



NBP

Narodowy Bank Polski

Economic Analysis Department

Inflation and economic growth projection of Narodowy Bank Polski based on the NECMOD model

Warsaw / 16 July 2018



Outline

Outline:

Changes between rounds

Projection 2018 – 2020

- External environment
- Consumption demand
- Investment demand
- Foreign trade
- Inflation

Uncertainty

1 Changes between projection rounds

2 Projection 2018 - 2020

3 Uncertainty

Outline:

Changes between rounds

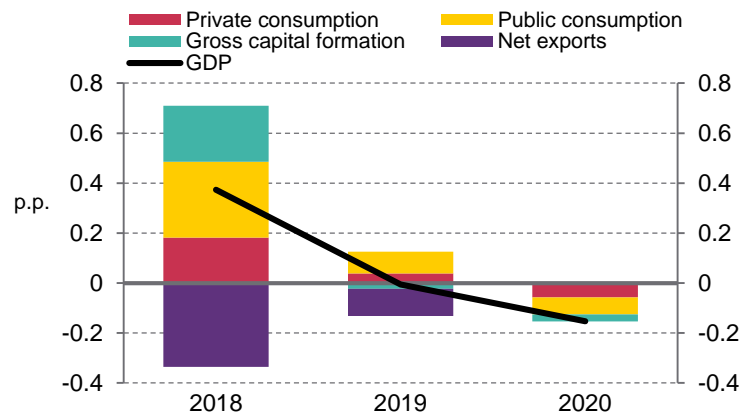
Projection 2018 – 2020

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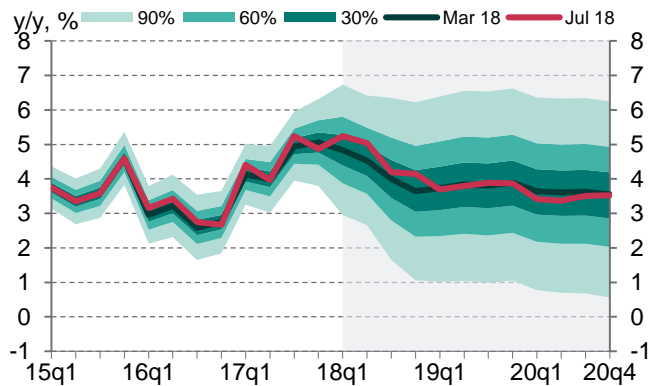
Uncertainty

Changes between projection rounds

July GDP projection compared to March projection

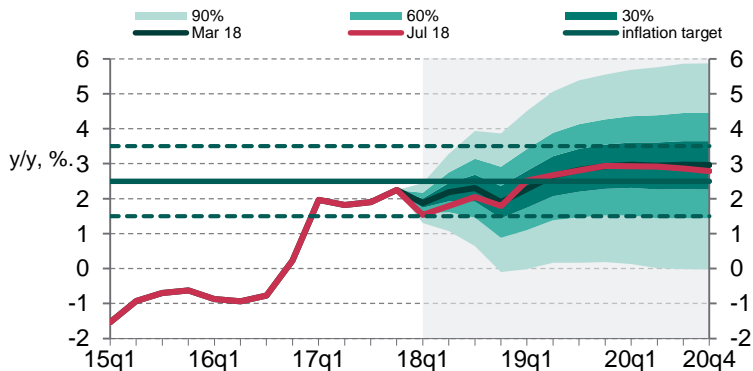
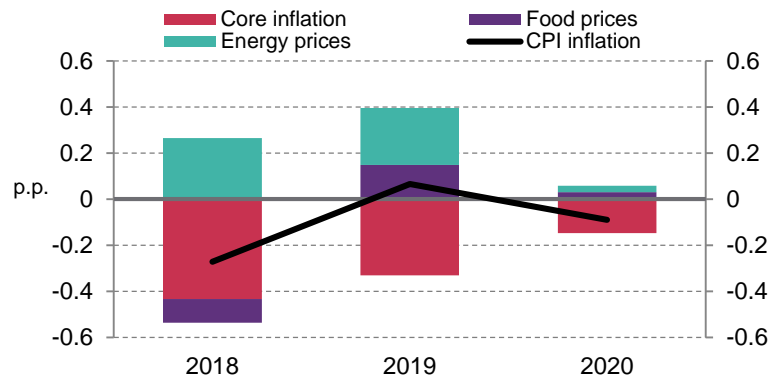


- ↑ Upward correction of GDP forecast due to higher than expected reading for 2018Q1.
- ↑ Record high consumer confidence indicators – more pronounced private consumption growth in 2018.
- ↑ Faster growth of General Government intermediate consumption – higher public consumption.
- ↑ Stronger pro-cyclical adjustment of corporate inventories' level.
- ↓ Slightly deeper than expected economic slowdown in the euro area in 2018.



GDP y/y, %	2018	2019	2020
March 2018	4.2	3.8	3.6
July 2018	4.6	3.8	3.5

July CPI projection compared to March projection



- ⇓ Weaker core inflation - lower sensitivity of price dynamics to economic conditions at home, strong competition in the domestic market and slower growth of services prices
- ⇑ Increase in crude oil and fuel prices.
- ⇑ Weaker zloty exchange rate.
- ⇑ Since 2019 introduction of emission fee for motor fuels and anticipated hike in electricity prices' tariffs.

CPI y/y, %	2018	2019	2020
March 2018	2.1	2.7	3.0
July 2018	1.8	2.7	2.9

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Projection 2018-2020

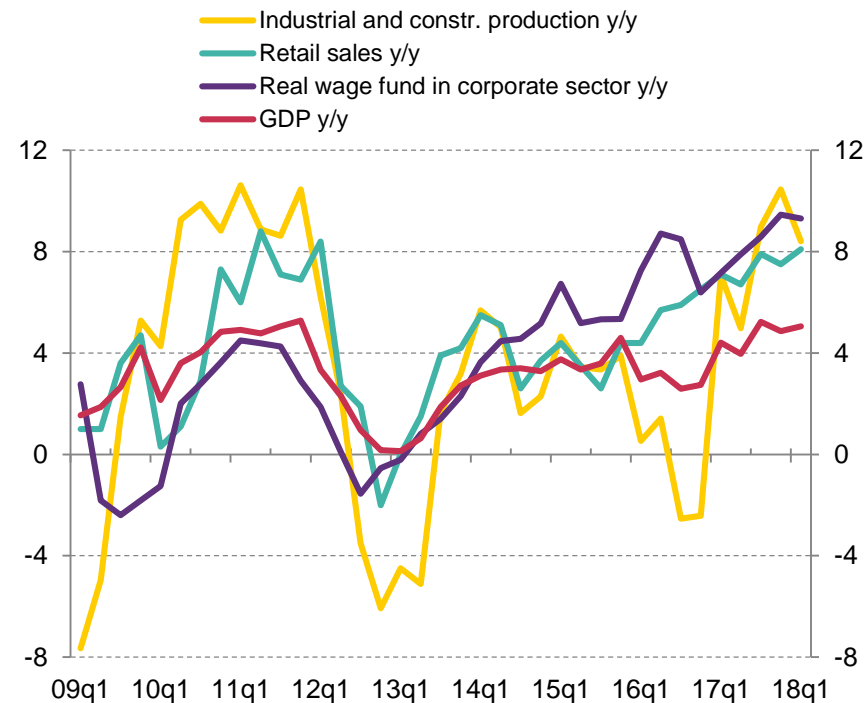
- Economic conditions abroad
- Consumption demand
- Investment
- Foreign trade
- Inflation

GDP dynamics in 2018Q1 exceeded 5% y/y...

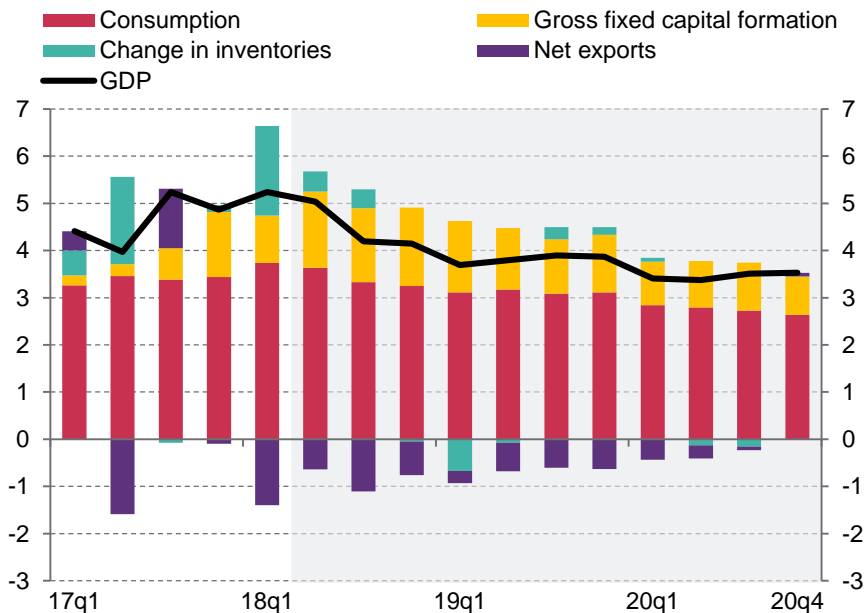
	17q4		18q1	
GDP (y/y) (%)	4.9	(5.1)	5.2	(4.8)
Domestic demand (y/y) (%)	5.1	(5.2)	6.8	(4.9)
Household consumption (y/y) (%)	5.0	(4.9)	4.8	(4.3)
Public consumption (y/y) (%)	4.8	(4.5)	3.6	(2.4)
Gross fixed capital form. (y/y) (%)	5.4	(11.9)	8.1	(10.8)
Exports (y/y) (%)	8.2	(7.8)	1.1	(6.4)
Imports (y/y) (%)	8.9	(8.4)	3.5	(6.6)
Net exports contribution (p.p.)	0.0	(0.0)	-1.2	(0.0)

Values from the March 2018 projection are given in brackets (18q1 seasonally adjusted). Indicators with values higher than in the March projection are marked green, whereas indicators with lower values are marked red.

Source: GUS data, NBP calculations.



...in the quarters to come, the growth of potential output will gradually slow down



↑ Private consumption is the main factor behind GDP growth over the projection horizon due to further improvement in the labour market and positive consumer sentiment.

↑ In 2018-2019 gross fixed capital formation will start to play bigger role in the GDP growth, which is related to the need of rebuilding productive potential and to the inflow of EU funds under the 2014-2020 financial framework.

↓ Gradual slowdown in the euro area will have a negative impact on the GDP growth at home.

y/y, %	2017	2018	2019	2020
GDP	4.6	4.6	3.8	3.5

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Economic conditions abroad

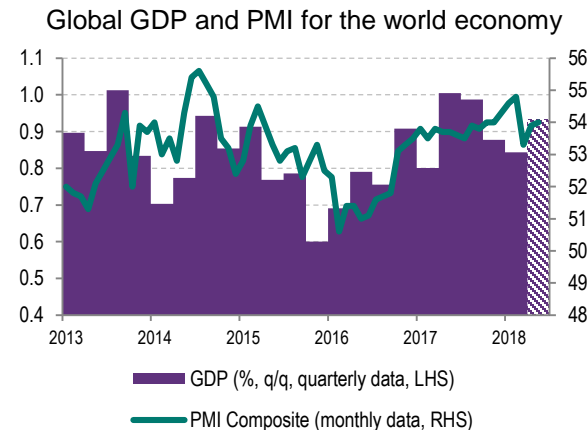
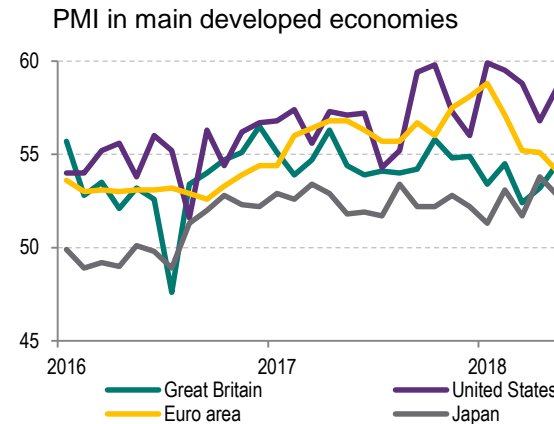
July projection assumes diverse economic outlook of the main trading partners

- ↑ Tax reform and good business conditions in United States.
- ↓ Weaker data readings in the euro area and Great Britain.
- ↓ Downturn in some emerging markets, sensitive to tightening of global financial conditions.

