower)

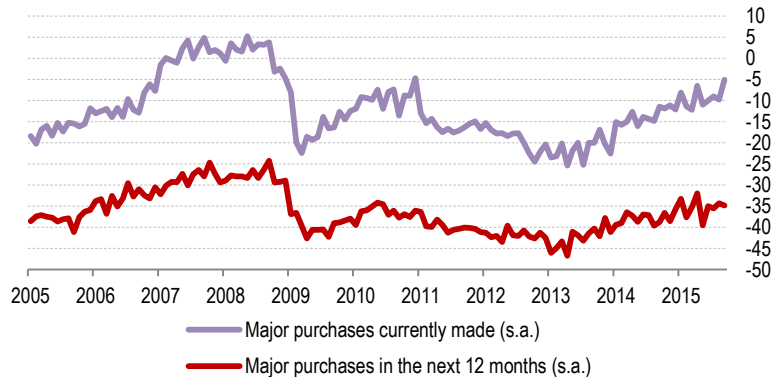


Consumer sentiment

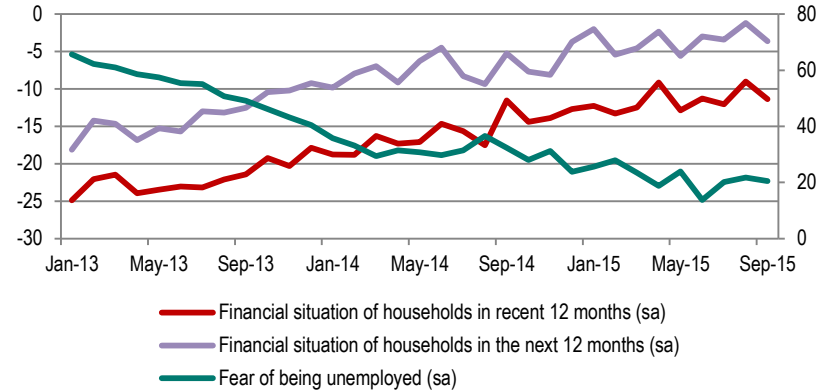
Consumer confidence indicators



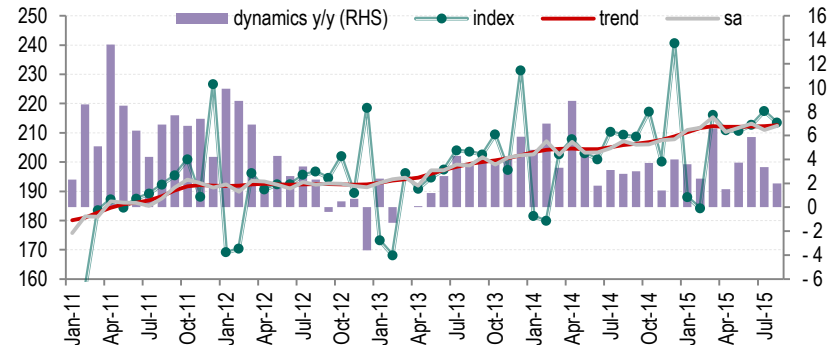
Current purchases and intentions of purchases



Past and future financial situation of households

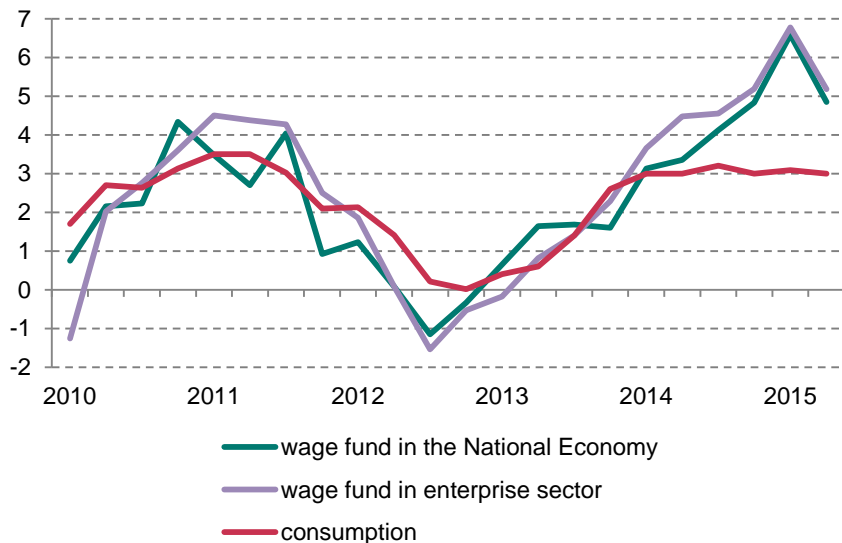


Retail sales

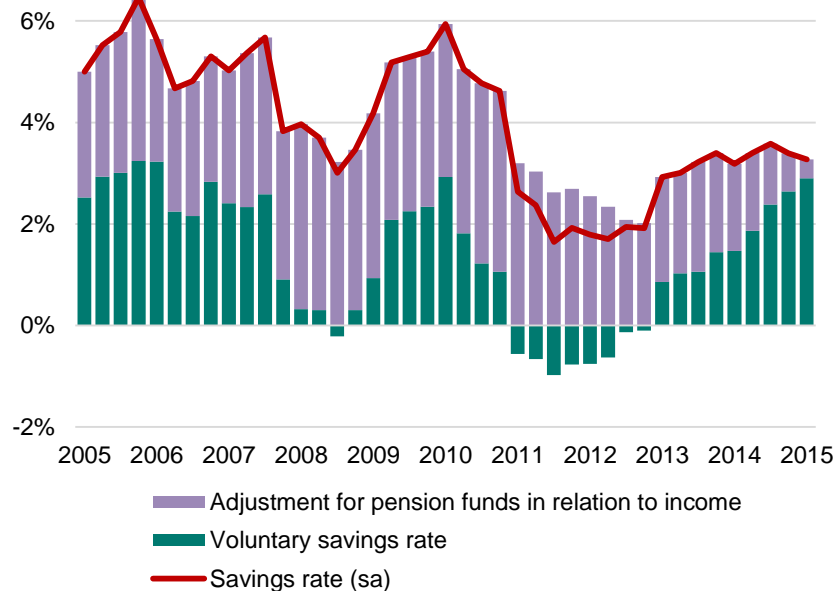


Consumption demand

Increase in consumption and wage fund (in real terms) (y/y, %)

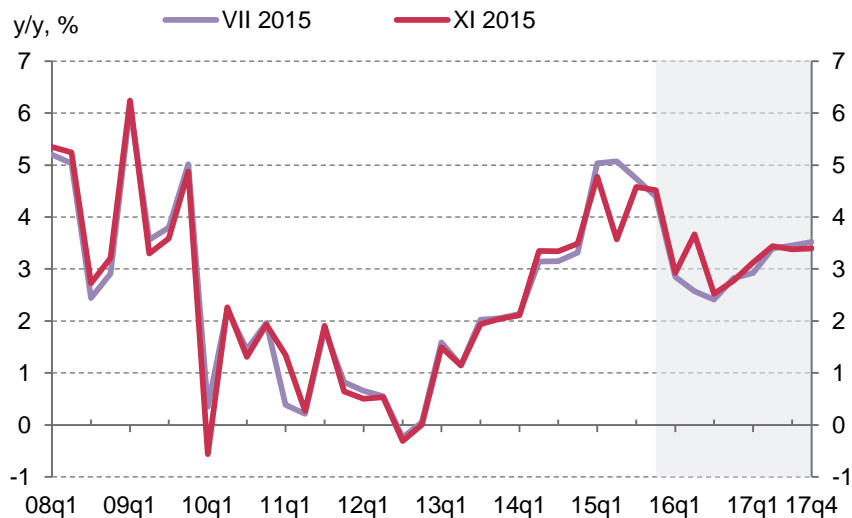


Savings rate

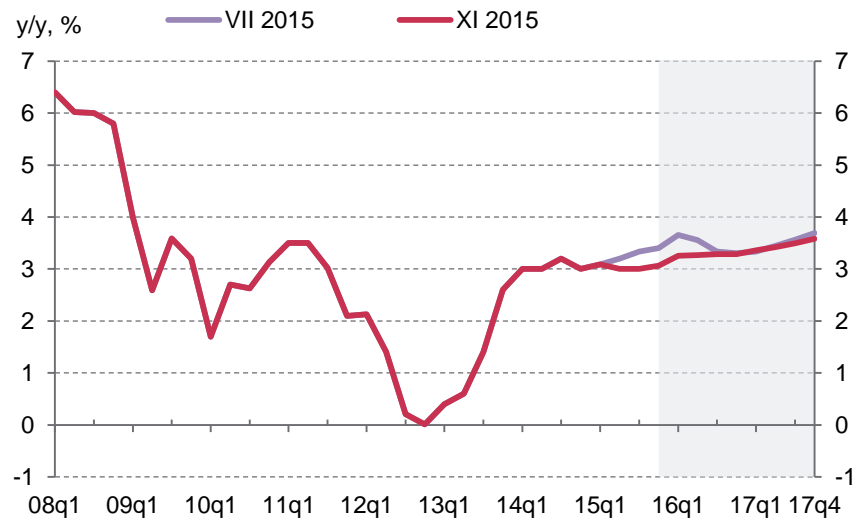


Consumption demand

Real gross disposable income (similar)



Individual consumption (lower in the short horizon)



Outline:

