



# ECONOMIC REVIEW

1/2020



BULGARIAN NATIONAL BANK

The BNB quarterly Economic Review presents information and analysis of balance of payments dynamics, monetary and credit aggregates, their link with the development of the real economy, and their bearing on price stability. External environment developments were also analysed since they directly affect Bulgarian economy. The Review contains quantitative assessments of short-run developments in major macroeconomic indicators like inflation, growth, exports, imports, trade balance and the balance of payments current account, foreign direct investment, monetary and credit aggregates dynamics.

The Economic Review, issue 1/2020 was presented to the BNB Governing Council at its 11 June 2020 meeting. It employs statistical data published up to 18 May 2020. Given the enormous scale of the economic shock caused by the spread of COVID-19, the charts in this issue and in other 2020 issues will encompass the period from early 2008, which will allow to compare the change in economic variables during the global financial and economic crisis in 2008–2009.

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## ABBREVIATIONS

ABSPP	Asset-Backed Securities Purchase Programme
APP	Asset Purchase Programme
APRC	Annual percentage rate of charge
BIR	Base interest rate
BOP	Balance of Payments
BTC	Bulgarian Telecommunications Company
b.p.	basis points
CBPP3	Covered Bond Purchase Programme
CEECs	Central and East European countries
CEFTA	Central European Free Trade Association
CFP	Consolidated Fiscal Programme
CIF	Cost, insurance, freight
CNY	Chinese Yuan
CPI	Consumer Price Index
DXY	an index measuring the exchange rate of the US dollar against the basket of six major currencies
EA	Employment Agency
EC	European Commission
ECB	European Central Bank
EIB	European Investment Bank
EMBI	Emerging Markets Bond Index
EONIA	Euro OverNight Index Average
ESA 2010	European System of National and Regional Accounts
EU	European Union
EURIBOR	Euro Interbank Offered Rate
EWRC	Energy and Water Regulatory Commission
FDI	Foreign Direct Investment
FOB	Free on Board
FRS	Federal Reserve System
GDP	Gross Domestic Product
GFMS	Gold Fields Mineral Services
HICP	Harmonized Index of Consumer Prices
HRW	Hard Red Wheat
HUF	Hungarian forint
IEA	International Energy Agency
IMF	International Monetary Fund
ISM	Institute for Supply Management
LEONIA	LEv OverNight Index Average
LIBOR	London Interbank Offered Rate
M1	narrow money
M2	M1 and quasi-money
M3	broad money
MF	Ministry of Finance
MFIs	Monetary Financial Institutions
mt	metric tons
NPISHs	Non-profit institutions serving households
NSI	National Statistical Institute
OPEC	Organization of Petroleum Exporting Countries
OTC	over-the-counter
PBoC	People's Bank of China
PMI	Purchasing Managers' Index
p.p.	percentage points
PPP	Purchasing Power Parity
PSPP	Public Sector Purchase Programme
RON	Romanian new leu
SITC	Standard International Trade Classification
WTI	West Texas Intermediate
€STR	Euro Short-Term Rate

# SUMMARY

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In the first four months of 2020 the major factors determining global economic activity were the measures to curb the rapid spread of the new coronavirus, SARS-COV-2, which causes COVID-19. The measures led to a complete disruption of activities in a number of economic sectors worldwide, with the services sector being affected most strongly. Already in the first quarter significant declines in economic activity were reported in all leading economies, and in the second quarter they are expected to deepen. In response to the expected economic fallout from the measures against the spread of COVID-19 the world leading central banks, including the ECB and the US Federal Reserve System, launched a series of extraordinary monetary policy measures.

The significant deterioration of the international economic environment is expected to lead to a serious annual fall in external demand for Bulgarian goods and services in the second quarter of 2020, whereas in the third quarter the fall is anticipated to slow down due to a gradual easing of restrictive measures against the spread of COVID-19.

Decreased external indebtedness and financial buffers accumulated in recent years have created good initial conditions for the Bulgarian economy before the COVID-19 crisis. In 2019 and the beginning of 2020 overall current and capital account surplus continued to increase and the balance on the financial account remained positive. March 2020 data show a small deficit on the current account, likely reflecting only partially COVID-19 crisis effects on external financial flows. At the same time, a negative balance on the financial account was registered in March due mainly to decreased foreign assets of banks as a result of BNB measures aimed at further strengthening the liquidity position of the banking system. In an environment of subdued global economic activity, over the second and third quarters of 2020 overall current and capital account surplus is expected to decrease on an annual basis, driven primarily by goods and services trade balance.

In the first four months of 2020 funds attracted from residents in the banking system continued growing at comparatively high rates. Factors driving this dynamics after the declaration of a national state of emergency in the middle of March included the confidence in the banking system, the lack of a safe alternative to bank deposits and potential formation of precautionary savings by economic agents in an environment of heightened uncertainty. Credit dynamics data by end-March do not yet show a significant slowdown in the annual growth compared to early 2020 rates. The formation of precautionary savings by economic agents due to the increased uncertainty in the macroeconomic environment is anticipated to drive a continuing rise in deposits over the projection horizon. Credit is projected to decelerate its annual growth as a result of weakening demand, possible tightening of credit standards and reduced risk appetite of banks.