GDP y/y, %	2017	2018	2019	2020
Euro area	2.6 (2.5)	2.2 (2.3)	1.8 (1.8)	1.6 (1.5)
Germany	2.5 (2.5)	2.0 (2.4)	1.9 (1.8)	1.6 (1.4)
USA	2.3 (2.3)	2.9 (2.6)	2.7 (2.5)	2.0 (2.0)
UK	1.8 (1.8)	1.3 (1.7)	1.6 (1.6)	1.6 (1.6)

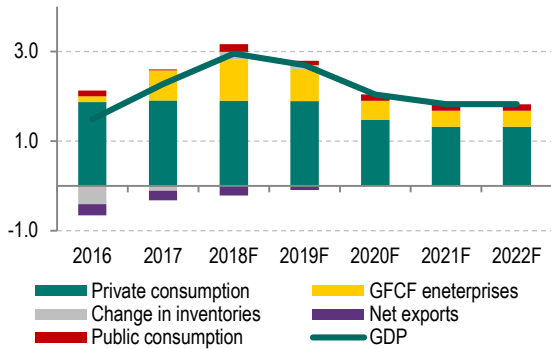
Source: NBP forecast (values from the March 2018 projection are given in brackets); Datatstream, OECD, NBP calculations.

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

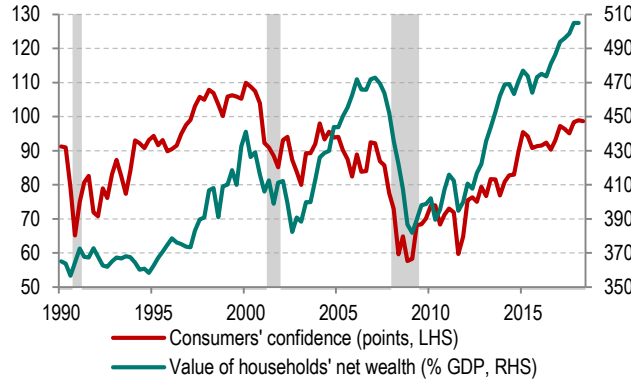


Faster than expected economic growth in the US

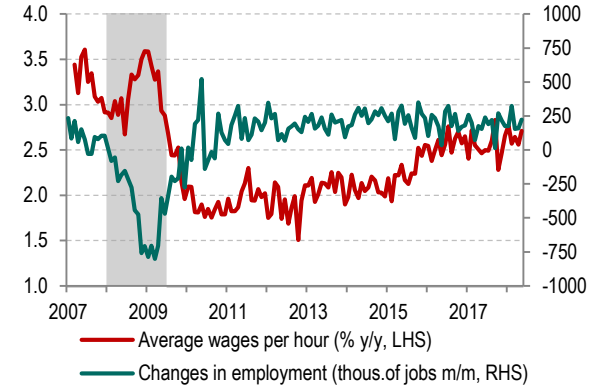
GDP growth (% and p.p., y/y)



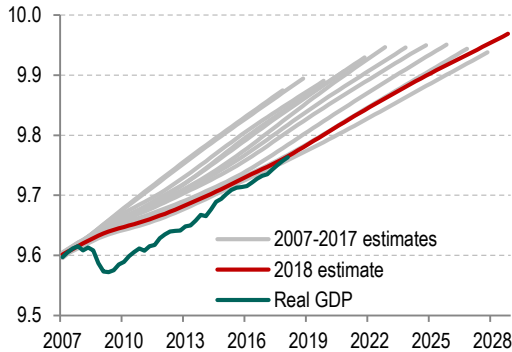
Consumers' confidence and wealth value



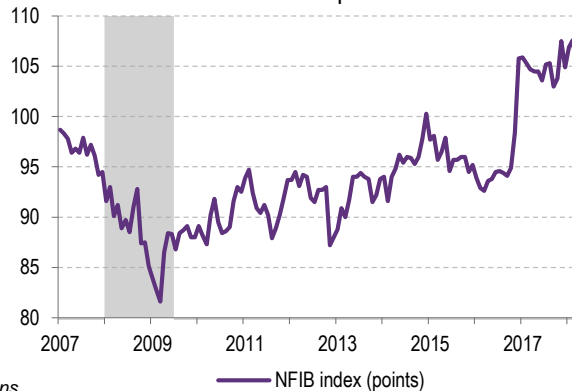
Employment and wages



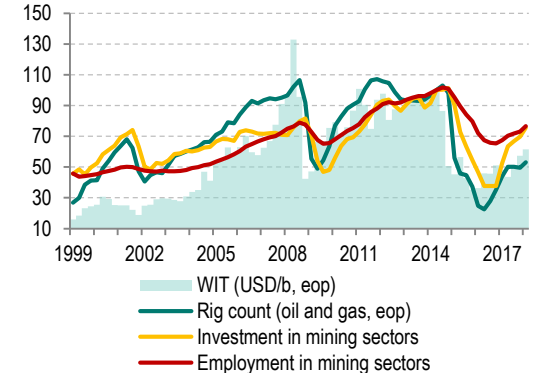
Potential output estimates



Small Business Optimism Index



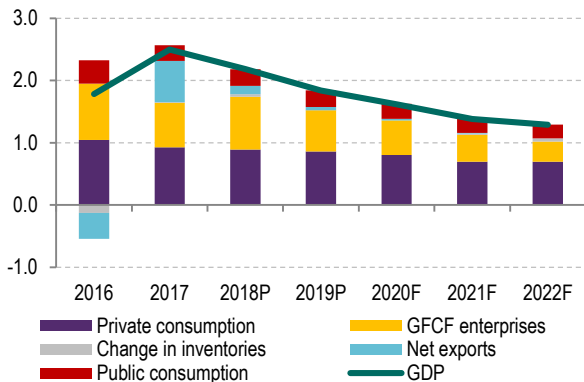
Oil prices and mining sector developments



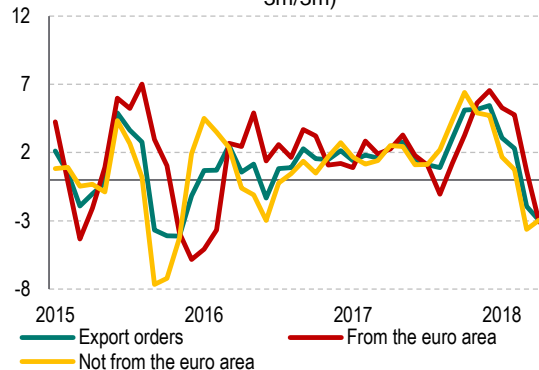
Source: Reuters, BLS, BEA, CBO, Baker Hughes, NFIB, NBP calculations.

Gradual weakening of the upward trend in the economic activity in the euro area

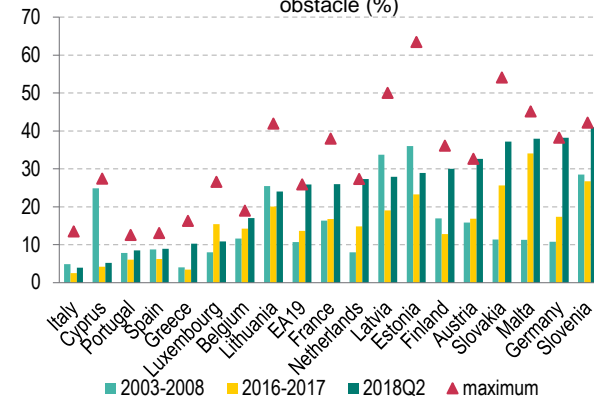
GDP growth forecast in the euro area (% and p.p., y/y)



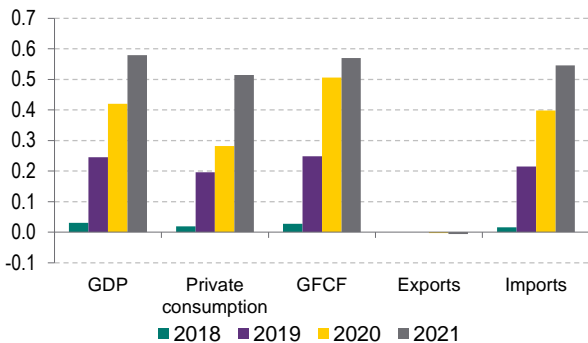
Inflow of export orders to the German industry (% 3m/3m)



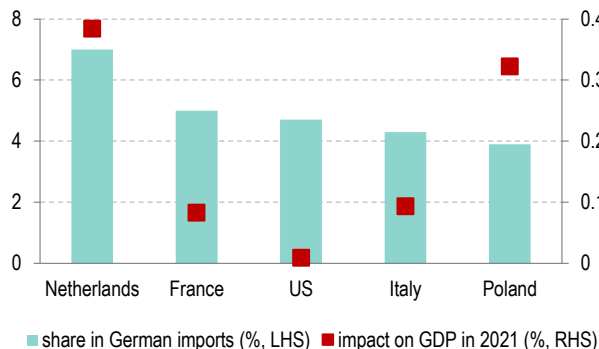
Share of enterprises from the manufacturing sector pointing to supply problems as the main business obstacle (%)



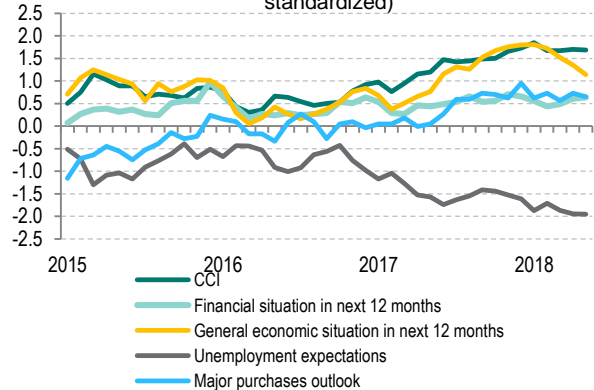
Estimated impact of the fiscal impulse on the German economy (p.p.)



Impact of the fiscal impulse in Germany on other economies



Consumers' confidence in the euro area (points, standardized)



Outline:

Changes between rounds

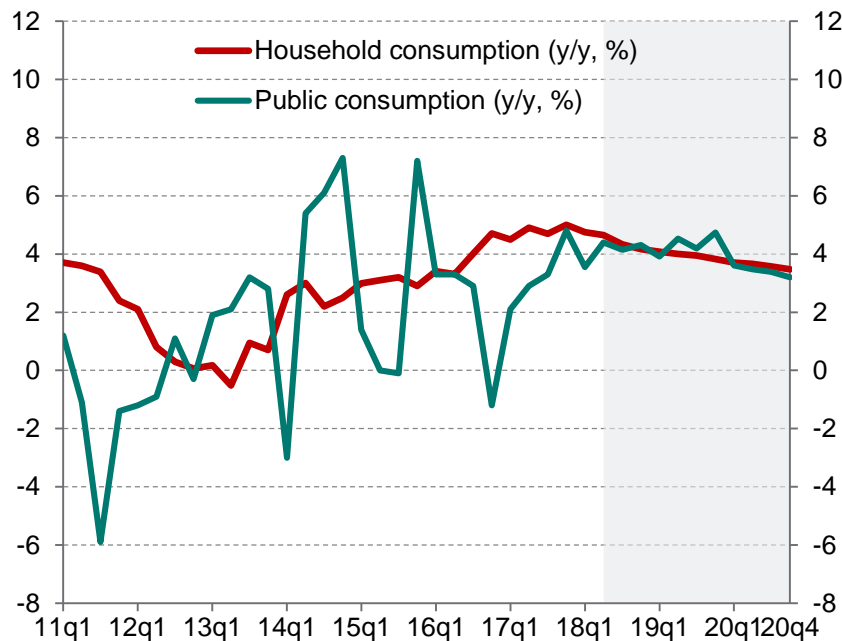
Projection 2018 – 2020

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Consumption demand

Consumption demand as the main driver of GDP growth in the projection



Private consumption:

- ↑ Favourable labour market conditions.
- ↑ Record high consumer sentiment.
- ↑ Low interest rates facilitate financing consumption through borrowing.
- ↓ Purchasing power of households reduced by rising inflation.