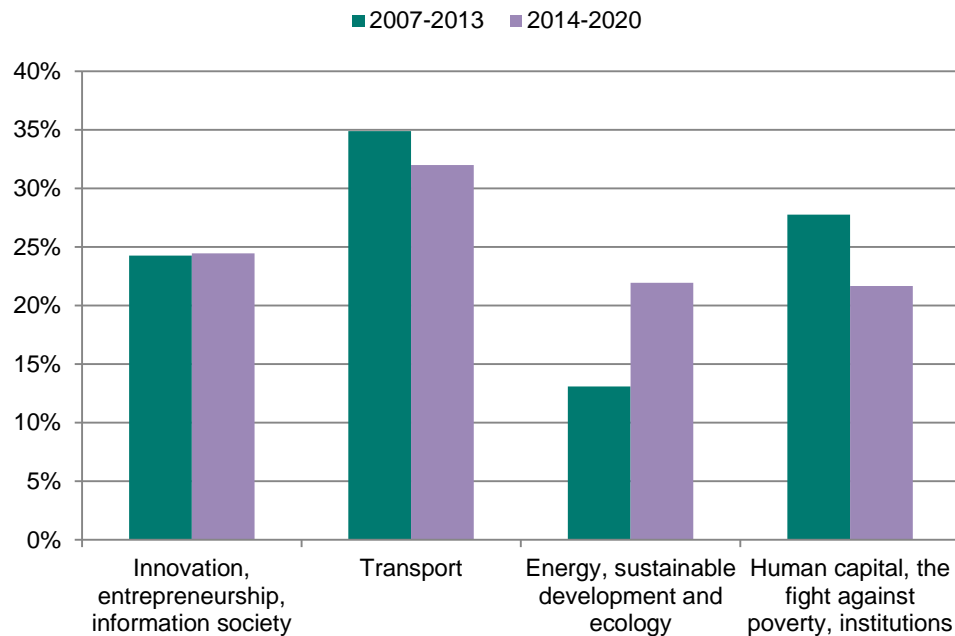
Changes between
rounds

Projection 2015 - 2017

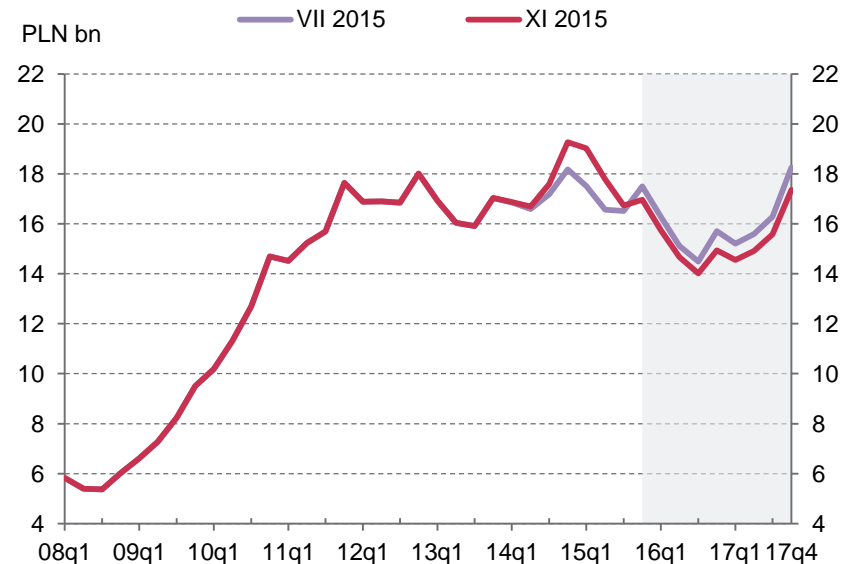
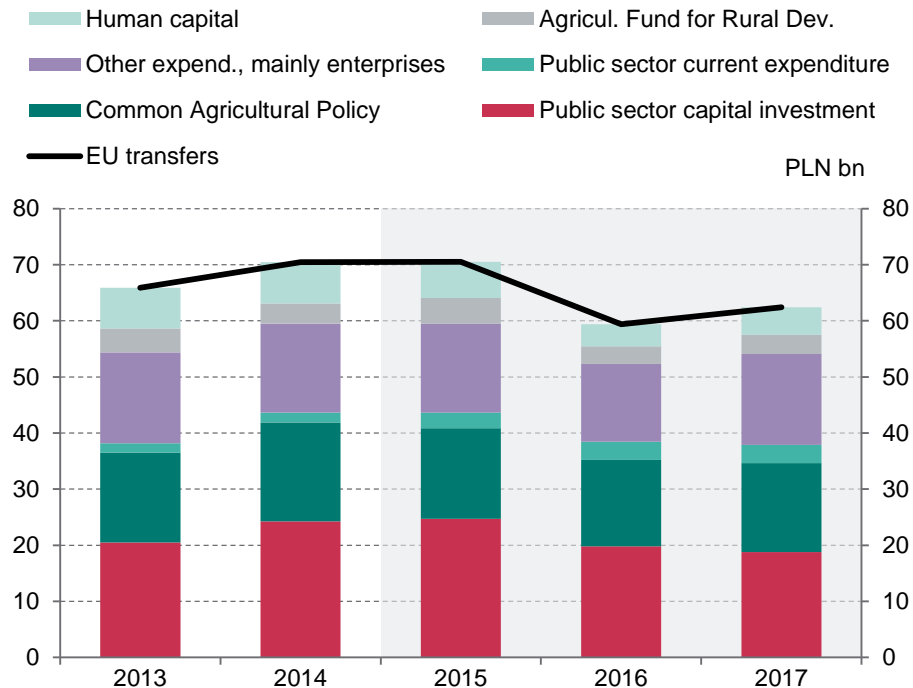
Uncertainty

General government expenditure

Allocation of EU funds from both financial perspectives



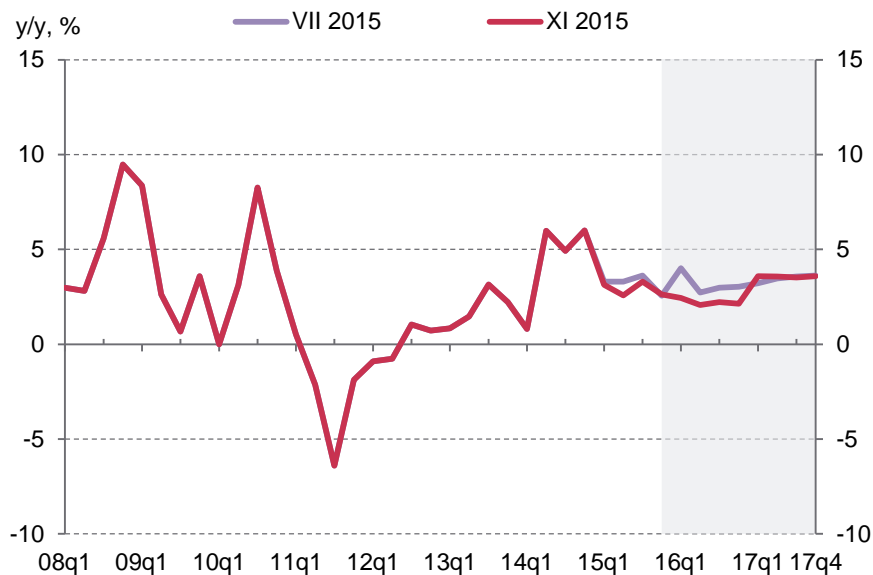
EU transfers absorption



Source: NBP calculations

Public consumption

Public consumption (lower in 2016)



Outline:

Changes between
rounds

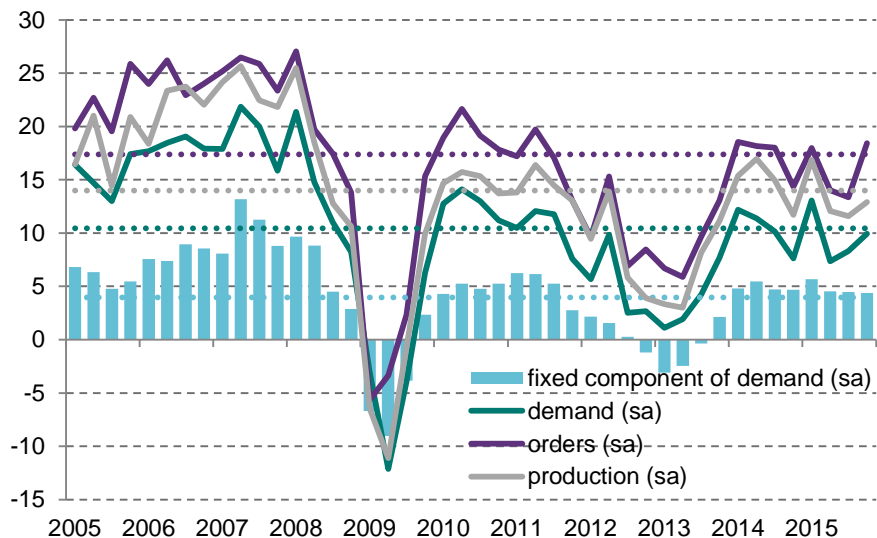
Projection 2015 - 2017

Uncertainty

Investment demand

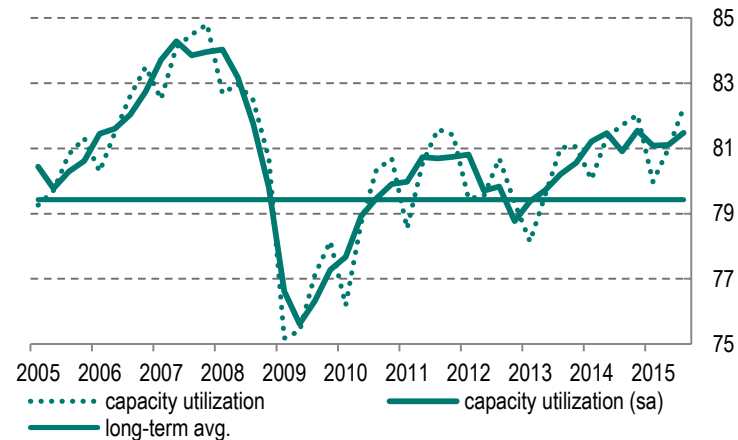
Investment demand

Forecasts of demand, production and orders (sa, y/y, %)