In the last five years Bulgaria's real GDP has been growing by more than 3 per cent *per* year, mainly driven by private consumption. The improvement in economic activity was accompanied by employment growth and steadily declining unemployment rate, reaching historically low levels. The spread of COVID-19 in Europe, including in Bulgaria at the end of the first quarter of 2020, was the reason for the rapid and severe deterioration of the short-term outlook for economic activity. The introduced containment measures disrupted most of the economic activities around the country, which, coupled with weaker external demand, resulted in deterioration of business climate and financial performance of firms. This led to a decline in consumer confidence, rise in unemployment and income losses for some households, limiting their possibilities and propensity to consume.

According to NSI flash estimates, in the first quarter of 2020 real GDP increased by 0.3 per cent on a quarterly basis. This growth was due to the recorded increase in exports of goods and services, which was likely driven by the fact that COVID-19 cases were mostly concentrated in quarter-end.

Concurrently, final consumption expenditure and fixed capital investment decreased compared to the fourth quarter of 2019. We expect that the negative impact of COVID-19 on consumer expenditures and placed orders in the second quarter of 2020 will result in a fall in real GDP compared to the January-March period. Under the assumption of no second wave of COVID-19 and new tightening of measures, the economic recovery will most likely start in the third quarter of the year on a quarterly basis.

The economic effects from the spread of COVID-19 and the containment measures resulted in inflation in Bulgaria slowing down to 1.3 per cent in April 2020, after three years of mostly an accelerating trend. This acceleration reflected to a large extent the upward price dynamics of food and core HICP components. The slower overall inflation in the first two months of the state of emergency period, announced on 13 March 2020, was mainly due to the negative contribution of energy products, with their downward dynamics determined by the substantial decrease in international oil prices. The slowdown in core inflation also had a restricting effect on the rate of price increases. Concurrently, food inflation remained close to the high levels already reached, driven mainly by internal factors, whereas the effect of the spread of COVID-19 on prices in the group remained limited.

In the second and third quarters of 2020 inflation is expected to decline further. Lower demand and the uncertain economic environment are expected to contribute to core inflation slowing down, while the projected fall in the prices of energy products reflects mainly the market expectations about the developments in international oil prices in euro. However, food inflation may slow down, driven mainly by the groups of meat and cereal products.

# 1. EXTERNAL ENVIRONMENT

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In the first four months of 2020 the major factor determining global economic activity was the undertaking of the unprecedented measures launched to curb the rapid spread of the new coronavirus, SARS-COV-2, which causes COVID-19. The measures led to a complete disruption of activities in a number of economic sectors worldwide, with the services sector being affected most strongly. The weak recovery of global economic indicators in manufacturing and the services sector at the close of 2019 was sharply interrupted in February 2020, when initially China's economy was most strongly affected by COVID-19. Subsequently, the disease spread rapidly in Europe, the United States and other countries all over the world. Already in the first quarter significant declines in economic activity were reported in all leading economies, and in the second quarter they are expected to deepen. As a result of the measures taken to curb the spread of the disease the US labour market, and possibly global labour market, suffered historically the strongest negative shock. Global inflation declined to 2.0 per cent on an annual basis in March due to its slowdown in advanced economies, reflecting the significant fall in energy prices ascribable to low demand of fuels under the conditions of strict social distancing and restricted movement measures.

In response to the fallout from the measures against the spread of COVID-19, the ECB Governing Council launched a number of monetary policy measures aimed at maintaining liquidity and financing conditions for households, corporations and banks. The ECB Governing Council left unchanged euro area key interest rates, but established a new temporary asset purchase programme. The US Federal Reserve also launched a number of extraordinary monetary policy measures and lowered the target range for the federal funds rate by 150 basis points to 0.00–0.25 per cent. The extraordinary measures included both a resumption of programmes applied during the financial crisis in 2008–2009 and establishment of entirely new programmes to support the corporate debt market. High uncertainty as to the economic effects of the measures curbing the spread of coronavirus resulted in a high uncertainty in the forecasts about future economic activity of both central banks. Initially, on 12 March the ECB slightly revised its projections for GDP growth in 2020 and subsequently, in May, it revised them significantly downwards. The Federal Open Market Committee, in its turn, did not publish the summarised projections of its members in March.

Given the significant deterioration of global economic indicators caused by COVID-19 pandemic, the global industrial output and international trade are expected to slow down in the second and third quarters of 2020. External demand for Bulgarian goods and services is anticipated to decline strongly on an annual basis in the second quarter of 2020, reflecting the negative economic shocks from the pandemic measures. The decline is expected to moderate due to gradual easing of restrictive measures assuming that the COVID-19 spread will be gradually curbed both in Bulgaria's trading partners and in Bulgaria. The main downside risk to the dynamics of external demand for Bulgarian goods and services is related to a possible new wave of coronavirus infections.