Public consumption :

- ↓ Relatively slow growth in current expenditures and in subsidies of other units of the sector (2018 Budget Act), including wage freeze of part of the government sector workers in 2018.
- ↑ Lack of detailed information on the continuation of cutting public expenditure in 2019.

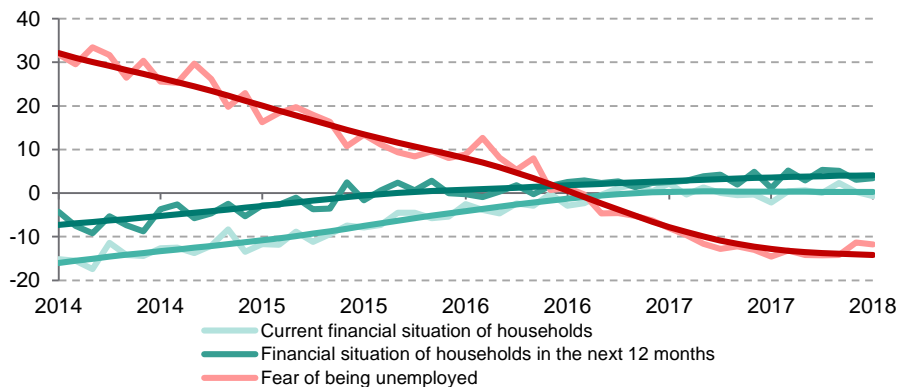
y/y, %	2017	2018	2019	2020
Household consumption	4.8	4.4	4.0	3.6
Public consumption	3.4	3.9	4.3	3.4

Still favourable financial situation of households

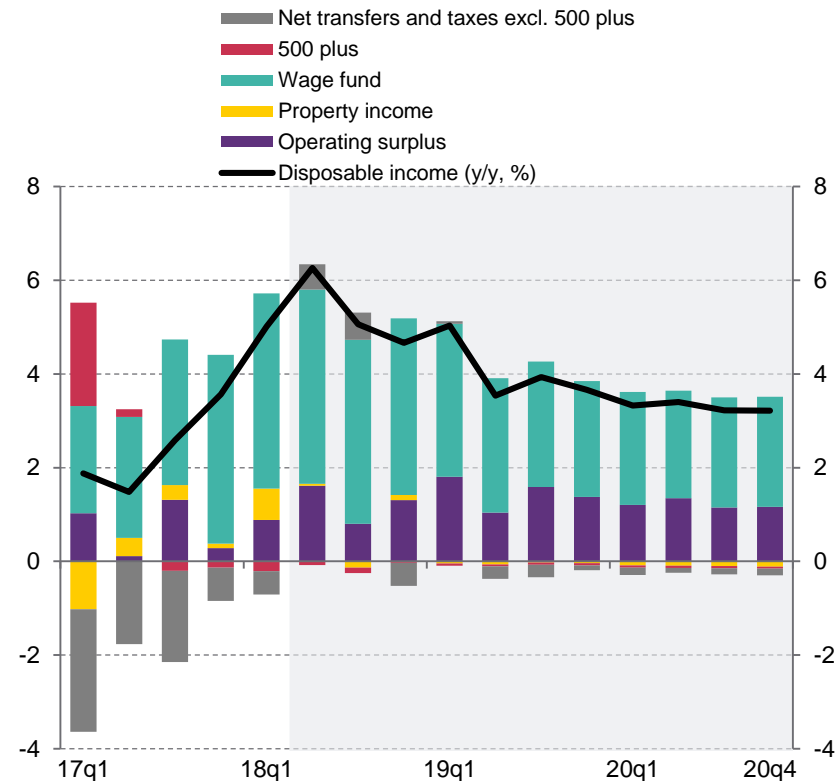
	17q4		18q1	
ULC (y/y, %)	2.4	(3.6)	1.8	(2.7)
Labour productivity (y/y,%)	4.4	(3.5)	4.9	(4.0)
Gross wages (y/y, %)	7.1	(7.1)	6.2	(6.8)
Employment LFS (y/y, %)	0.5	(1.5)	0.4	(0.8)
Unemployment rate LFS (%)	4.6	(4.1)	3.9	(4.1)
Participation rate (%)	56.2	(56.4)	56.3	(56.4)

Values from the March 2018 projection are given in brackets (seasonally adjusted). Indicators with values higher than in the March projection are marked green, whereas indicators with lower values are marked red.

Financial situation of households and fear of being unemployed



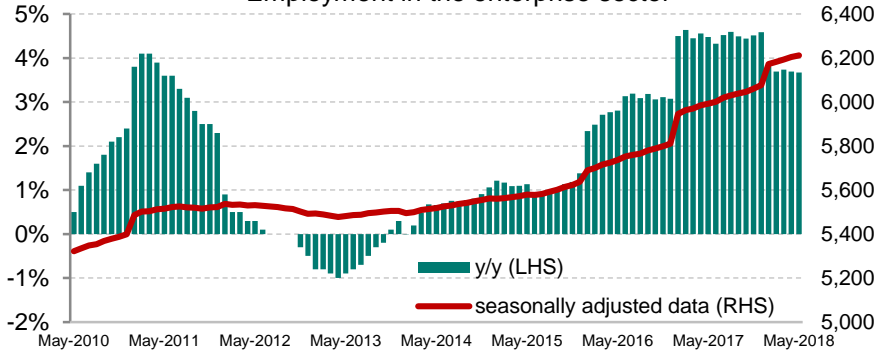
Disposable income decomposition (constant prices) (y/y, %)



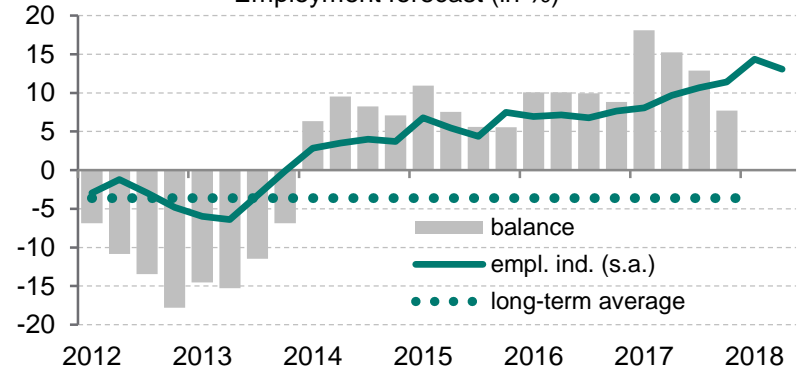
Source: GUS data, NBP calculations.

Sustained high demand for labour, lower work intensity

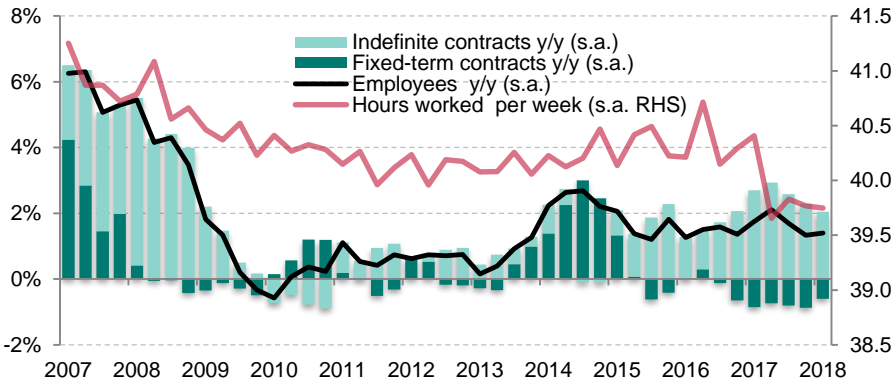
Employment in the enterprise sector



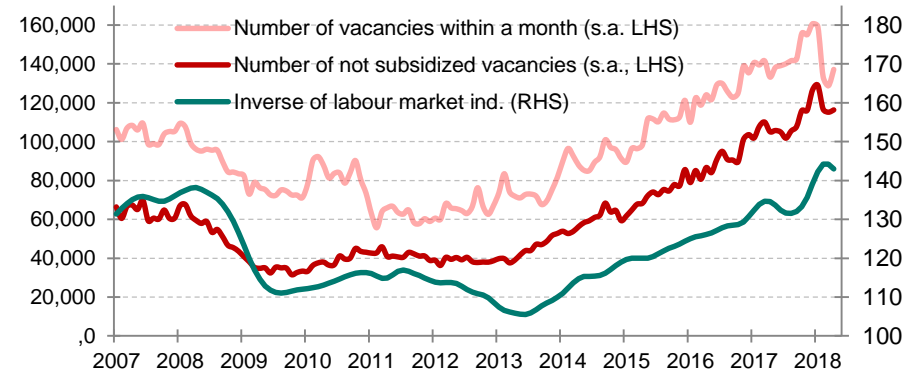
Employment forecast (in %)



Number of employees and number of hours worked (LFS)

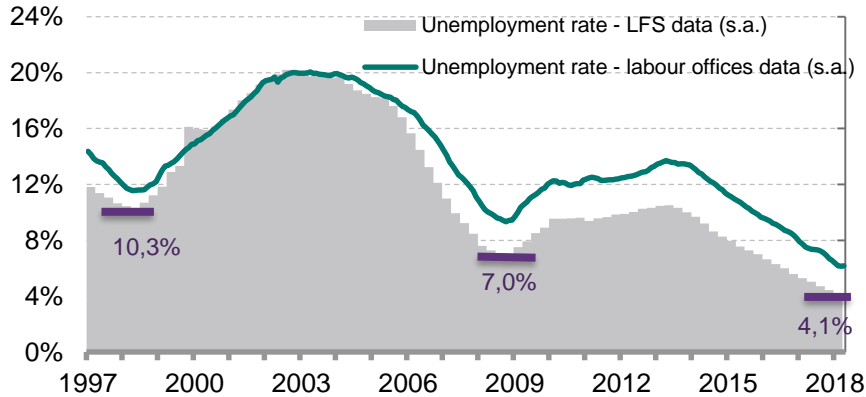


Vacancies

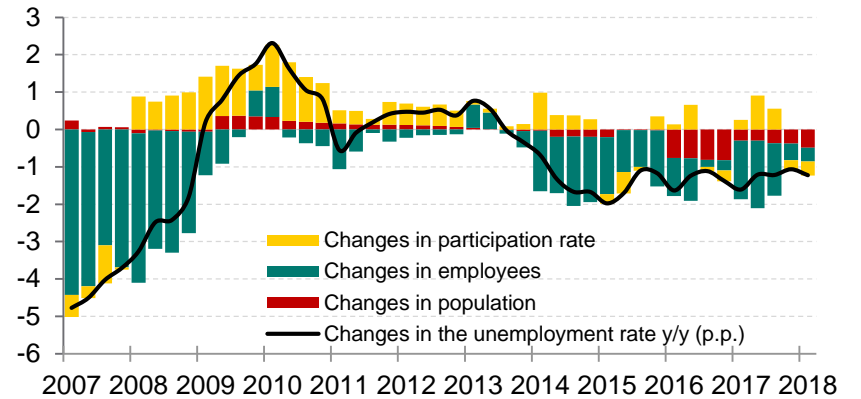


Decreasing unemployment rate mainly due to growing employment...