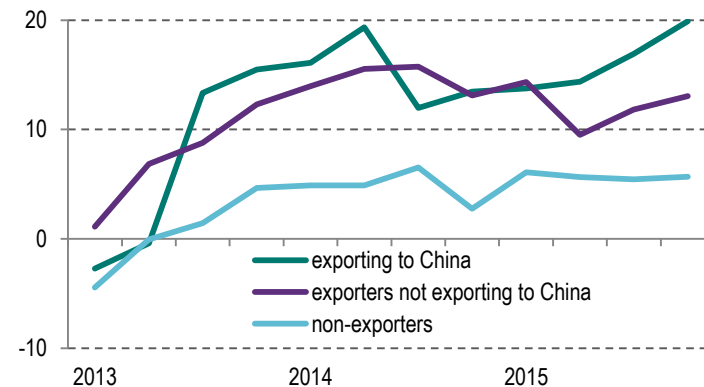


Source: NBP Quick Monitoring Survey, CSO data

Capacity utilisation

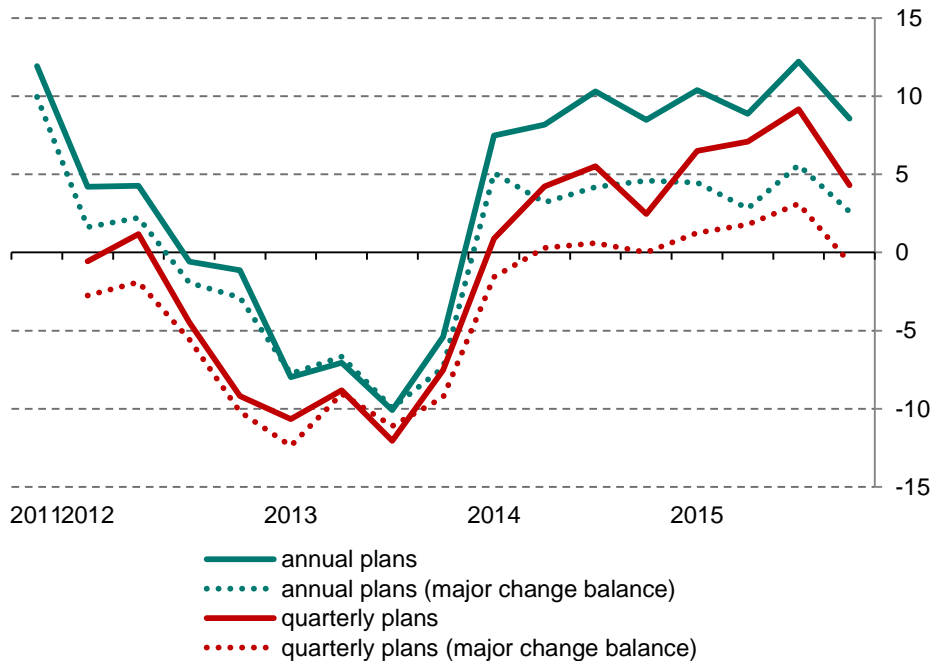


Demand forecasts of exporters

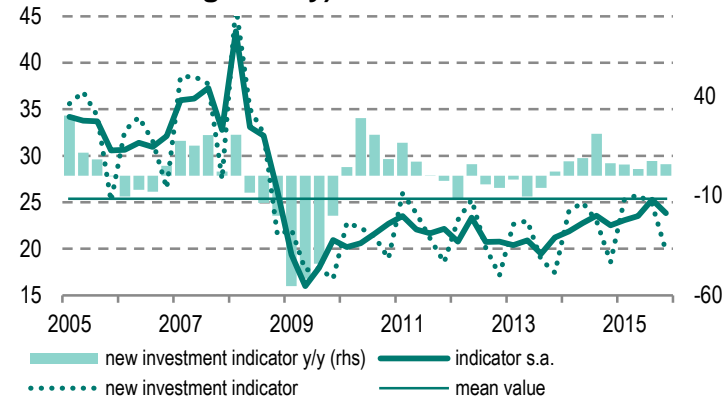


Investment outlays of enterprises

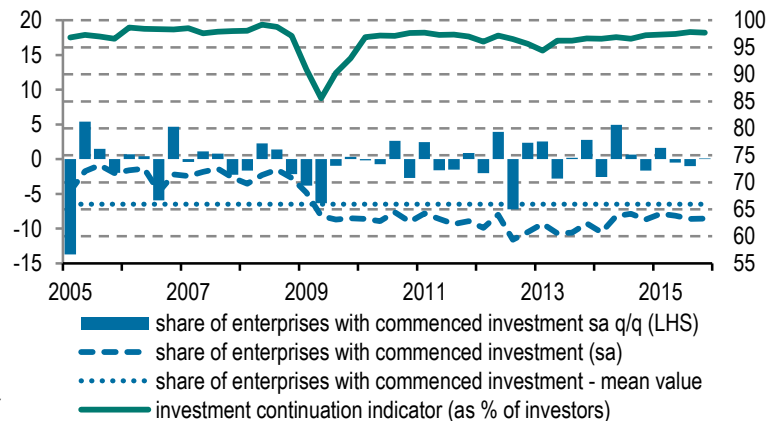
Planned changes in investment outlays within a quarter and in the current year, y/y (NBP Quick Monitor.)



New investment indicator (share of enterprises planning to commence new investment within a quarter, NBP Quick Monitoring Survey)



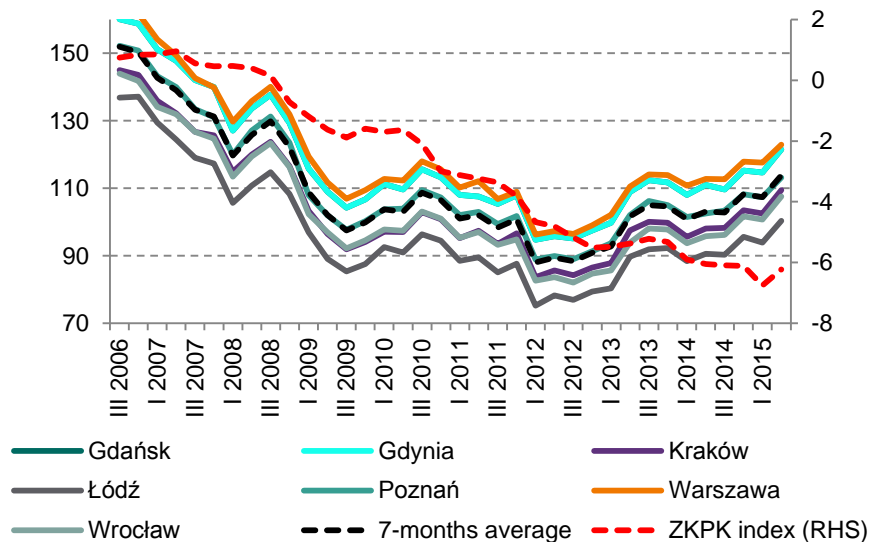
Continuation of commenced investments



Source: NBP Quick Monitoring Survey

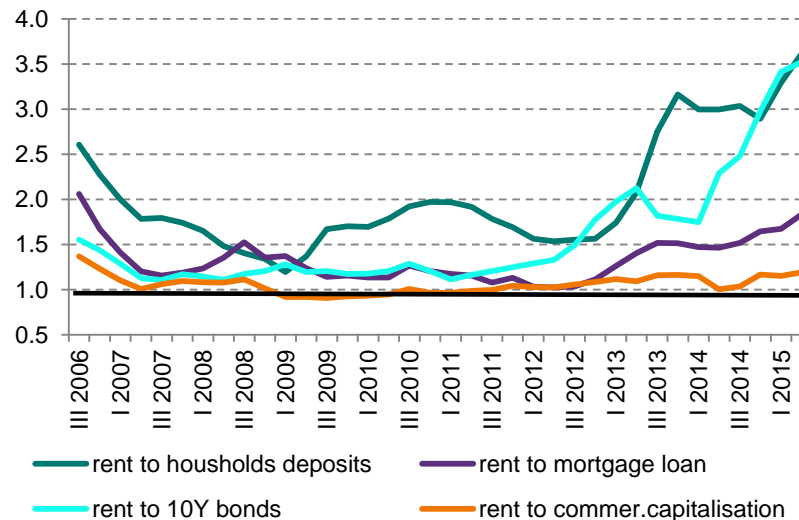
Residential investment

Available weighted * mortgage loans and accumulated index of banks' housing loan policy (ZKPK)



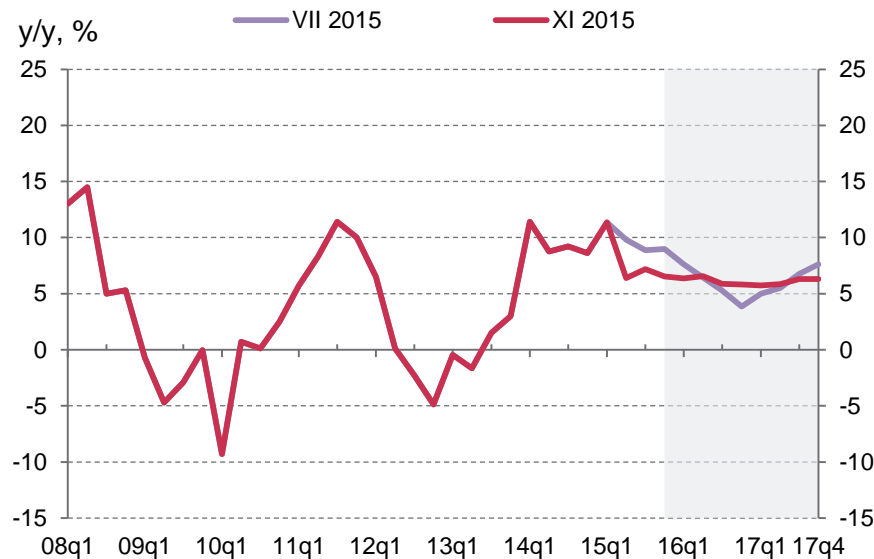
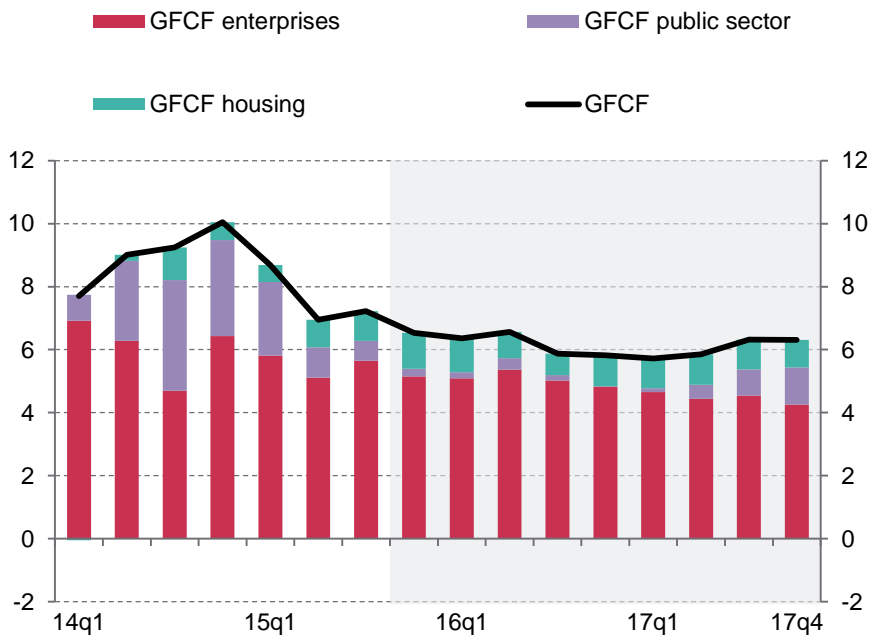
* weighting with the currency structure of the quarterly housing loan increase

Profitability of home rental



Gross fixed capital formation

(lower in the short horizon)