## Current Business Situation

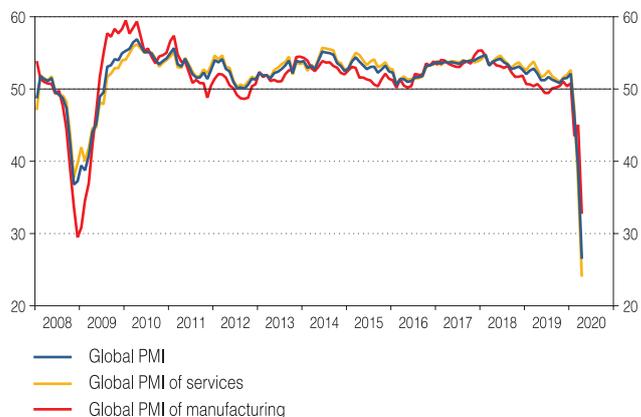
In the first quarter of 2020 the global economy was hit by an unprecedented shock in modern history, caused by the measures launched to curb the spread of the new coronavirus, SARS-COV-2, which causes COVID-19. The virus started in China but then spread quickly across the globe. The measures launched by governments of almost all states were intended to curb social contacts in order to protect the health of people. As a result commercial and public facilities were closed, work in many companies stopped and travels were restricted. This, in

turn, significantly heightened uncertainty and worsened economic agents' sentiment, increased enormously financial market volatility and led to a fall in commodity prices.

Before the onset of the COVID-19 economic shock at the end of 2019, the global economy stabilised, following the slowdown of economic activity in most months of the year attributable mainly to the uncertainty triggered by the USA–China trade conflict and Brexit. By the close of the year the uncertainty subsided after the United States and China had reached a partial progress in the trade talks and the UK had taken a decision to leave the European Union on 31 January 2020. Between November 2019 and January 2020 global economic indicators and expectations of financial market participants improved. This trend sharply reversed in February as a result of the fast spread of COVID-19 outside China. The worsening of economic indicators deepened in the following months of 2020 and in April 2020 the global PMI reached 26.5 points, its lowest level ever. Given the nature of the measures initiated to curb the spread of coronavirus, the services sector, including tourism, accommodation, food service, transport and retail trade, were most severely affected. The global services PMI reached its lowest value of 24.0 points in April 2020. The global manufacturing PMI also posted a sharp fall in April to 32.7 points which was comparable to the levels reported during the global financial and economic crisis at the end of 2008. March and April 2020 also saw a broad-based deterioration of economic indicators across countries. The only exception was China where the strong PMI fall was followed by a recovery in February, March and April, indicating a slowing down rate of decline in economic activity. The improvement in China reflected the efficiency of the undertaken measures, which helped significantly decrease the number of new cases of COVID-19 infections in the country and led to a subsequent gradual easing of precautionary measures and opening of the economy.

The global industrial production had already worsened in January 2020, with a decline of 2.8 per cent on an annual basis. In February 2020 the rate of decline slightly slowed to reach 2.7 per cent on an annual basis. China contributed most strongly to declines in January and

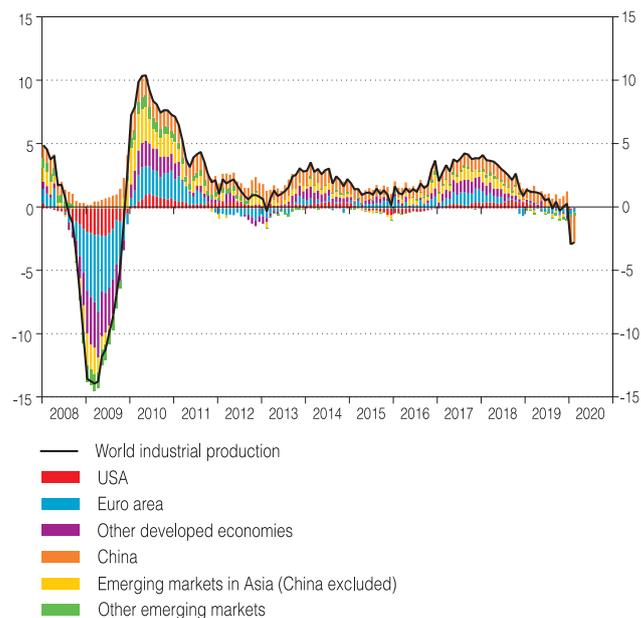
### Global PMI



Source: JP Morgan.

### Global Industrial Production

(annual rate of change in volumes, per cent; contribution of individual economies, percentage points)



Source: CPB Netherlands Bureau for Economic Policy Analysis.

February due to the measures launched against the spread of COVID-19, including the stoppage of all production processes in the regions hit by the virus. The advanced economies also contributed to the fall in global industrial output in the first two months of the year though to a much lesser extent than China.

In January and February 2020 the global trade<sup>1</sup> also posted its strongest annual decline since the 2008 global economic crisis. In January the decline was 2.3 per cent and in February it accelerated to 2.6 per cent on an annual basis. January saw decreases in trade volumes almost in all regions with the exception of the Central and Eastern European countries. In February these countries also reported declines. The synchronised plunge in world trade volumes in all major economic regions could be explained by China's strong linkages with the global supply chains.