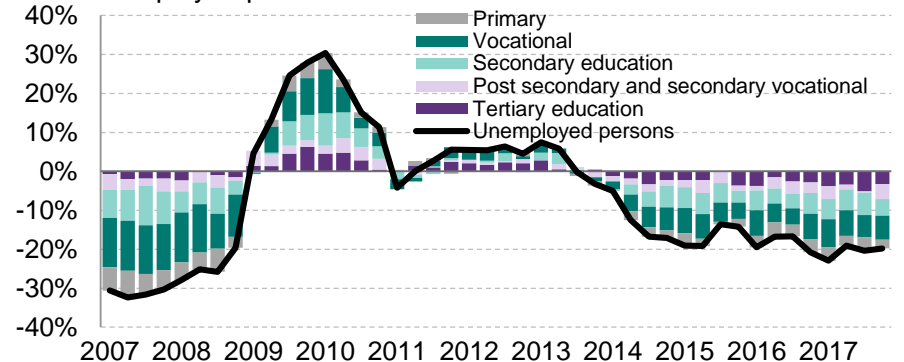
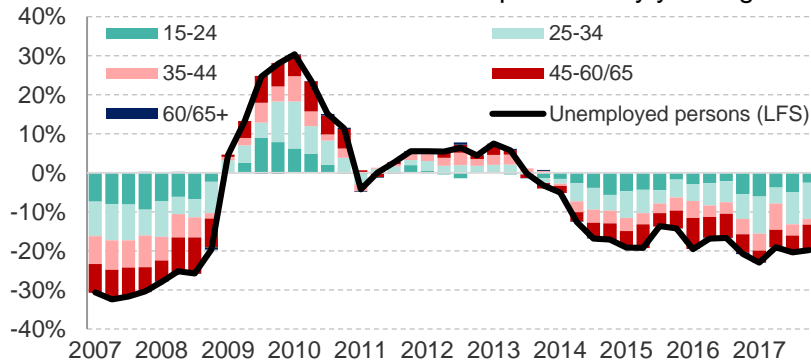
Unemployment rate – labour offices and LFS data (%)



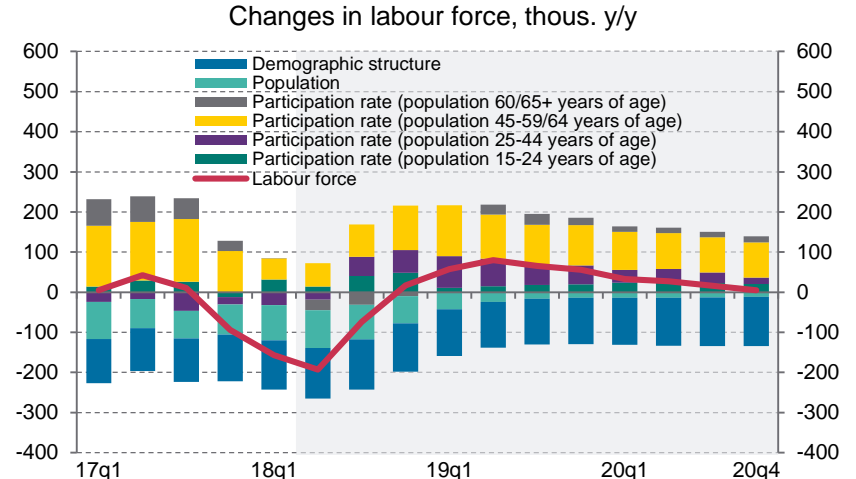
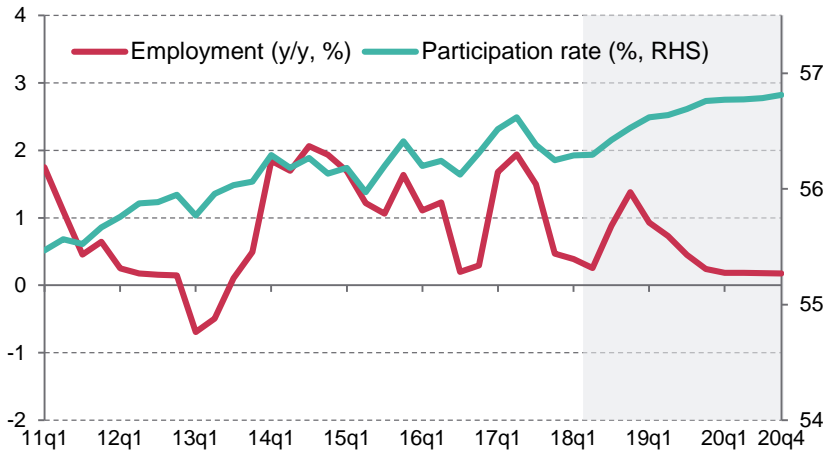
Unemployment rate changes – decomposition (y/y, p.p., LFS data)



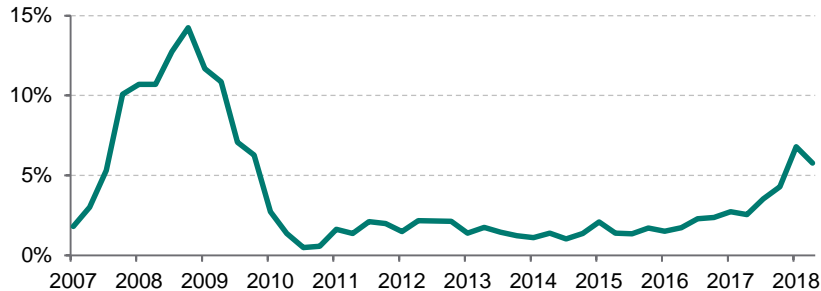
Decomposition of y/y changes in the number of unemployed persons – LFS data



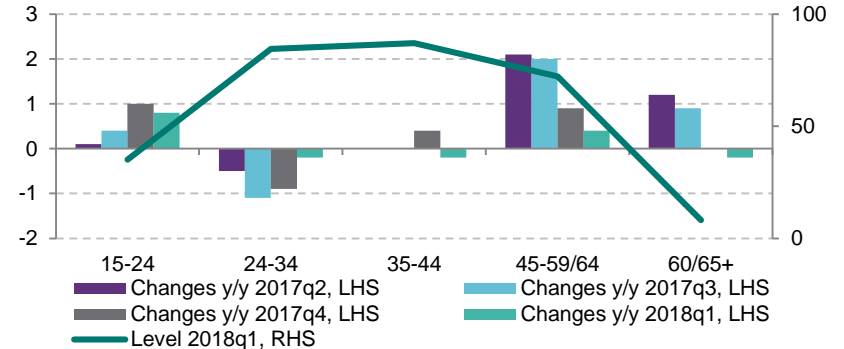
Slower labour demand increase and limited labour supply will hamper the employment growth in the coming years



Share of companies reporting difficulties with finding new employees as a barrier for expansion



Participation rates by age

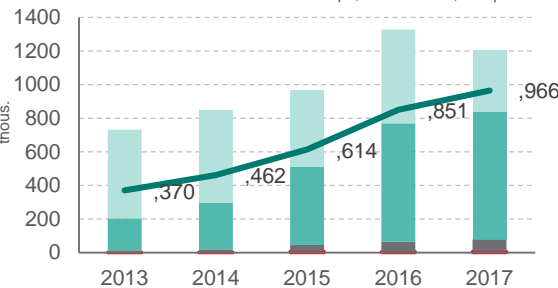
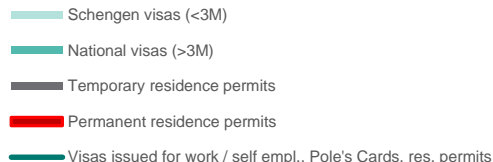


Source: GUS data, NBP calculations, NBP Quick Monitoring.

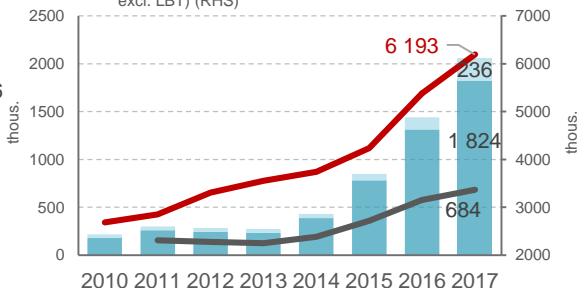
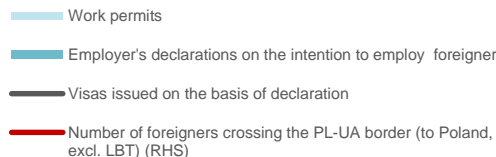
Employment dynamics higher due to the inflow of Ukrainian workers

Ukrainians in the Polish labour market

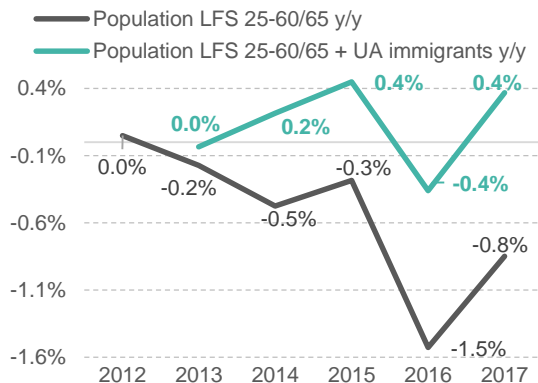
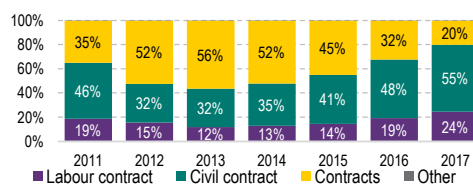
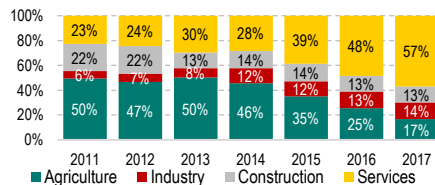
by residence permits



by work permits



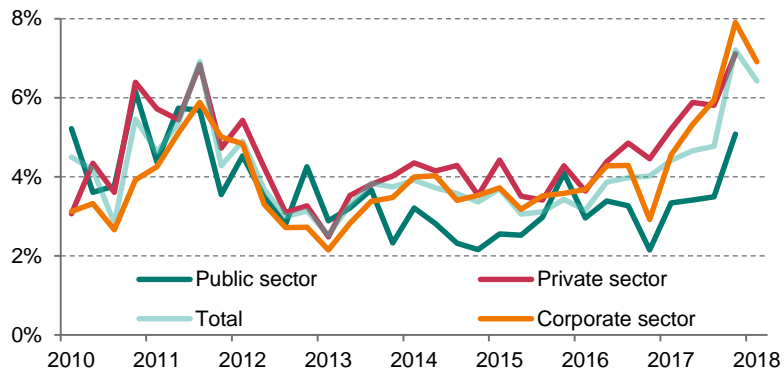
Changes in the employer's declarations



Source: data of Border Guard, Ministry of Family, Labour and Social Policy, GUS, NBP calculations.