Source: CSO data, NBP calculations

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Changes between
rounds

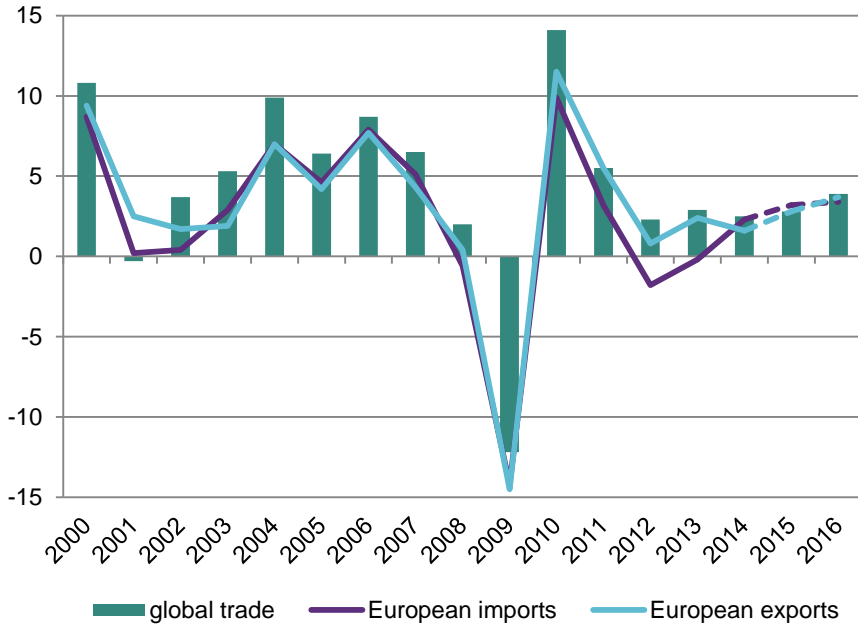
Projection 2015 - 2017

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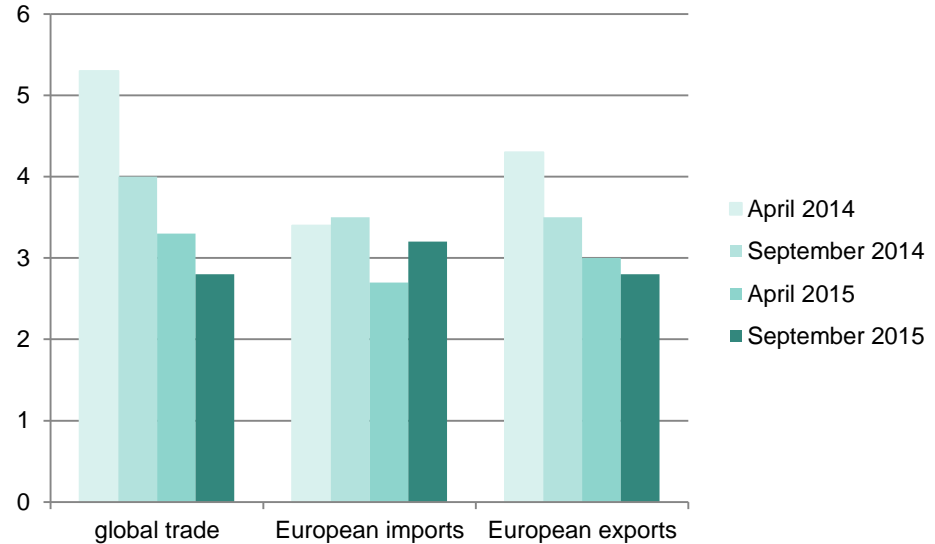
Foreign trade

Global trade

Global trade , European exports and imports



WTO forecasts of the global and European trade growth for 2015

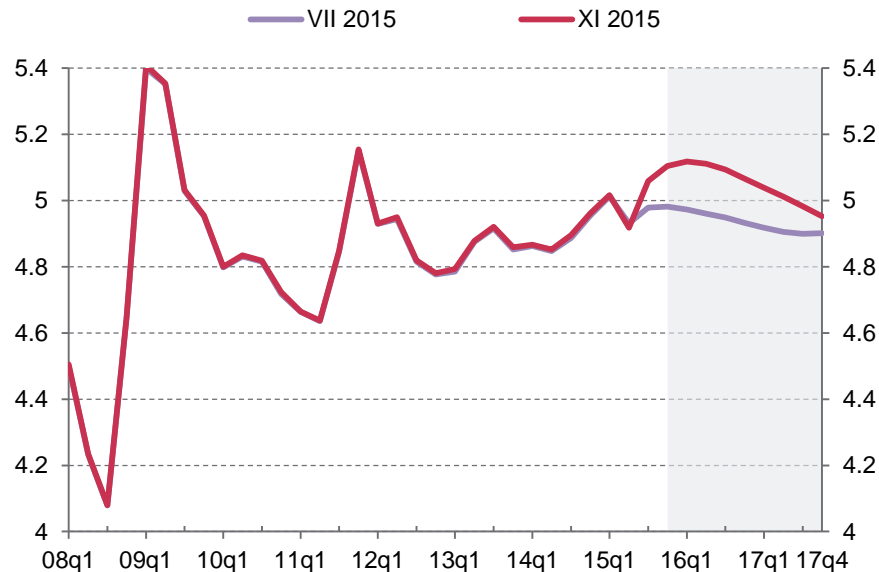


Source: WTO data

Foreign trade

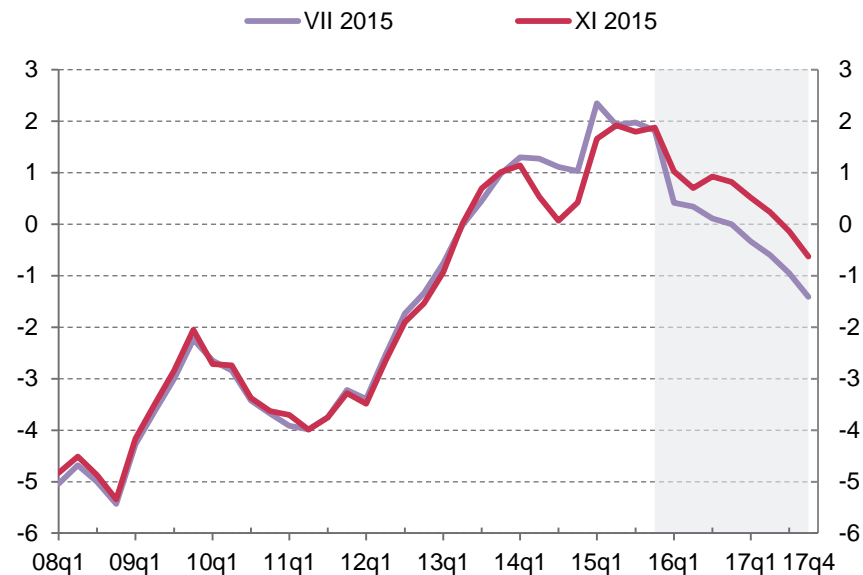
Real effective exchange rate (REER)

(weaker)

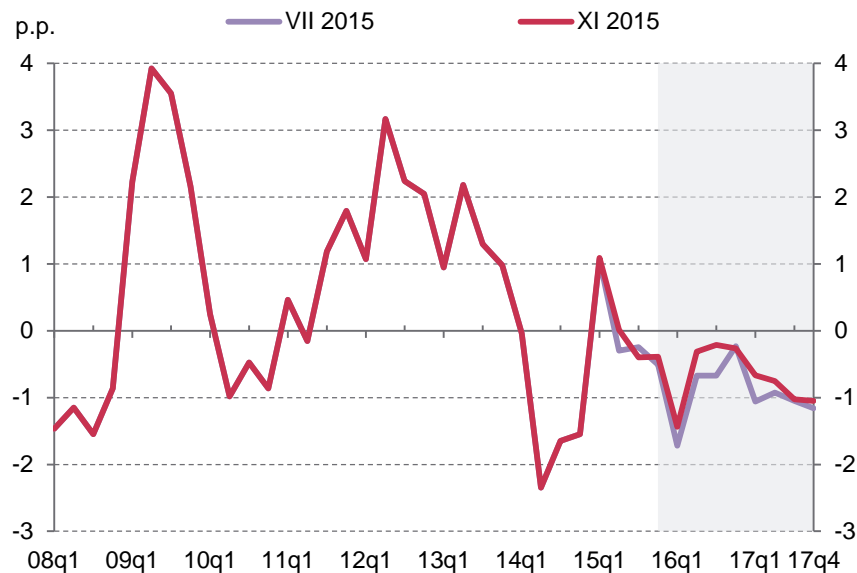
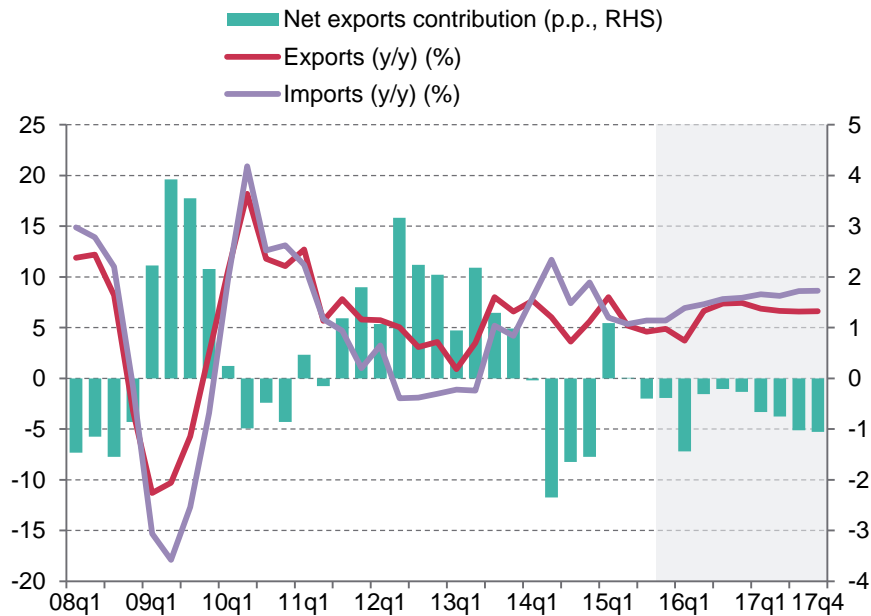


Current account balance (% GDP)

(higher)