The March 2020 global inflation decreased compared to the end of 2019, accounting for 2.0 per cent<sup>2</sup>. The fall was mainly due to the lower inflation reported in advanced economies. Social distancing measures launched globally had a strong depressing effect on household demand underlying the lower prices of a number of goods included in consumer baskets. The prices of energy products posted the strongest fall. On the other hand, the disrupted supply chains contributed to the rise in prices of some groups of goods such as unprocessed foods.

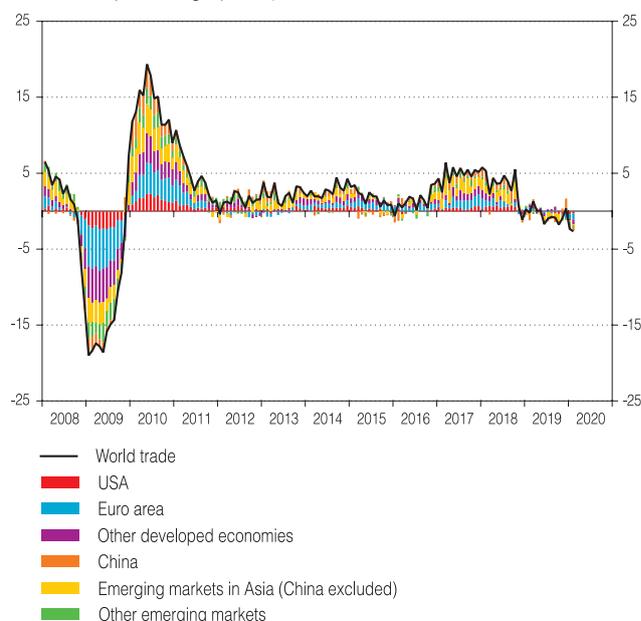
Given the nature and duration of the measures intended to curb the spread of COVID-19, the worsening of global economic activity in major economic regions may be expected to deepen in the second quarter of 2020. In the third quarter the international situation is anticipated to improve somewhat if the gradual lift of containment measures started in mid-May in Europe, the USA and Asia is sustained. Accordingly, demand for Bulgarian goods and services is expected to post a strong fall on an annual basis in the second quarter of 2020 and then the rate of decline to moderate in the third quarter reflecting the projected gradual loosening of restrictive measures in Bulgaria's major trading partners.

<sup>1</sup> CPB Netherlands Bureau for Economic Policy Analysis data as of 23 April 2020.

<sup>2</sup> Based on the World Bank data as of 4 May 2020.

## World Trade

(annual rate of change in volumes, per cent; contribution of individual economies, percentage points)



Source: CPB Netherlands Bureau for Economic Policy Analysis.

## Inflation Measured through CPI

(per cent, on an annual basis, seasonally adjusted data)



Note: The World Bank measures the change of CPI in individual groups as a weighted average of CPI changes in the countries of the group. Real GDP based on purchasing power parity is used to calculate country weights. Groups include only World Bank Member States classified by the World Bank as emerging market economies and developed economies.

Source: the World Bank.

In the second and third quarters of 2020 the main risk to the global economy and, correspondingly, to the external demand for Bulgarian goods and services relates to the possible slower decline in the number of new COVID-19 cases in the major economic regions in the world, which supposes a new launch of the containment measures or a delayed lift of these measures worldwide. This could be a factor for a slower recovery in the economies of Bulgaria's major trading partners and, correspondingly, for the lower external demand for Bulgarian goods and services.

### Euro Area

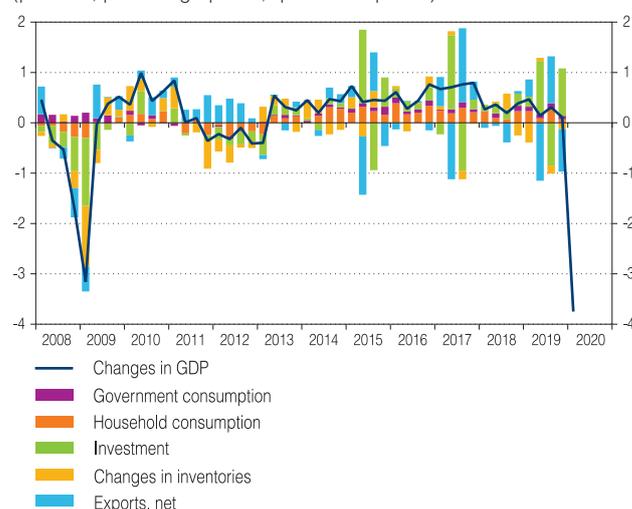
Euro area economic activity followed a steady downward trend in the last two years. In 2019 real GDP growth was 1.2 per cent and in the fourth quarter it slowed to 0.1 per cent on a quarterly basis. Over the quarter gross fixed capital formation contributed most substantially to quarter-on-quarter GDP growth (0.9 percentage points), and private and government consumption to a lesser extent (0.1 percentage points). Net exports and the change in inventories, to a lower extent, contributed negatively to the GDP change on a quarterly basis (by 0.9 and 0.1 percentage points respectively).