Elevated wage dynamics in the projection horizon

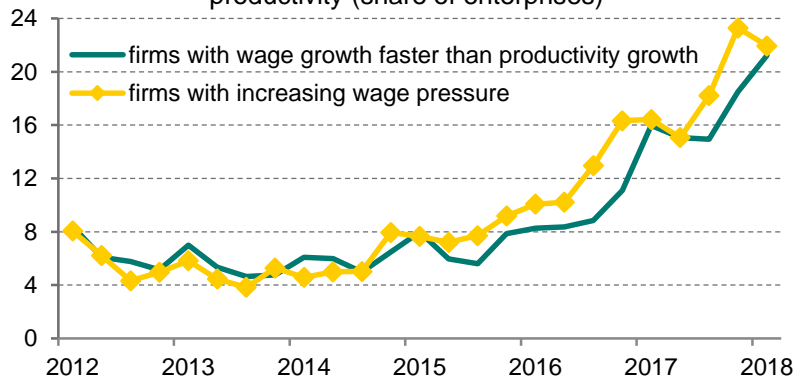
Nominal wages growth y/y (in %)



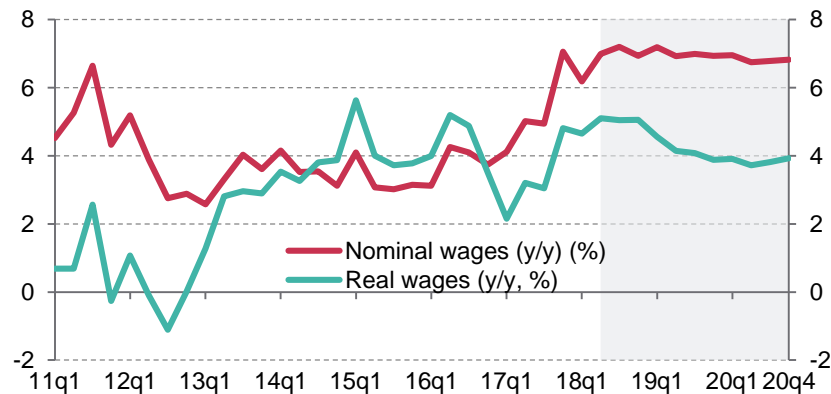
Annual growth of wages in the corporate sector (excluding mining sector)



Increase in wage pressure and wage growth exceeding labour productivity (share of enterprises)



Wage growth forecast



Source: GUS data, NBP calculations, NBP Quick Monitoring.

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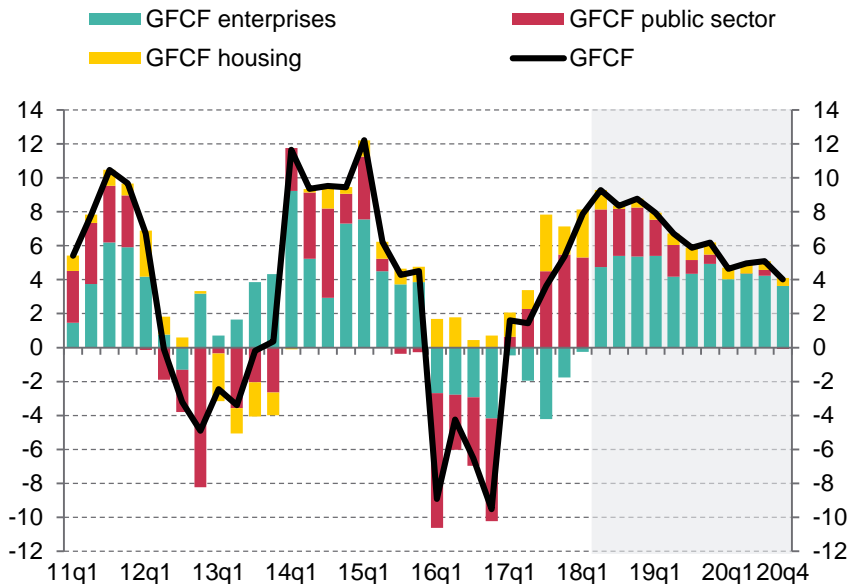
Projection 2018 – 2020

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Investment demand

In 2018 acceleration, afterwards gradual slowdown in investment dynamics



Private investment:

- ↑ Increasing use of funds from 2014-2020 EU financial perspective.
- ↑ High forecasts for demand, orders and production.
- ↑ Favourable investor sentiment.
- ↑ Low interest rates.
- ↓ Mounting shortage of labour force.
- ↓ In the long run – slowdown in the dynamics of domestic and external demand and lower increase in EU funds absorption.

Public investment :

- ↑ In 2018 increase in the use of funds from 2014-2020 EU financial perspective.

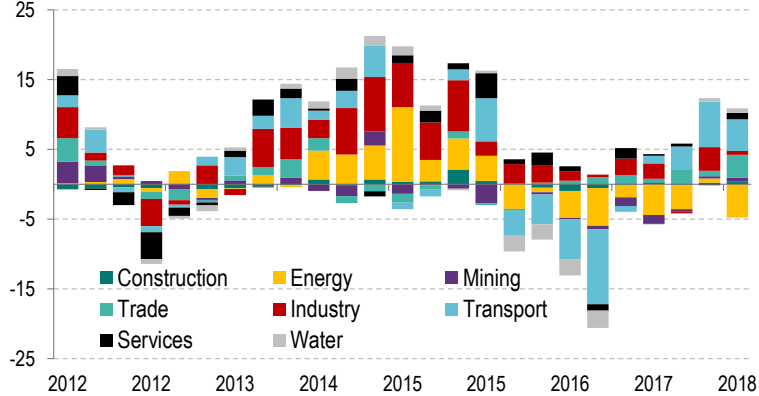
Housing investment :

- ↑ Good labour market conditions.
- ↑ Low interest rates.
- ↓ Deficit of employees in the construction sector.
- ↓ Rising prices of building materials and construction sites.

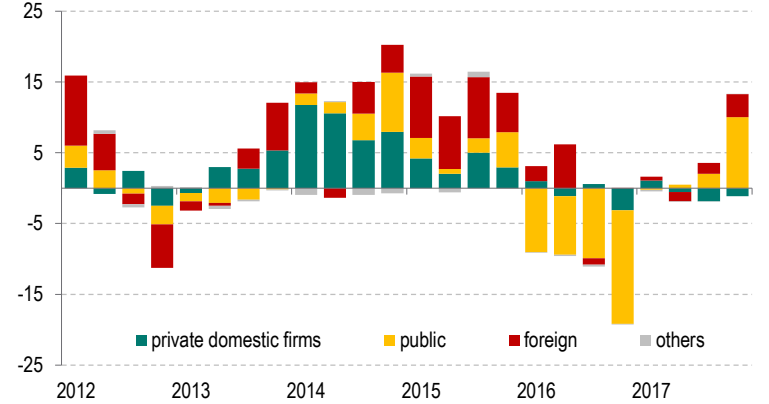
y/y, %	2017	2018	2019	2020
Gross fixed capital formation	3.4	8.4	6.7	4.7

Corporate investment growth in the projection horizon

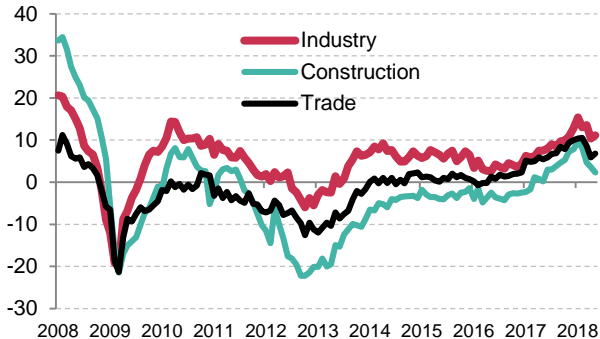
Contribution to the investment growth by section (in %, y/y, current prices)



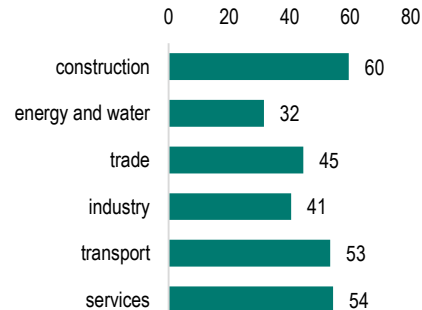
Investment growth rate by ownership (in pp., y/y, current prices)



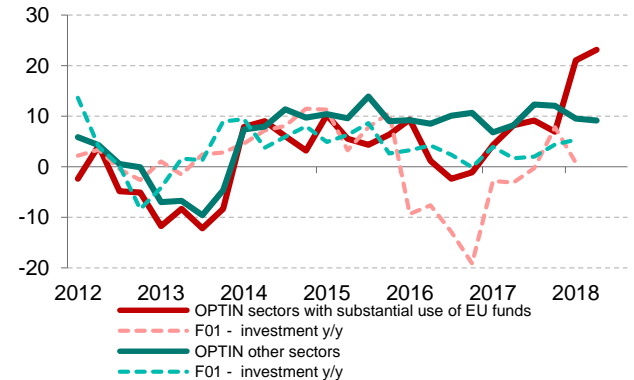
Corporate sentiment (GUS) – general expected economic conditions



Share of enterprises declaring that their capacity utilization is close to maximum (%)



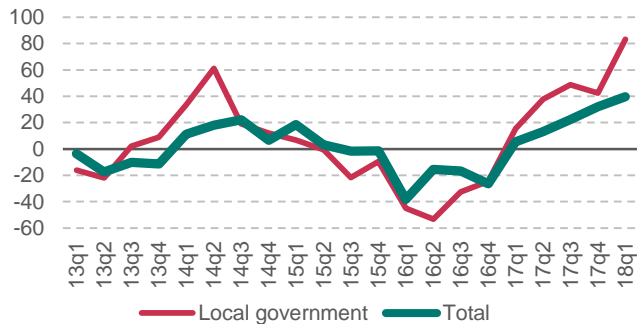
Planned annual change in investment outlays (balance, in p.p.)



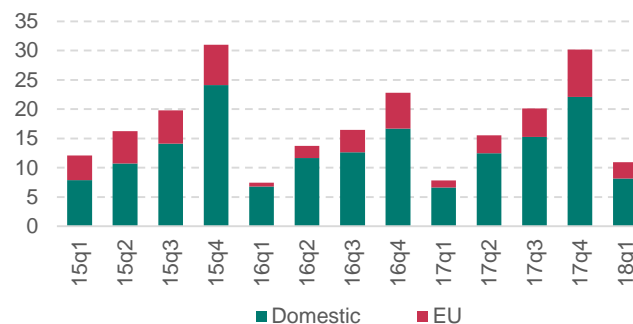
Source: GUS data, NBP calculations, NBP Quick Monitoring.