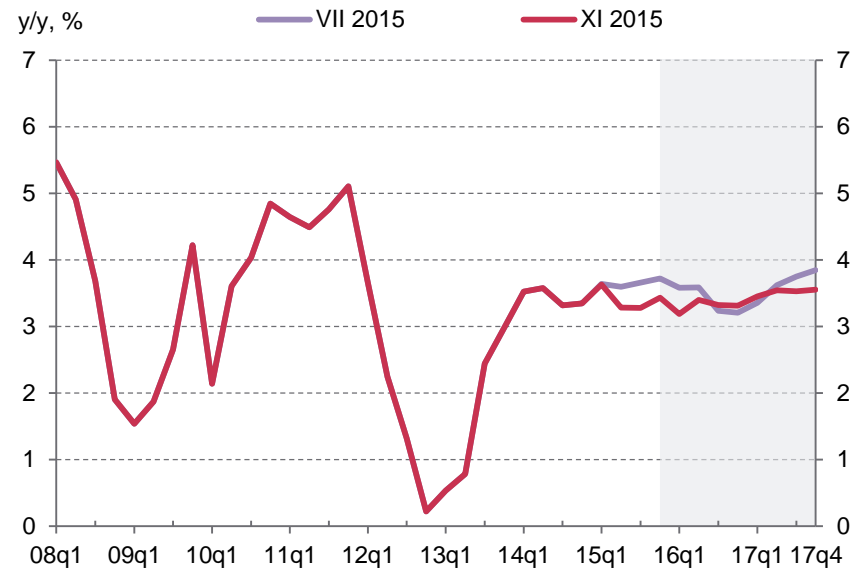
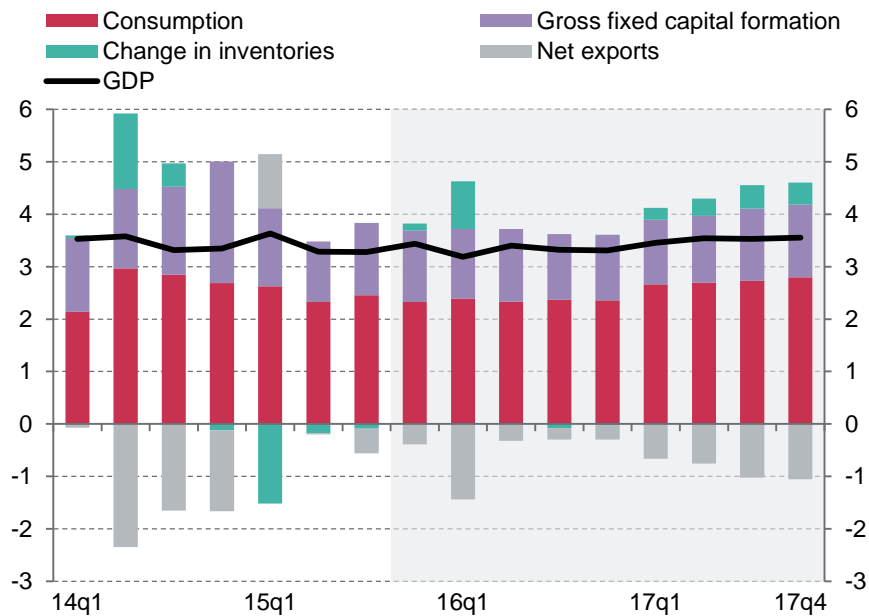
Net exports contributions (higher)



Source: CSO data, NBP calculations

GDP

(lower)



Source: CSO data, NBP calculations

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Uncertainty

Inflation

CPI inflation – 2015Q2 and 2015Q3

	15q2		15q3	
CPI inflation (y/y) (%)	-0.9	(-1.0)	-0.7	(-0.8)
Core inflation (y/y) (%)	0.3	(0.3)	0.3	(0.3)
Food prices inflation (y/y) (%)	-2.1	(-2.3)	-0.8	(-1.5)
Energy prices inflation (y/y) (%)	-3.4	(-3.6)	-4.0	(-3.3)

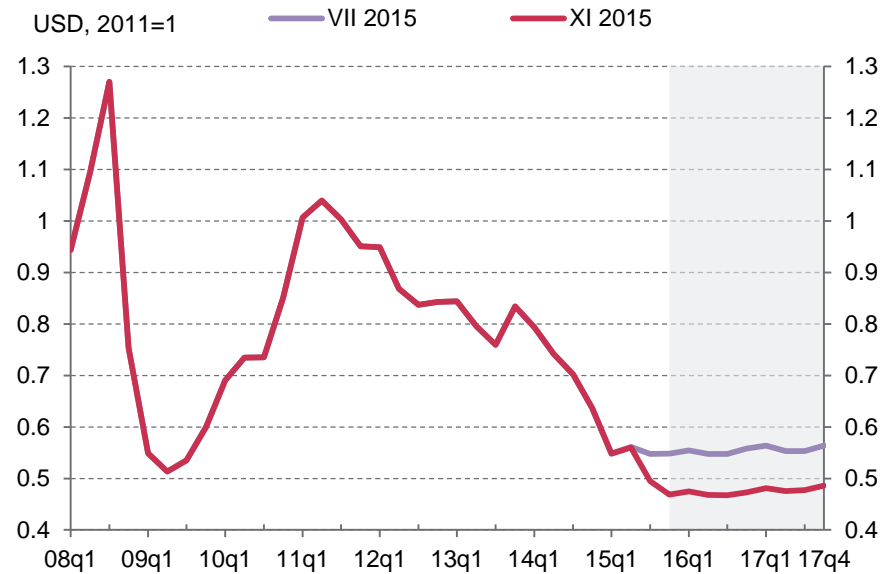
Source: CSO data, NBP calculations

Values from the July projection are given in brackets (seasonally adjusted).

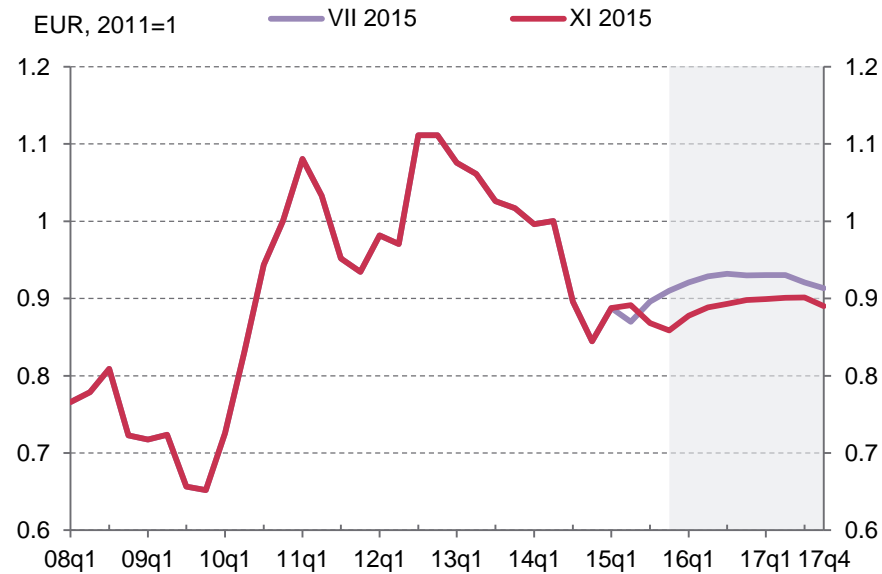
Indicators with values higher than in the July projection are marked green, whereas indicators with lower values are marked red.

Commodity prices

Index of energy commodity prices (lower)

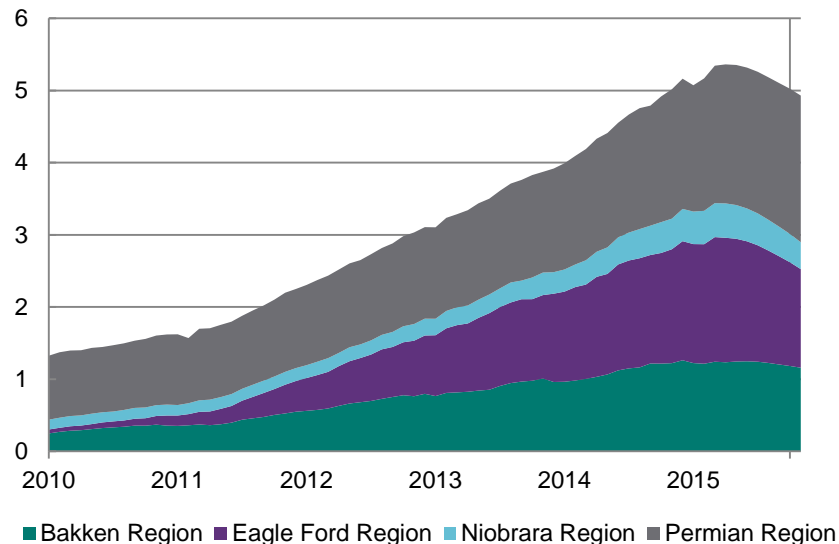


Index of agricultural commodity prices (lower)

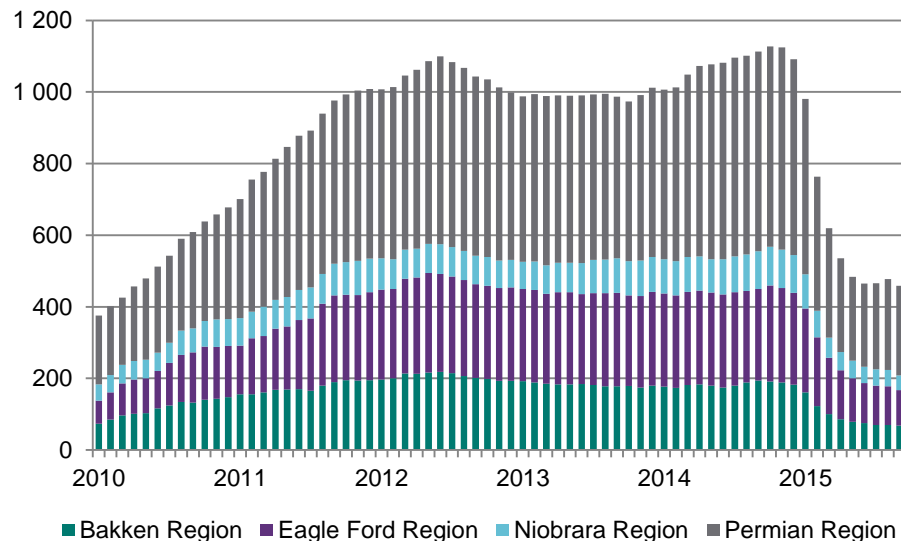


Crude oil supply

Crude oil supply in main regions of shale oil extraction (bn b/d)

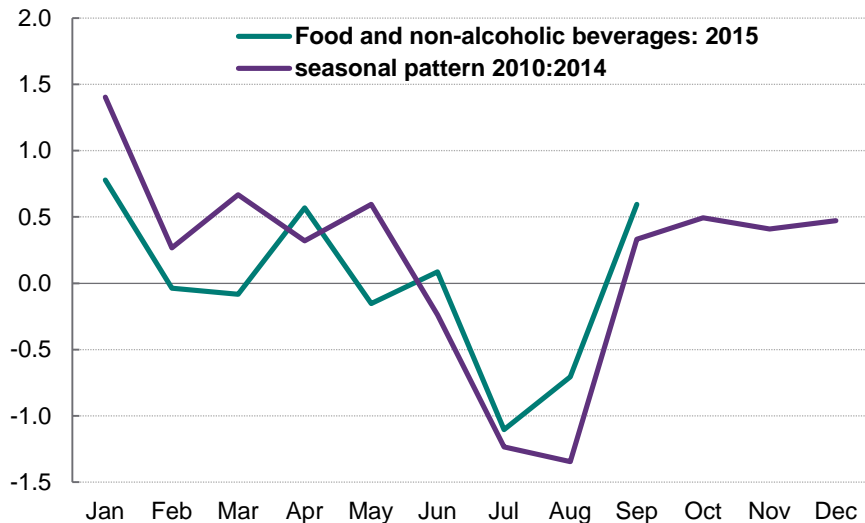


Number of active drilling rigs in main regions of shale oil extraction in US



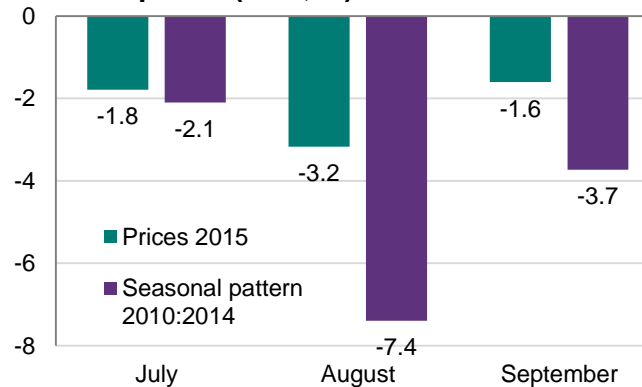
Food prices – the impact of drought

Food and non-alcoholic beverages (m/m, %)