The measures to curb the spread of coronavirus in the first quarter of 2020 led to the strongest historical quarter-on-quarter fall in euro area GDP. Eurostat preliminary data show that the quarterly change in the euro area real GDP was -3.8 per cent. The four largest euro area economies reported a strong fall in real GDP: France by 5.8 per cent (against a decline by 0.1 per cent in the previous quarter), Spain by 5.2 per cent (against growth by 0.4 in the previous quarter), Italy by 4.7 per cent (against a decline by 0.3 in the previous quarter) and Germany by 2.2 per cent (against a decline by 0.1 per cent in the previous quarter).

The average value of euro area leading economic indicators, including PMI and European Commission (EC) indices, for January and February was higher than that for the fourth quarter of 2019. With the outbreak of the new coronavirus pandemic the situation changed dramatically and March data showed a strong fall. In April the indicators recorded the lowest historical levels. The level of economic indices in April reflected

### Contribution to the Change in Euro Area Real GDP by Component

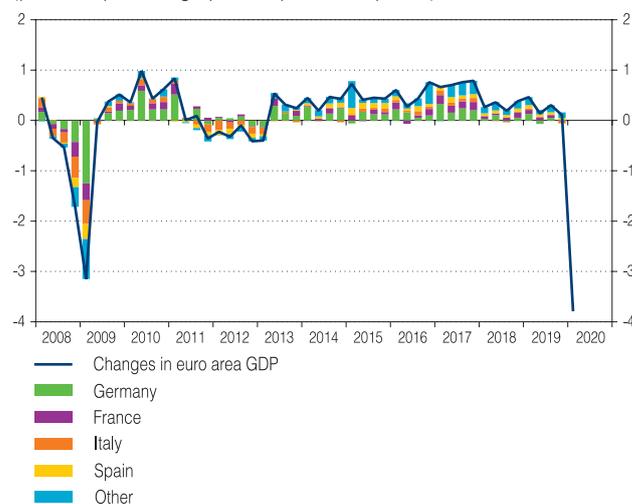
(per cent; percentage points; quarter-on-quarter)



Source: Eurostat.

### Contribution to the Change in Euro Area Real GDP by Country

(per cent; percentage points; quarter-on-quarter)



Sources: Eurostat and BNB calculations.

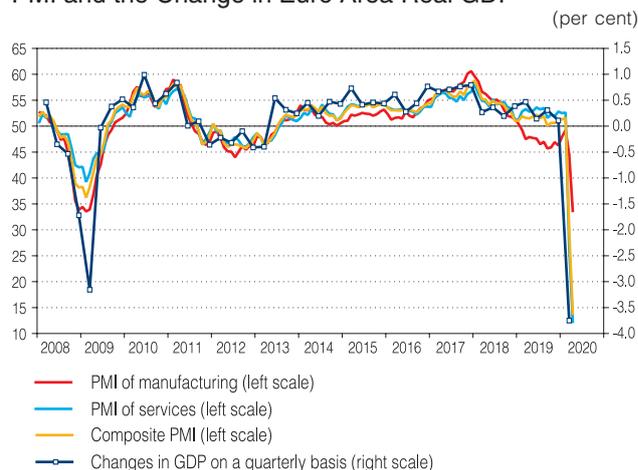
the expectations for a sharp decline in the euro area economic activity in the second quarter of the year.

In the first quarter unemployment in the euro area remained comparatively low at 7.4 per cent in March against 7.3 per cent in the previous three months (the lowest level since 2008). The slowdown in the rates of employment growth started in 2018 was sustained in the fourth quarter of 2019. In the first quarter of 2020 rates of employment growth subsided significantly due to the containment measures. Concurrently, consumer expectations of the unemployment rate over the following twelve months measured by the EC consumer confidence index deteriorated dramatically in April and reached their highest level from 2009.

Euro area inflation increased in the last quarter of 2019 due to price rises of energy products and reached 1.3 per cent on an annual basis at the end of the year. Inflation continued to accelerate in January 2020 and slowed down substantially in April 2020 (based on preliminary data) to reach 0.4 per cent on an annual basis (the lowest annual rate recorded for the last three and a half years). The downward dynamics reflected mainly the changes in prices of energy products, the HICP energy component falling 9.6 per cent on an annual basis in April from a 4.5 per cent decline in March and a 1.0 per cent decline on average in the first quarter of 2020. Core inflation, excluding food and energy product prices, accelerated to 1.3 per cent at the end of 2019 and slowed to 1.1 per cent on average in the first quarter of 2020, in April accounting for 0.9 per cent on an annual basis. While containment measures have been in place inflation in services slowed down significantly (from 1.8 per cent at the end of 2019 to 1.2 per cent in April 2020) and inflation in food accelerated substantially (from 2.0 per cent at the end of 2019 to 3.6 per cent in April 2020). Increased food prices reflected largely higher prices of unprocessed food.