Despite some supply side constraints which have taken construction companies aback, recovery in public investment is continuing

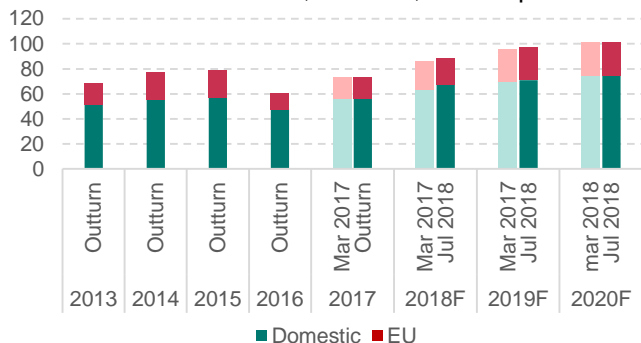
Growth of public investment, % y/y, current prices



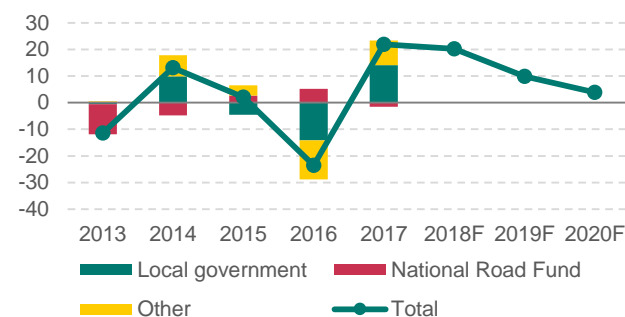
Public investment, bn PLN , current prices



Public investment, bn PLN , current prices



Contributions to public investment growth, % y/y , current prices



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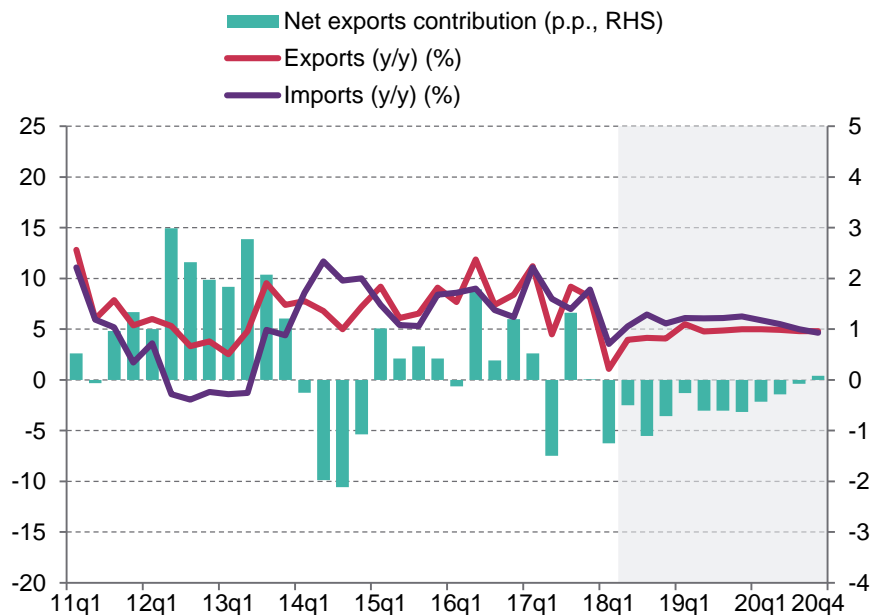
Projection 2018 – 2020

- External environment
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Uncertainty

Foreign trade

Net exports will limit GDP growth



Exports:

↓ Expected slowdown in the euro area growth, therein German economy.

Imports:

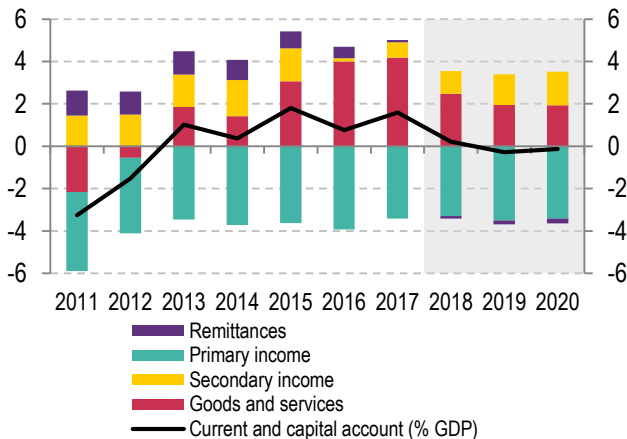
↑ In 2018 acceleration of investment dynamics.

↓ In the longer horizon gradual slowdown in domestic demand growth rate.

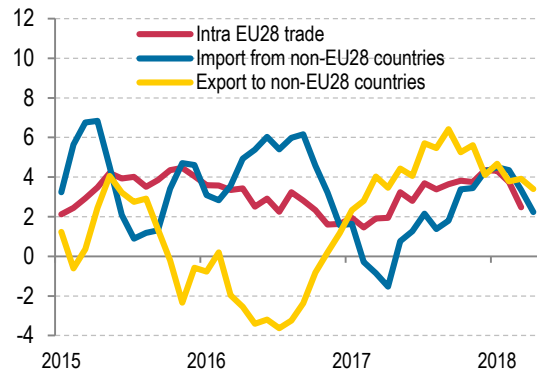
y/y p.p.	2017	2018	2018	2020
Net exports contribution to growth	0.1	-0.7	-0.5	-0.2

Slump in the current and capital account balance to the level slightly below zero in 2019-2020

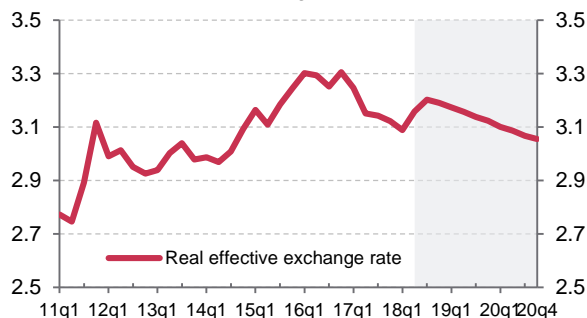
Current and capital account balance (% GDP)



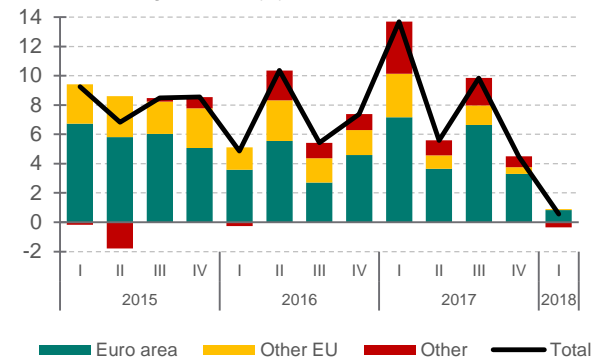
Trade in EU (% y/y, constant prices)



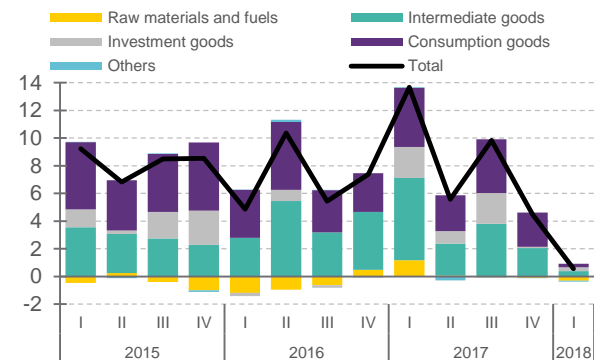
Real effective exchange rate



Geographical structure of changes in the exports volume of Polish goods (% y/y; current prices)



Product structure of changes in the Polish goods exports (% y/y; current prices)



Outline:

Changes between rounds

Projection 2018 – 2020

- External environment
- Consumption demand
- Investment demand
- Foreign trade
- Inflation

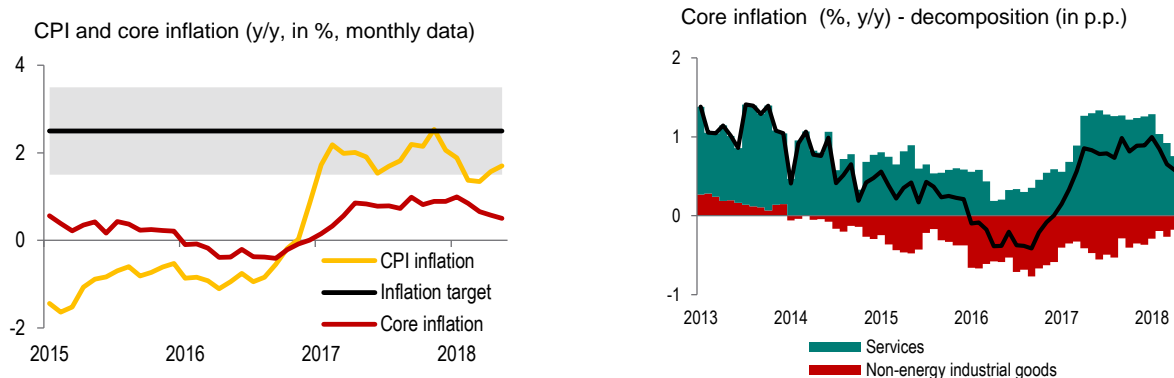
Uncertainty

Inflation

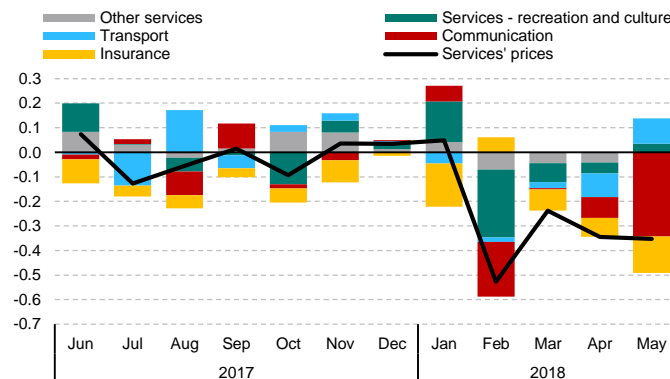
Lower than expected core inflation at the beginning of 2018 mainly due to slump in some services' prices

y/y, %	18q1
CPI inflation	1.5 (1.9)
Core inflation	0.8 (1.1)
Food prices inflation	3.9 (4.4)
Energy prices inflation	0.5 (0.9)

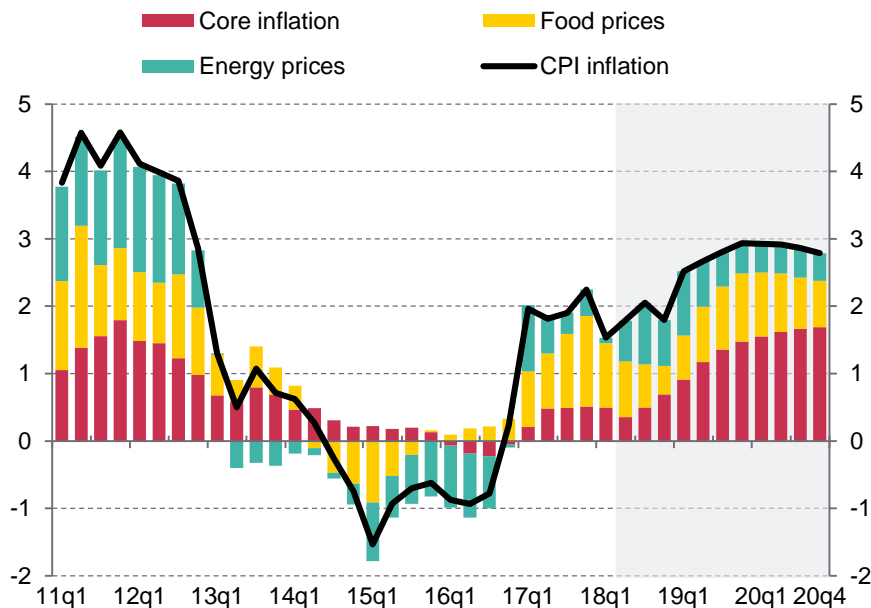
Values from the March 2018 projection are given in brackets (seasonally adjusted). Indicators with values higher than in the March projection are marked green, whereas indicators with lower values are marked red.