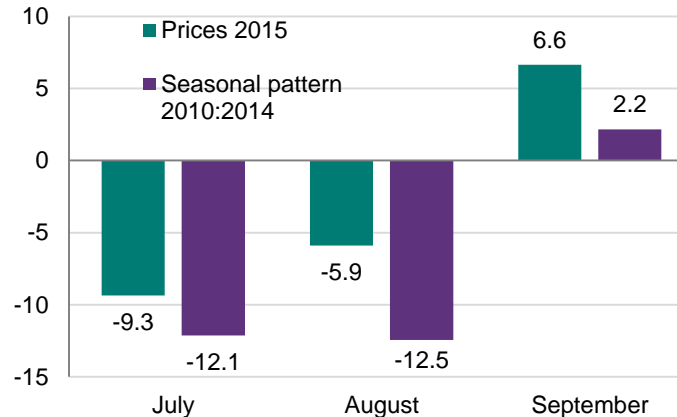


Source: NBP

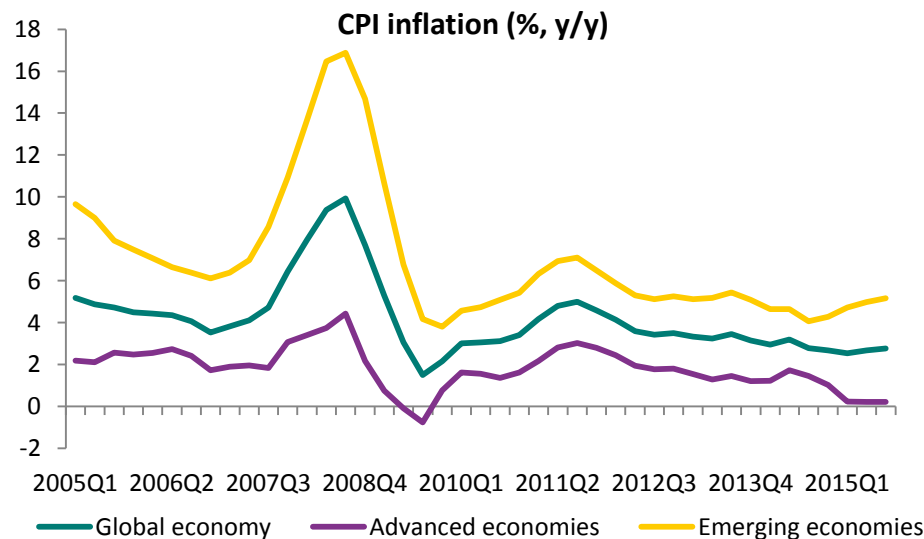
Fruits prices (m/m, %)



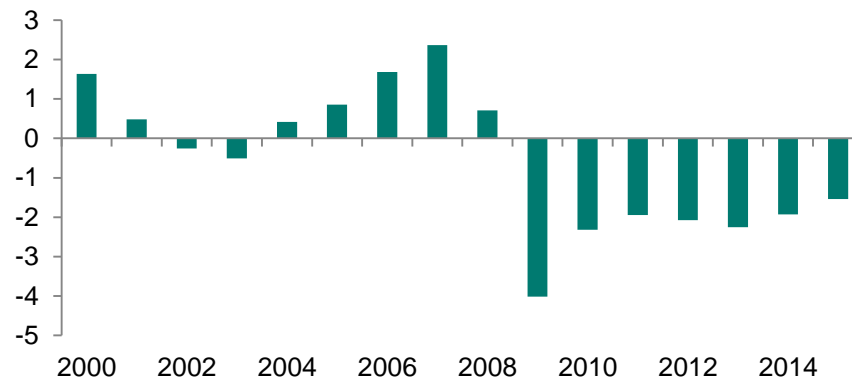
Vegetables prices (m/m, %)



Inflation in the global economy

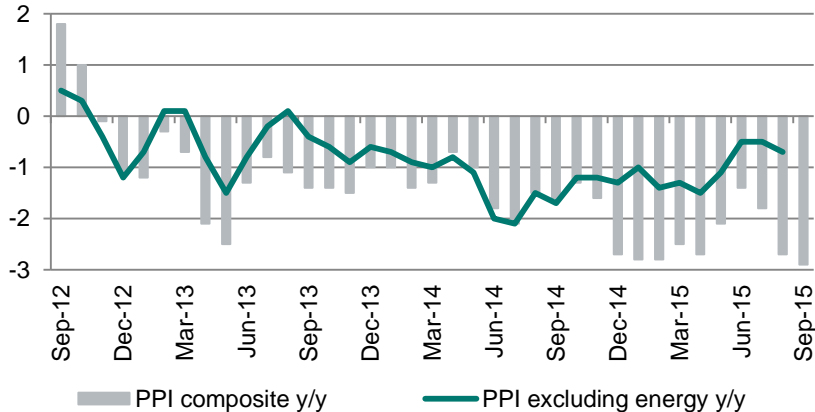
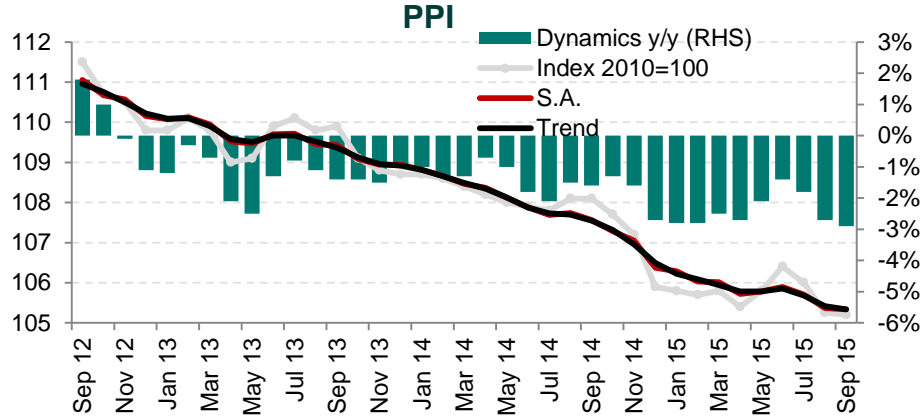


Output gap in advanced economies
(% of potential output)



- CPI inflation close to zero in advanced economies, mainly due to low raw materials' prices, as well as to weak demand pressure.
- Strong currency depreciation in some of the emerging economies led to the inflation increase in these countries, despite disinflationary impact of the slump in the raw materials' prices.

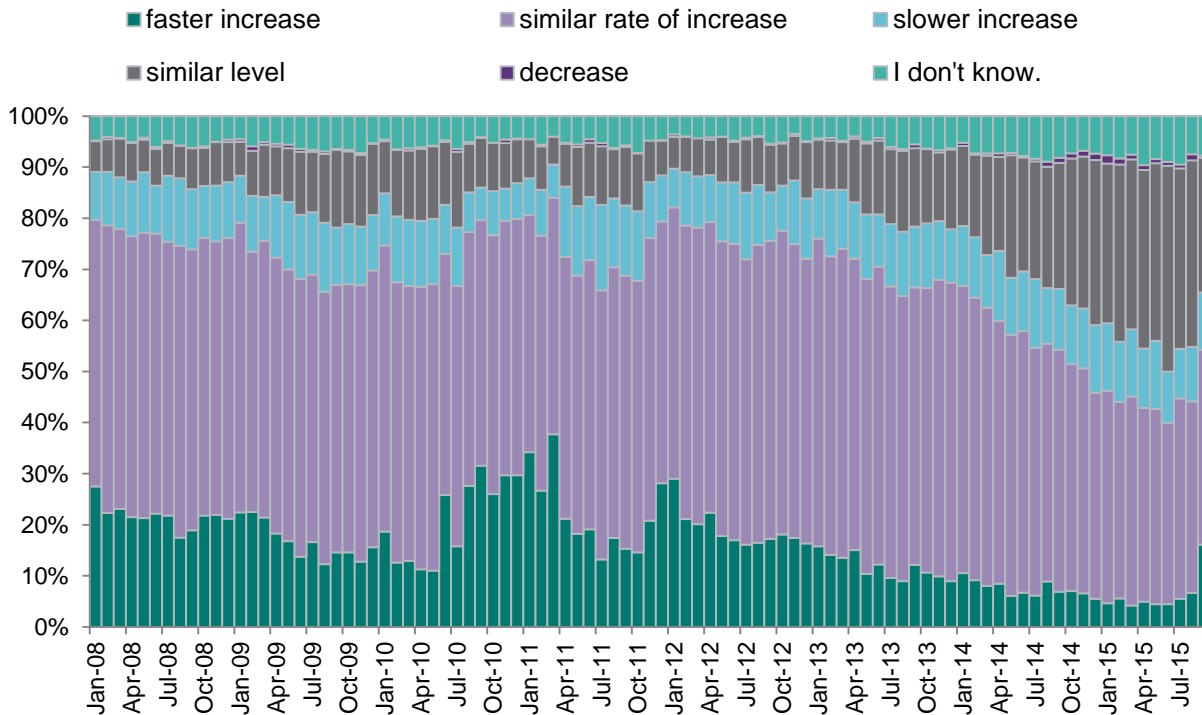
Continued downward trend of the producer price index



- In recent months there has been a continuation of the downward trend of the producer price index, which has been lasting since May 2012.
- The main reason for lowering producer prices is drop of raws materials' prices, especially global crude oil prices.
- Producer prices dynamics in September 2015 diminished by 0.1 p.p. (on year-on-year basis) down to 2.9% y/y.
- The highest contribution to y-o-y growth of PPI has manufacturing processing (-2.6 p.p.).
- The y-o-y growth of PPI excluding energy exceeded the PPI composite growth by 2 p.p. (August 2015), although both measures remained negative.