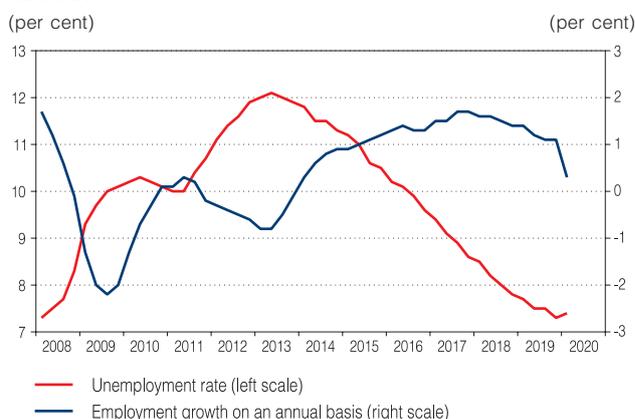
On 12 March 2020 the ECB revised downwards its euro area GDP growth forecast for the current and the following year by 0.3 percentage points to 0.8 per cent and by 0.1 percentage points to 1.3 per cent respectively, and left unchanged the forecast for 2022 at 1.4 per cent. Forecasts for euro area HICP inflation for 2020 and the fol-

### PMI and the Change in Euro Area Real GDP



Sources: Eurostat, Markit.

### Euro Area Unemployment Rate and Employment Growth



Source: Eurostat.

### Euro Area Inflation Rate



Note: Inflation Measured through HICP. Core inflation is based on HICP, excluding energy products, food, alcohol and tobacco products.

Source: Eurostat.

lowing two years were left unchanged at 1.1, 1.4 and 1.6 per cent. The ECB noted that the magnitude and duration of the COVID-19 pandemic was highly uncertain. The baseline assumption for the projections published on 12 March was that the virus would be curbed in the following months and growth would return to its normal rates in the second half of 2020. The rapid spread of coronavirus in the euro area in March entailed the launch of containment measures against the further spread of the coronavirus in the second half of March, which had an adverse economic effect. In early May the ECB published three scenarios on developments in the euro area economy over 2020. They vary according to assumptions for the duration and severity of economic implications from COVID-19 containment measures. The scenarios foresee a plunge in GDP between 5 and 12 per cent in 2020 followed by economic growth between 4 and 6 per cent in 2021.

In the first and second quarter of 2020 the ECB Governing Council launched a number of monetary policy measures aimed at maintaining liquidity and financing conditions for governments, households, corporations and banks to counter the fallout from the measures against the spread of COVID-19.<sup>3</sup> The first monetary policy measures were launched on 12 March when the ECB Governing Council decided to conduct additional longer-term refinancing operations (LTRO), improving the terms and conditions of targeted longer-term refinancing operations (TLTRO-III) and adding a temporary envelope of additional net asset purchases under the APP. The dynamic expansion of the measures to curb the spread of COVID-19 entailed new monetary policy measures six days later, when after the 18 March extraordinary meeting the ECB Governing Council announced the launch of a new temporary asset purchase programme of private and public sector securities called Pandemic Emergency Purchase Programme (PEPP). On 7 April, again at an extraordinary meeting the ECB Governing Council announced its decisions on easing collateral requirements for counterparties participating in refinancing operations. At the ECB Governing Council regular meeting on

<sup>3</sup> The ECB measures are described in detail in the Highlights entitled Monetary Policy Measures in the Euro Area and the United States Related to the COVID-19 Pandemic.

## Projections of the Annual Rate of Change of Euro Area Real GDP

(per cent)

Institution	Date of release	2020		2021		2022	
		latest	previous	latest	previous	latest	previous
the ECB	III.2020	0.8	1.1	1.3	1.4	1.4	1.4
the EC	V.2020	-7.7	1.2	6.3	1.2	-	-

Sources: the ECB, the EC.

## Projections of Euro Area Annual Inflation Rate

(per cent)

Institution	Date of release	2020		2021		2022	
		latest	previous	latest	previous	latest	previous
the ECB	III.2020	1.1	1.1	1.4	1.4	1.6	1.6
the EC	V.2020	0.2	1.3	1.1	1.4	-	-

Note: ECB projections in March 2020 did not reflect developments associated with the measures to reduce the spread of COVID-19.

Sources: the ECB, the EC.

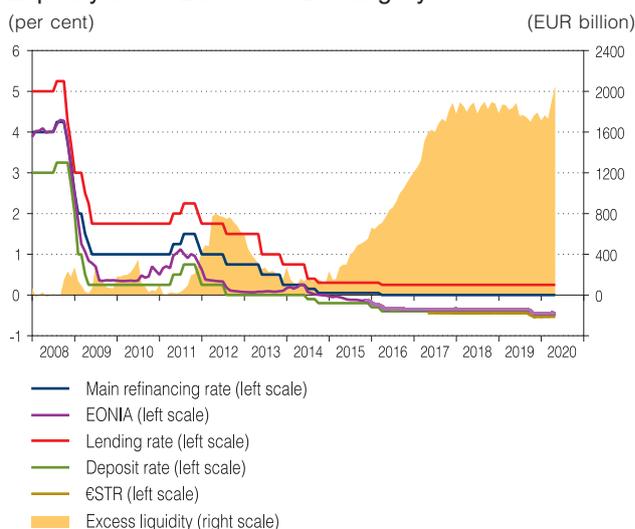
30 April the terms and conditions on targeted longer-term refinancing operations TLTRO-III were additionally improved and the launch of new series of non-targeted pandemic emergency longer-term refinancing operations (PELTROs) was announced.