Changes in services prices - decomposition (y/y, in p.p., monthly data)



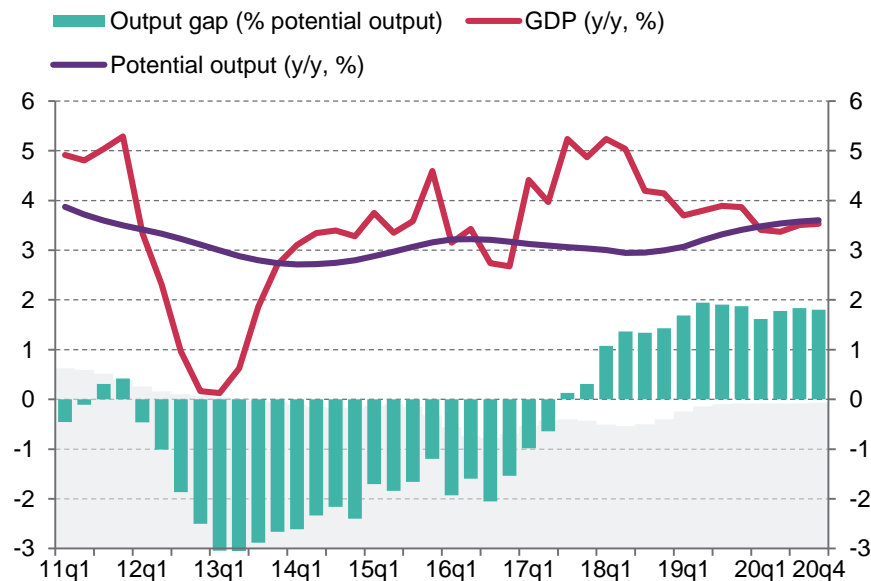
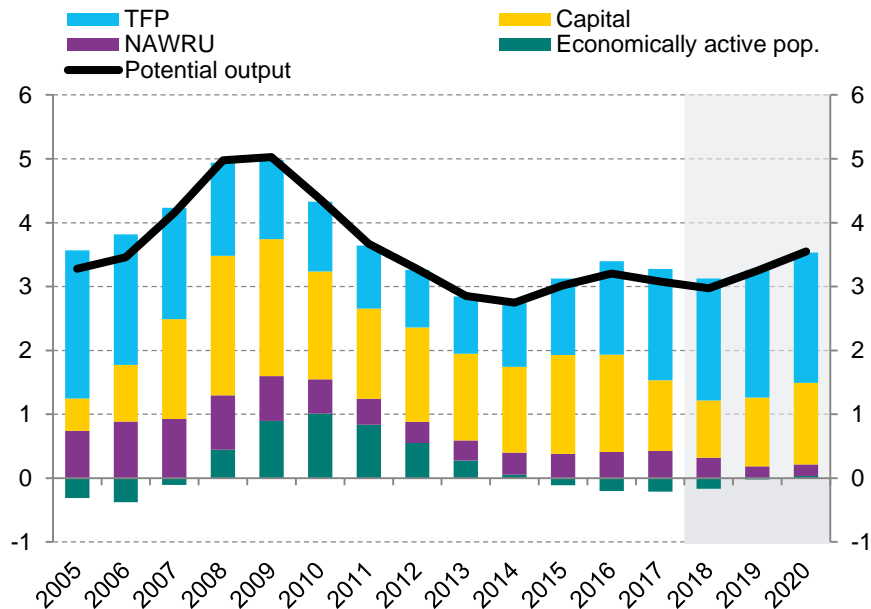
CPI inflation will increase and slightly exceed 2.5% in 2019-2020



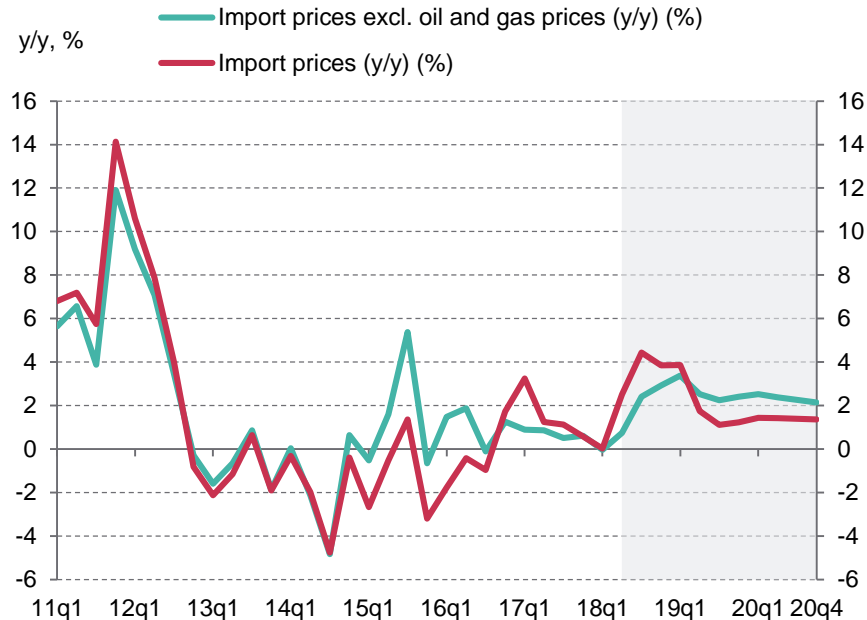
- ↑ In 2018 gradual fading of temporary factors reducing core inflation.
- ↑ Increase in cost pressure:
 - ↑ Higher unit labour cost dynamics
 - ↓ Moderate inflation in the euro area
 - ↑ Increase in global energy commodity prices in 2018
 - ↓ Gradual decline of energy commodity prices in the longer projection horizon
 - ↑ Emission fee from motor fuels and electricity prices hike in 2019
- ↑ Increase in demand pressure – positive and widening output gap (however, the sensitivity of price growth to changes in the domestic economic conditions has decreased in the recent years).
- ↓ Globalization 2.0.

y/y, %	2017	2018	2019	2020
CPI inflation	2.0	1.8	2.7	2.9

In the projection horizon the positive output gap will widen to reach 1.8% of potential GDP. Increasing demand pressure will lead to acceleration of core inflation with a certain lag.

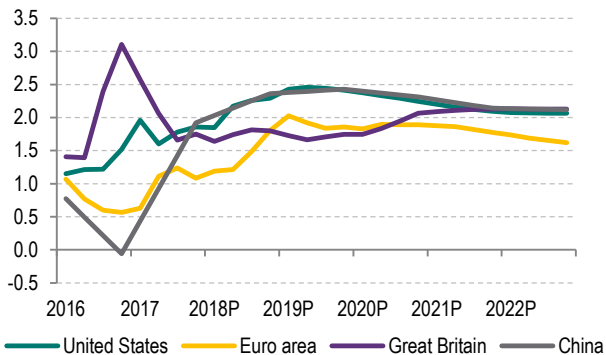


Unit labour cost growth will accelerate in 2018, in 2019-2020 will equal on average 3% y/y. High cost pressure at home will be limited in the longer horizon by moderate inflation abroad.

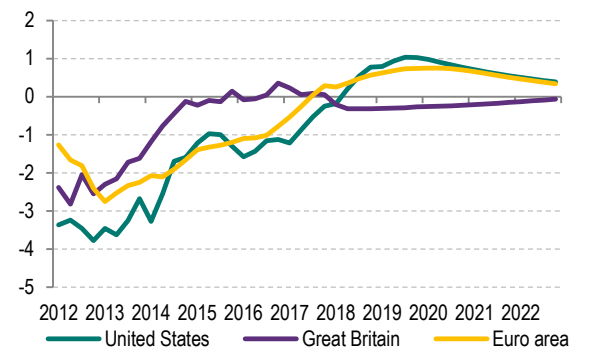


Inflation abroad remaining at moderate levels

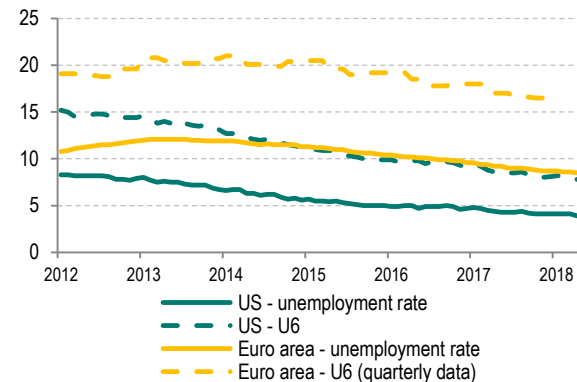
VA deflator (% , y/y)



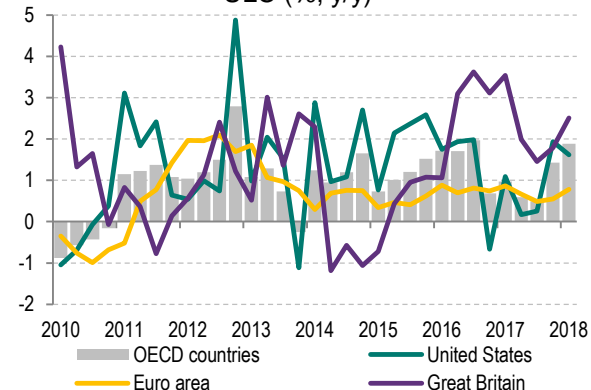
Output gap – NBP estimates (% of potential output)



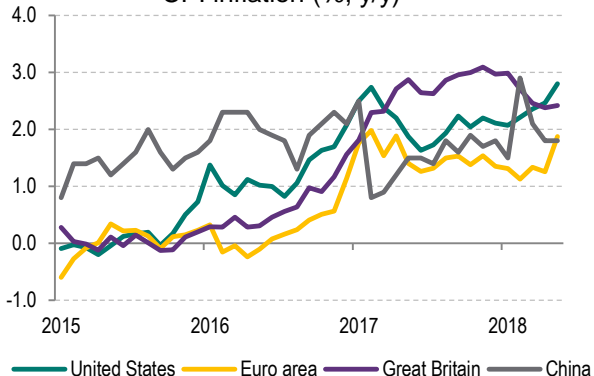
Unemployment in the United States and the euro area



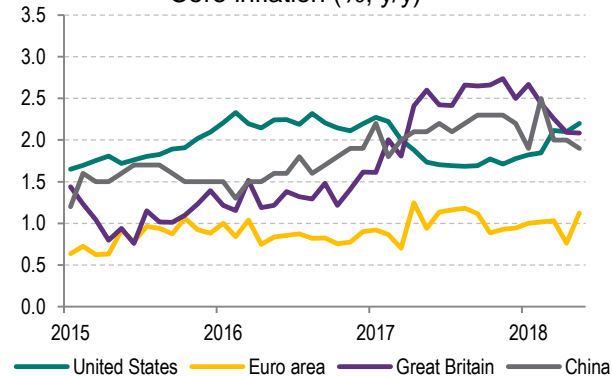
ULC (% , y/y)



CPI inflation (% , y/y)