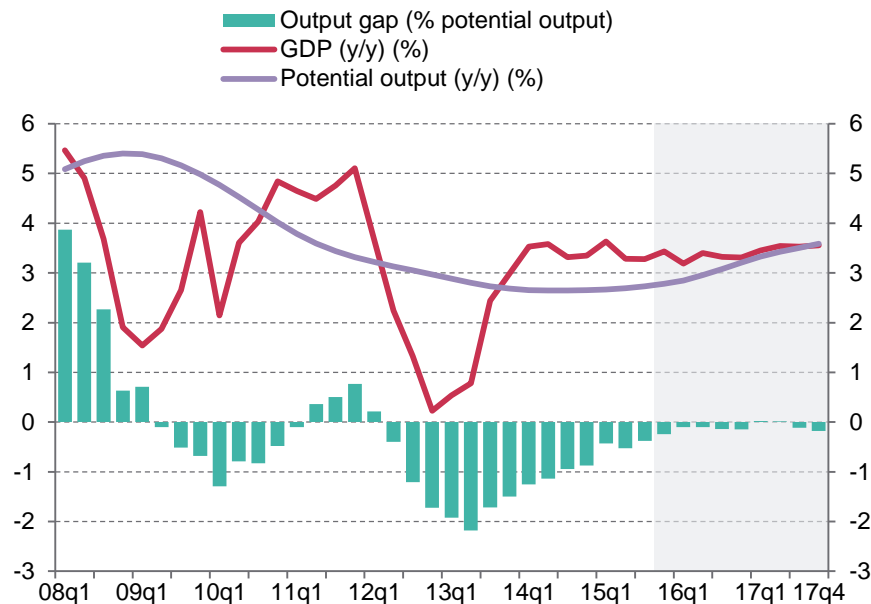
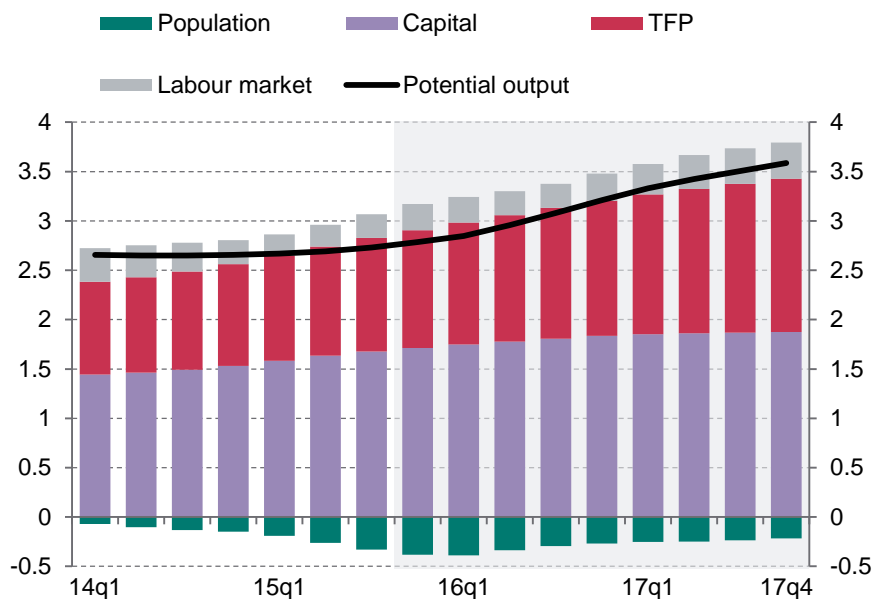
Inflation – consumer expectations

As compared to the recent 12 months, what changes in consumer prices (goods and consumer services) do you expect in the coming 12 months ?



Source: NBP

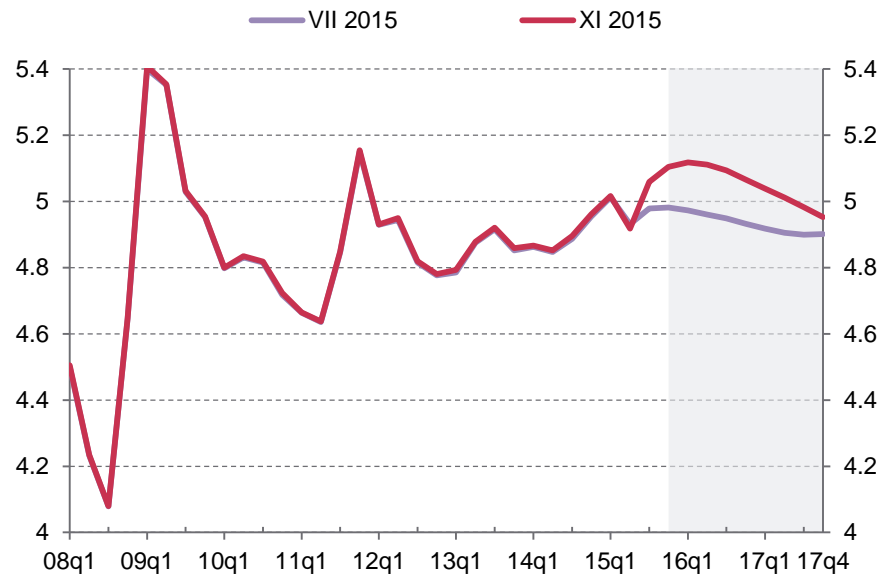
Potential output



Foreign exchange rate and import prices

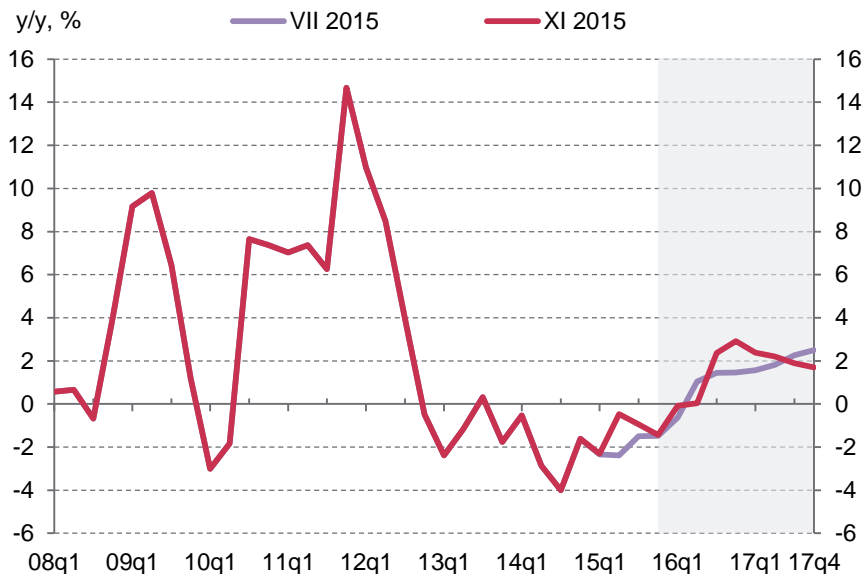
Real effective exchange rate (REER)

(weaker)

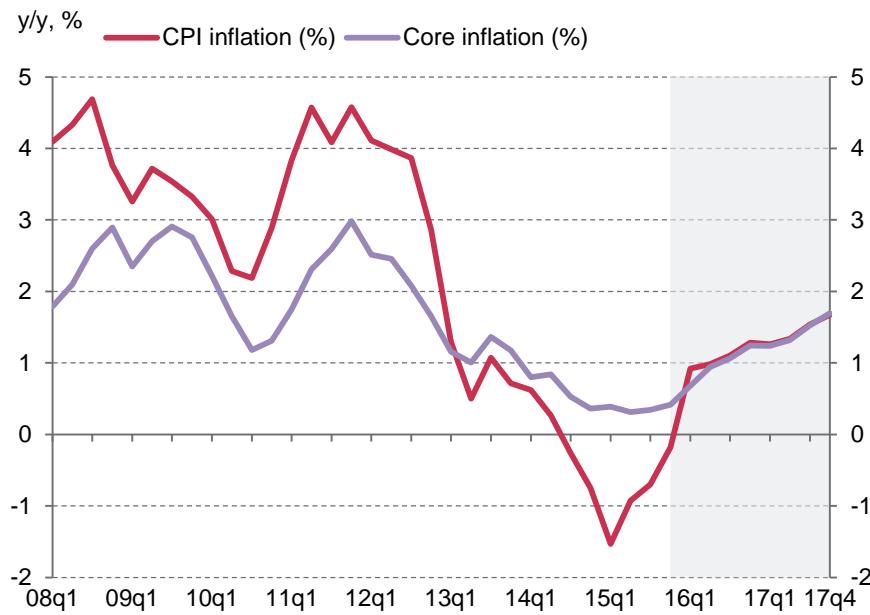
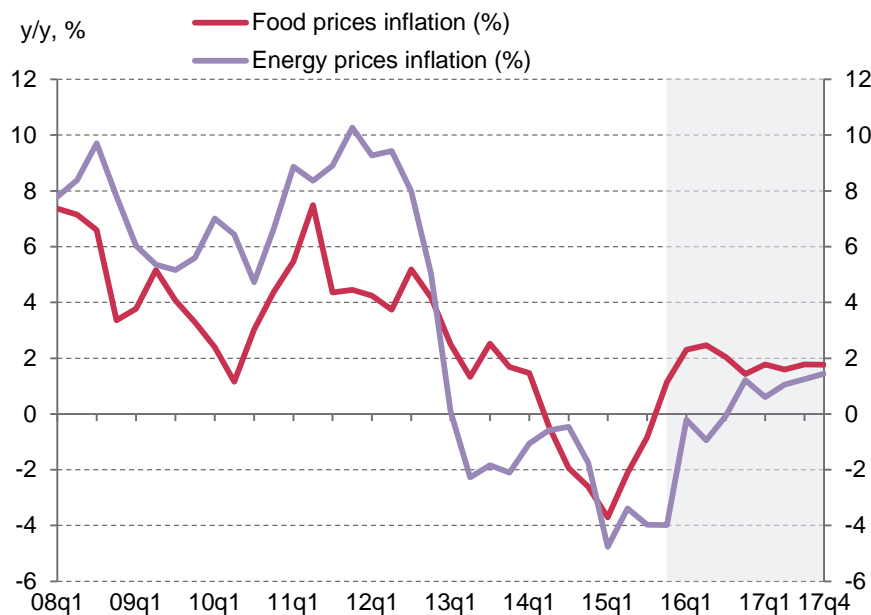


Import prices

(higher in the medium term)