As of 30 April 2020 the cumulative amount of purchases under the Eurosystem's extended asset purchase programme totalled EUR 2705 billion, up EUR 38.5 billion compared to 31 March 2020 and EUR 125.5 billion compared to the end of 2019. As of 15 May 2020 the cumulative amount of purchases under the Pandemic Emergency Purchase Programme (PEPP) announced on 18 March totalled EUR 181.8 billion. On 30 April 2020 the excess liquidity of the euro area banking system for the first time exceeded EUR 2 trillion to reach EUR 2053 billion against EUR 1910 billion at end-March 2020 and EUR 1712 billion at the end of 2019. On 8 May 2020 the Eurosystem's balance sheet figure reached EUR 5451 billion (45.8 per cent of GDP in 2019) from EUR 5063 billion (42.5 per cent of GDP in 2019) on 27 March 2020 and EUR 4692 billion (39.4 per cent of GDP in 2019) on 27 December 2019.

In the first four months of 2020 the average value of the €STR short-term euro area's money market rate was -0.54 per cent and remained unchanged from the fourth quarter 2019. Over the same period the average value of EONIA, computed since 2 October by applying a fixed spread of 8.5 basis points to the €STR<sup>4</sup>, was -0.45 per cent against -0.46 per cent in the fourth quarter. The trade volume of overnight deposits in the euro area unsecured money market increased in the first four months of 2020, with its daily average over the period coming to EUR 39.8 billion (against EUR 30.8 billion in the fourth quarter 2019). Between January and April EURIBOR unsecured deposit rates in the inter-bank market increased. On 30 April 2020 one-month deposit rates were -0.46 per cent against -0.44 per cent at end-December 2019, while six-month and twelve-month deposit rates were -0.17 and -0.12 per cent respectively against -0.32 and -0.25 per cent at end-December 2019.

<sup>4</sup> For further details, see the Highlights entitled Key Characteristics of the €STR, the New Euro Unsecured Overnight Rate, Economic Review, 3/2019.

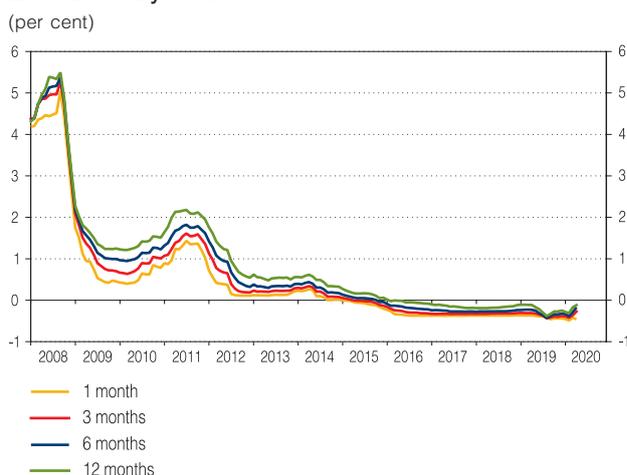
### ECB Interest Rates, EONIA, €STR and Excess Liquidity in the Euro Area Banking System



Notes: Between 15 March 2017 and 30 September 2019 €STR data are on the pre-€STR interest rate. Average EONIA and €STR for the month.

Source: the ECB.

### EURIBOR Dynamics



Source: the ECB.

## Monetary Policy Measures in the Euro Area and the United States Related to the Covid-19 Pandemic

Measures to curb the spread of the new coronavirus, SARS-COV-2, have caused an unprecedented global economic crisis with a strong decline in GDP and dramatically increased uncertainty about short- and medium-term prospects. Output slowed down strongly in major world economic regions as a result of disruptions in supply chains, weaker domestic and external demand and severely worsened prospects to economic growth. March saw global financing conditions for governments, banks, corporations and households rapidly and strongly deteriorated, which worsened their liquidity and created conditions for disrupting financial stability. Therefore, the major central banks, including the US Federal Reserve System and the ECB launched rapid and wide-ranging monetary policy measures. This box is aimed to summarise major monetary policy changes in the euro area and the United States between March and mid-May 2020.

### ECB Monetary Policy Measures

The ECB Governing Council adopted step by step a package of monetary policy measures in response of the emerging COVID-19 crisis, with reference interest rates remaining unchanged. These measures can be broken down into three major groups: 1) refinancing operations; 2) lowering the quality of assets accepted as collateral in refinancing operations; and 3) asset purchase programmes. The measures were aimed at maintaining the liquidity and financing conditions for governments, banks, households and corporations in the euro area.

The first measure of group one was announced by a Governing Council decision of 12 March<sup>1</sup>. It foresaw conducting weakly longer-term refinancing operations (LTRO) of temporary nature intended to provide liquidity support to the euro area banking system. The interest rate applied to these operations is the average interest rate on the deposit facility. These operations will mature on 24 June 2020, thereby ensuring liquidity for the euro area financial system for the period until the next TLTRO III operation in June 2020.