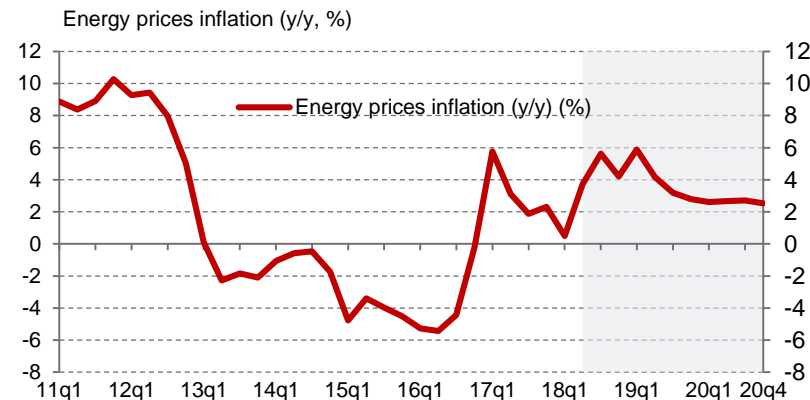
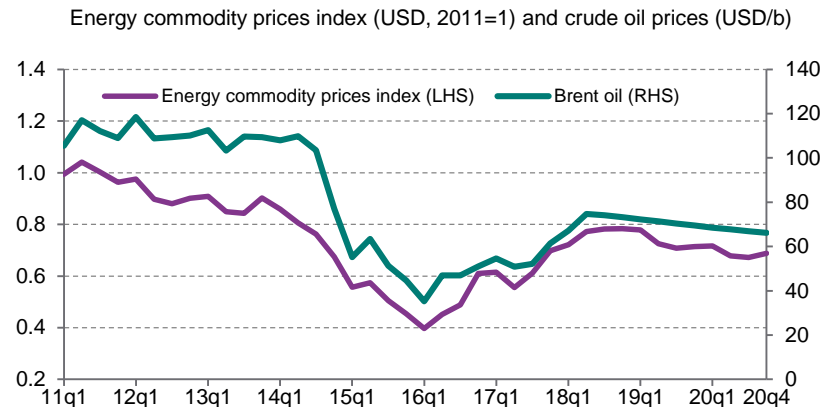
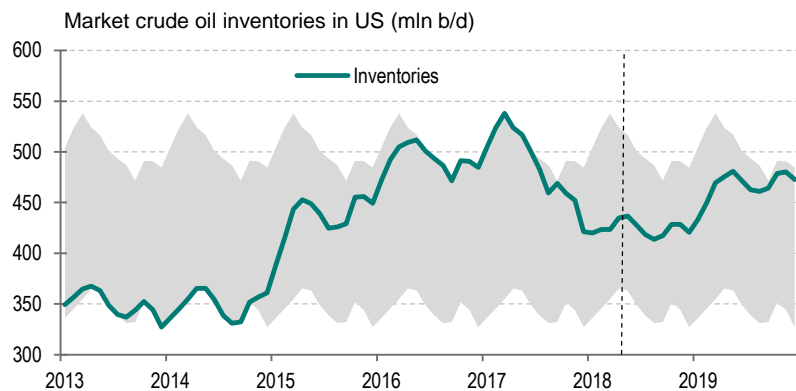
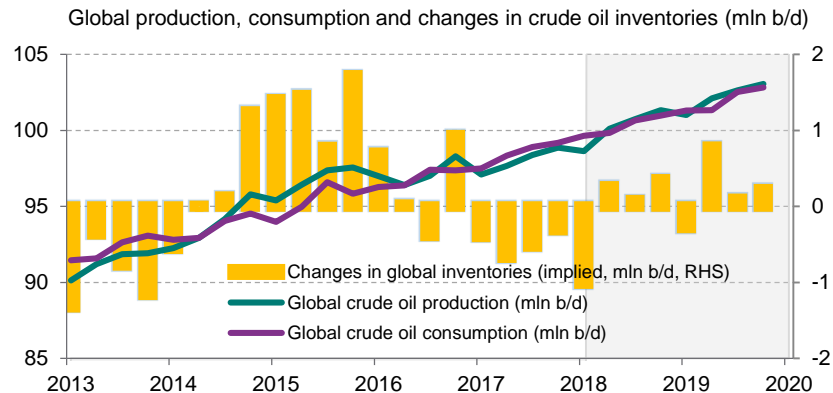


Core inflation (% , y/y)



Source: data: Thomson Reuters Datastream and OECD, NBP calculations.

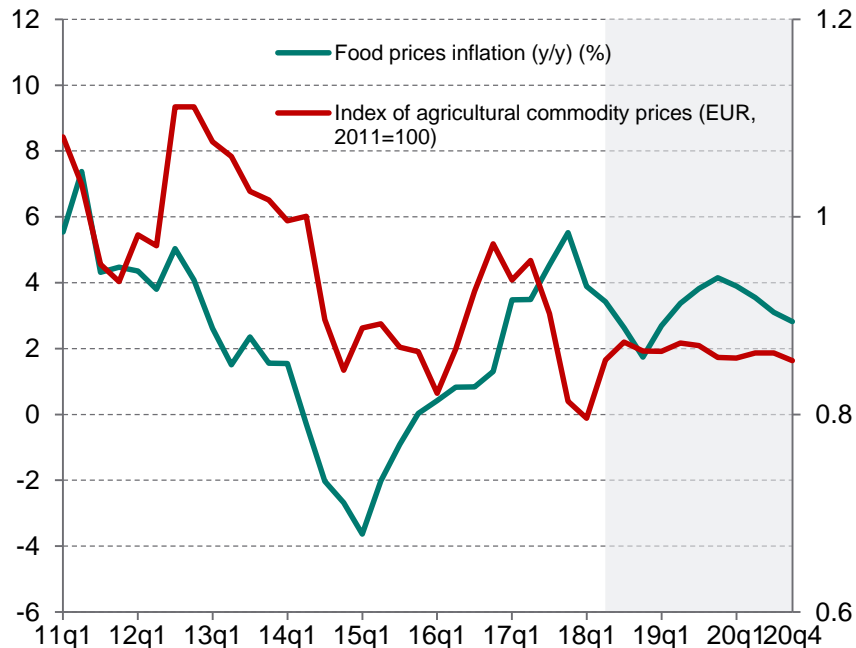
Expected levelling off and then gradual decrease in global energy commodity prices in the projection horizon. Since 2019 new emission fee on fuel motors and electricity prices hike.



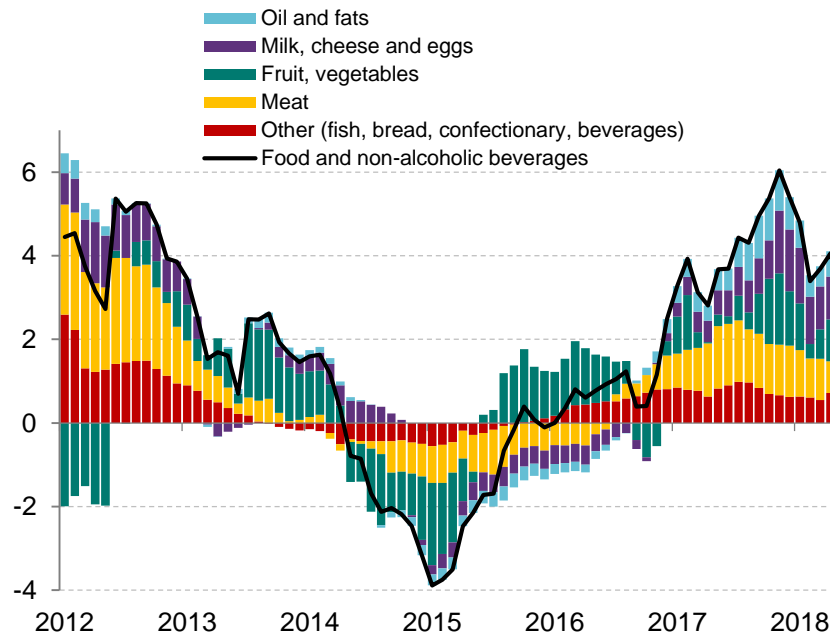
Source: data: GUS, Bloomberg, Reuters, NBP calculations.

Food prices inflation in 2018-2020 will remain lower than in 2017

Food prices inflation (y/y, %) and global index of agricultural commodity prices (EUR, 2011=1)



Food and non-alcoholic beverages decomposition (p.p.)



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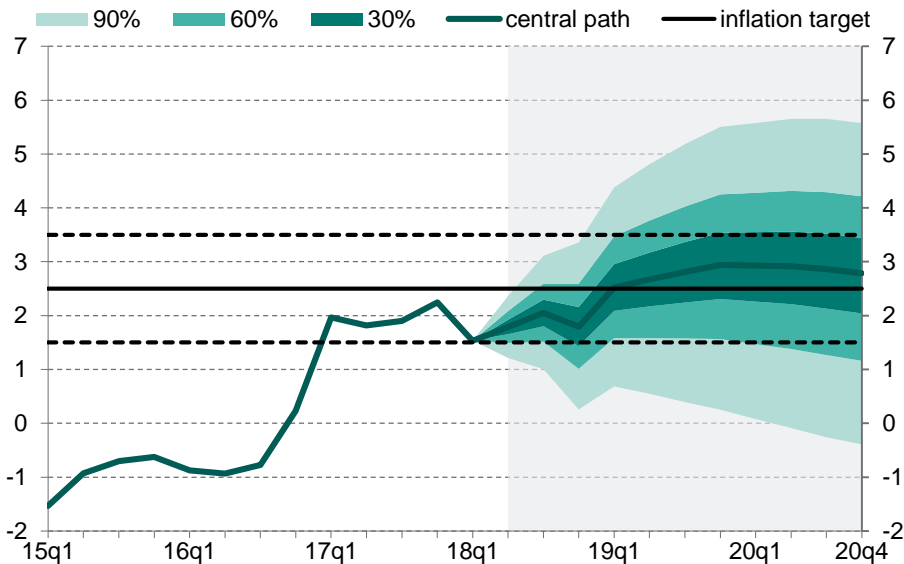
Uncertainty

Uncertainty

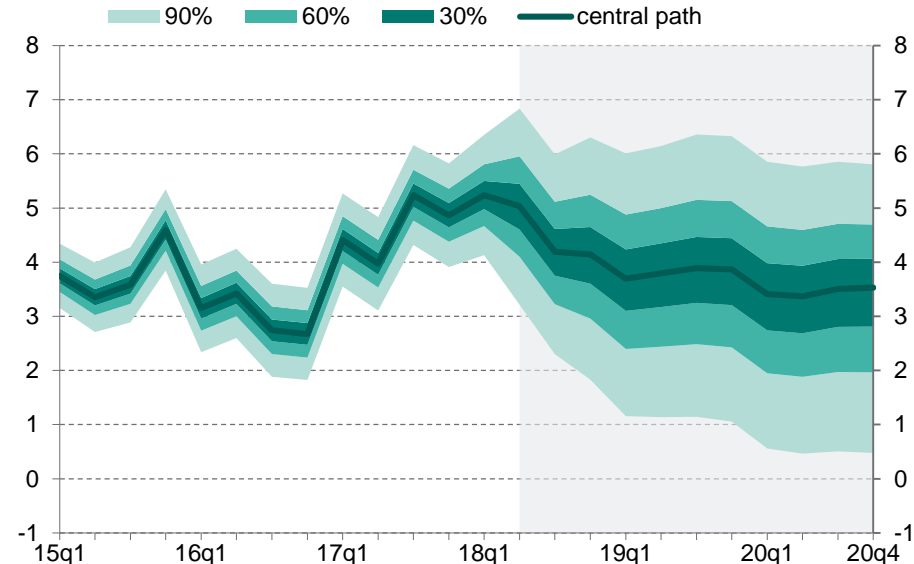
- Risk factors
- Fan charts

Risk area	Description	Impact	Scale of impact
Global economic outlook	<ul style="list-style-type: none"> ▪ Escalation of current trade disputes and further protectionism in the global trade, leading to disturbances in the global trade, elevated uncertainty and tensions in the financial markets. ▪ Sovereign debt crisis in Italy having a significant adverse impact on the economic growth in the euro area (expansive fiscal policy in Italy resulting in the hike of Italian government bond yields and increased tensions in the financial markets), crisis in the Italian banking sector. 	Inflation ⇄ GDP ↓	**
Global crude oil prices and exchange rates	<ul style="list-style-type: none"> ▪ Fluctuations in the oil supply in the global markets: <ul style="list-style-type: none"> - unknown shape of future OPEC's supply policy, - uncertainty related to the outlook for shale oil supply in the US . ▪ Increasing crude oil demand from emerging Asian economies. ▪ Geopolitical situation (i.a. consequences of reimposing sanctions on Iran and crisis in Venezuela). ▪ Path of the exchange rates (PLN and EUR/USD). 	Inflation⇄ GDP ⇄	*
Conclusions		Inflation⇄ GDP ↓	

CPI inflation y/y, %



GDP y/y, %



CPI y/y, %	below 1.5%	below 2.5%	below 3.5%	below centr. path	in the range 1.5-3.5%
2018	24%	94%	100%	49%	76%
2019	15%	42%	72%	48%	57%
2020	22%	43%	67%	52%	45%

CPI y/y, %	central path	50% probability interval	
2018	1.8	1.5	2.1
2019	2.7	1.9	3.5
2020	2.9	1.7	3.9

GDP y/y, %	central path	50% probability interval	
2018	4.6	4.0	5.2
2019	3.8	2.8	4.7
2020	3.5	2.4	4.3

We protect the value of money