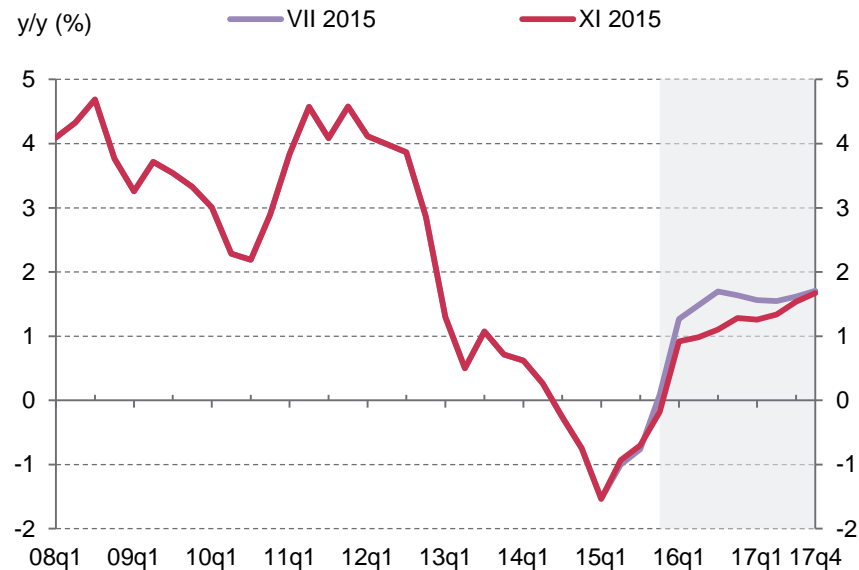
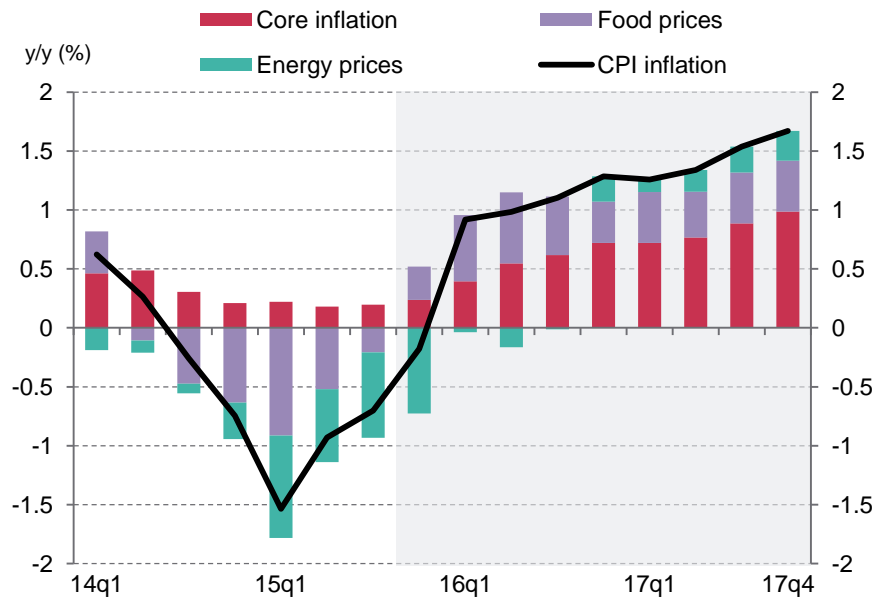
Domestic inflation



Source: CSO data, NBP calculations

CPI inflation (y/y, %)

(lower)



Outline:

Changes between
rounds

Projection 2015 - 2017

Uncertainty

Uncertainty

- Risk factors
- Fan charts

Outline:

Changes between
rounds

Projection 2015 - 2017

Uncertainty

Risk factors

Risk area	Description	Impact	Scale of impact
<p>External environment - deterioration in the prospects of growth</p>	<ul style="list-style-type: none"> • The uncertain growth prospects of the emerging economies, particularly China (and stability of its financial system): <ul style="list-style-type: none"> ◦ possible problems with debt servicing for enterprises from the housing and manufacturing sectors due to excessive investment, ◦ the considerable debt of local government units due to heavy spending on infrastructural projects. • Turmoil in the financial markets worldwide and a slowdown in the global economy (as a result of deteriorated economic situation in China) mediated through: <ul style="list-style-type: none"> ◦ the trade channel, ◦ a slump in consumers' and corporate sentiment. • Weakening in the growth of the euro area, particularly in the German economy: <ul style="list-style-type: none"> ◦ due to its considerable trade linkages with China, ◦ mitigated by the likely extension of the quantitative easing programme by the ECB and other measures launched to stabilise the financial markets. 	<p>Inflation ↓ GDP ↓</p>	<p>**</p>

Risk area	Description	Impact	Scale of impact
Rising domestic demand on the back of stronger economic activity in the euro area	<ul style="list-style-type: none"> • Faster economic growth in the euro area: <ul style="list-style-type: none"> ◦ diminished uncertainty about the growth outlook in emerging economies, ◦ early in the projection horizon, stronger impact of the ECB's purchase of government bonds in the secondary market programme on the growth in the EA. • Later in the projection horizon, economic growth could benefit from the effect of the implementation of the European Commission's Investment Plan for the years 2015-2017. • Higher domestic demand growth due to better economic conditions in the euro area: <ul style="list-style-type: none"> ◦ improved consumer and producers' sentiment, ◦ higher export growth helping to sustain, over a longer time, the current robust investment activity, ◦ increased real wages growth and expending consumption at the expense of lower savings rate. 	Inflation ↑ GDP ↑	**

Risk area	Description	Impact	Scale of impact
Crude oil prices in the global markets	<ul style="list-style-type: none"> • Supply disruptions in the global markets: <ul style="list-style-type: none"> ◦ possible lifting of sanctions imposed on Iran's oil sector resulting in Iran's exporting its oil reserves and Iranian oil production expanding gradually, ◦ supply disruptions, mainly from the Middle East and North African countries due to the ongoing conflict in Syria. • Growth prospects in the global economy (especially in emerging countries). 	Inflation ↔ GDP ↔	*
Conclusions		Inflation ↔ GDP ↔	

Outline:

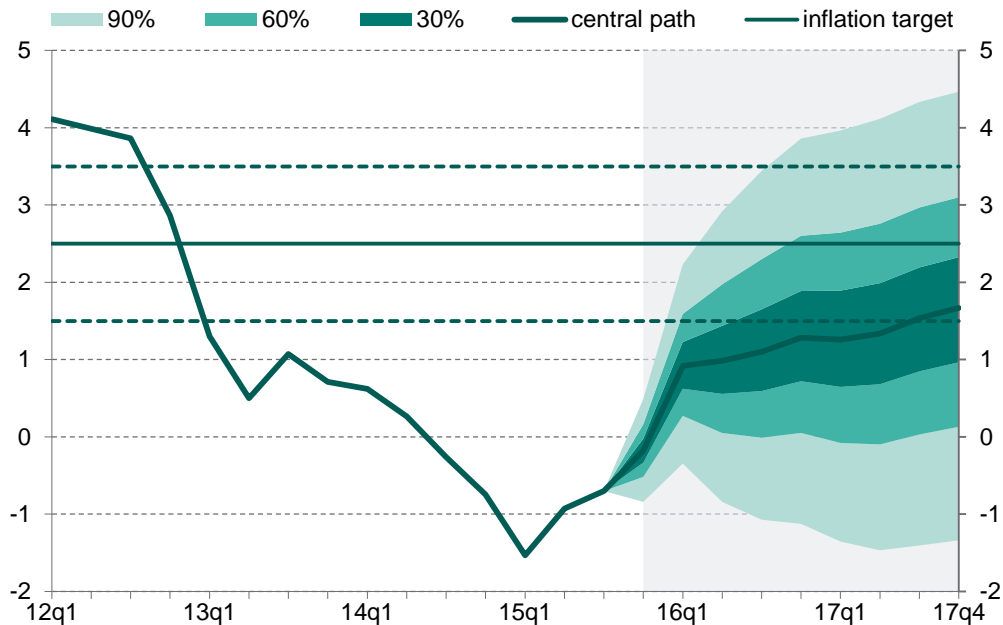
Changes between rounds

Projection 2015 - 2017

Uncertainty

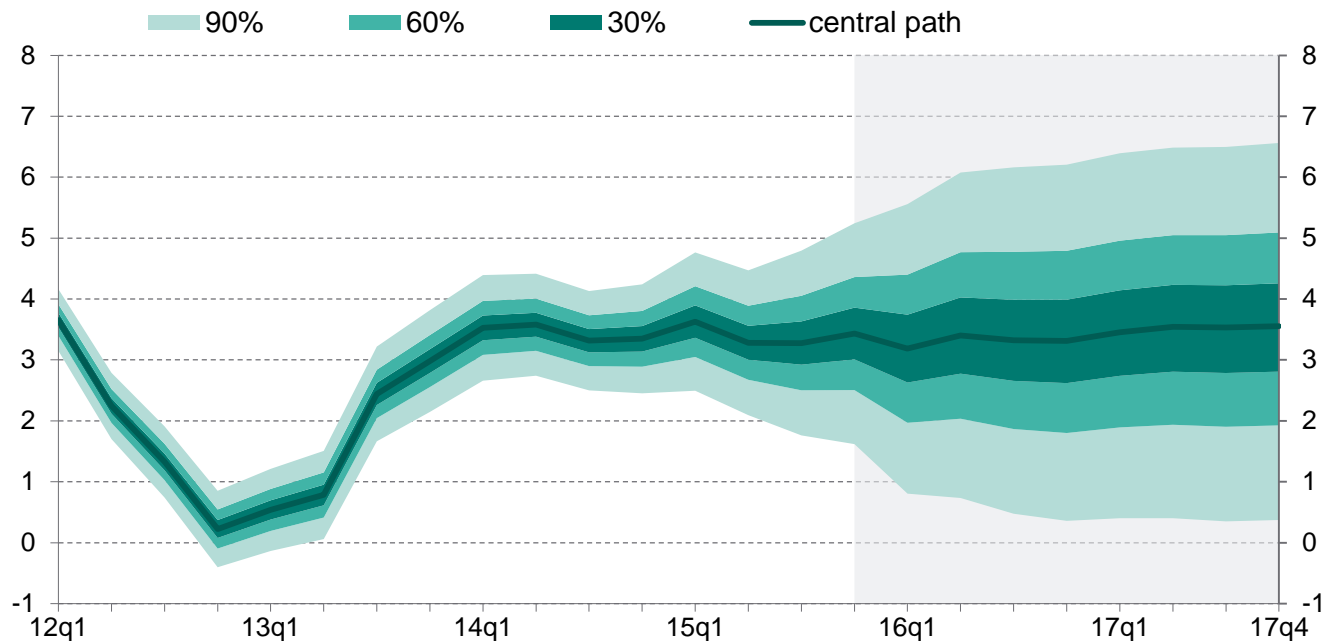
Fan charts

CPI inflation projection – November 2015



	below 1.5%	below 2.5%	below 3.5%	below central path	in the range (1.5-3.5%)
15q4	1.00	1.00	1.00	0.50	0.00
16q1	0.76	0.98	1.00	0.49	0.24
16q2	0.66	0.90	0.98	0.49	0.32
16q3	0.60	0.83	0.95	0.48	0.36
16q4	0.54	0.77	0.92	0.48	0.38
17q1	0.55	0.77	0.91	0.49	0.36
17q2	0.54	0.76	0.90	0.50	0.36
17q3	0.50	0.72	0.88	0.51	0.37
17q4	0.48	0.70	0.86	0.52	0.38

GDP projection – November 2015



We protect the value of money