On 30 April the ECB Governing Council announced a new series of longer-term refinancing operations in the context of emergency situation, called pandemic emergency longer-term refinancing operations (PELTROs). The programme includes seven additional refinancing operations commencing in May 2020 and maturing in a staggered sequence between July 2021 and September 2021. The interest rate was set at 25 basis points below the average interest rate on main refinancing operations.

On 12 March the ECB Governing Council launched also measures in support of lending and refinancing of households and corporations improving the terms and conditions on targeted longer-term refinancing operations (TLTRO III) for the period from June 2020 to June 2021. The interest rate on these operations was initially lowered to 25 basis points below the average interest rate on main refinancing operations and consequently (by a decision of 30 April) to 50 basis points below the average interest rate on main refinancing operations. For banks lending under a preliminary set threshold the interest rate on these operations was initially reduced to 25 basis points below the average interest rate on the deposit facility and consequently (by a decision of 30 April) to 50 basis points below the average interest rate on the deposit facility. The maximum total amount of funds to be borrowed in TLTRO III operations was raised.

In addition to the expanded volume and lower interest rates on refinancing operations collateral quality requirements for participation in these operations were eased.<sup>2</sup> On 7 April the ECB Governing Council allowed the use of Greek government bonds and credit claims as collateral in refinancing operations, lowering the collateral valuation haircut on credit operations by 20 per cent. On 22 April the ECB announced<sup>3</sup> that until September 2021 the quality requirements for eligible collateral used in refinancing operations would be eased in cases of possible rating downgrades resulting from the economic fallout from the pandemic.

<sup>1</sup> See <https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.mp200312~8d3aec3ff2.en.html>

<sup>2</sup> See <https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200407~2472a8ccda.en.html>

<sup>3</sup> See [https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200422\\_1~95e0f62a2b.en.html](https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200422_1~95e0f62a2b.en.html)

The third group of measures included an expansion of the net purchases of assets by the Eurosystem under the asset purchase programme, (APP) and the launch of a new temporary asset purchase programme. On 12 March the amount of net purchases under APP was raised by EUR 120 billion until the end of 2020. It was stated that this would increase the contribution from the private sector asset purchase programmes. Reinvestments of the principal payments from maturing securities purchased under the asset purchase programme will continue, in full, for an extended period of time past the date when the ECB Governing Council starts raising the key interest rates. In addition, on 18 March the scope of assets eligible for purchase under the corporate sector purchase programme (CSPP) was expanded.

### ECB and Federal Reserve Balance Sheets

(per cent of GDP)



Sources: the ECB; the Federal Reserve System.

After the 18 March extraordinary meeting the ECB Governing Council announced<sup>4</sup> the launch of a new temporary purchase programme of private and public sector securities called Pandemic Emergency Purchase Programme (PEPP). Purchases under the programme will amount to EUR 750 billion and will be conducted until the end of 2020 including all the asset categories eligible under the asset purchase programme (APP). The new PEPP will be implemented in a flexible manner and it will allow for temporary fluctuations in the distribution of purchase flows over time, across asset classes and among jurisdictions. The limits of maximum purchased securities issued by one issuer or one issue applied to PSPP shall not apply to PEPP.<sup>5</sup> The principle of allocating purchases according to the capital key of the national central banks in the ECB capital remained in force. Under the new programme purchases of securities issued by the Greek government were allowed. After the 30 April meeting the ECB Governing Council announced that it was fully prepared to increase the size of the PEPP and adjust the composition, volume and duration of the programme.

As a result of the monetary policy measures launched, including swap lines from the US Federal Reserve, the ECB balance sheet figure increased EUR 759 billion from the beginning of March until 8 May, exceeding Bank's balance sheet growth during the 2008 global financial crisis, when the balance sheet figure rose EUR 648 billion between September and December 2008.

### US Federal Reserve System Monetary Policy Measures

As a result of the spread of COVID-19 in the United States which posed serious risks to the US economy, the US Federal Reserve System initiated a number of measures to smooth the negative economic implications of the crisis. The measures launched by the US Federal Reserve can be broken down into three major groups: 1) measures related to traditional monetary policy tools; 2) programmes for providing US dollar liquidity outside the USA; and 3) programmes for providing liquidity and lending facilities to corporations, households and municipalities inside the USA.

The first measure launched by the FOMC after the unscheduled meetings was to lower the target range for the federal funds rate initially by 50 basis points (on 3 March) and later (on 15 March) by another 100 basis points 0.00–0.25 per cent. Furthermore, new measures were launched to stimulate the supply of liquidity by deposit institutions through cutting the Primary Credit Rate by 150 basis points to its historical low of 0.25 per cent. On 23 March a decision was made to change the framework of the asset purchase program, originally announced on 15 March at USD 700 billion<sup>6</sup>. The volumes under the programme became unlimited and purchases of commercial mortgage bonds were included to the purchases of US Treasury securities and residential mortgage bonds. In addition, the terms and conditions for repo operations conducted by the Federal Reserve Bank of New York were eased. Three extraordinary, two three-month and one one-

<sup>4</sup> See [https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200422\\_1~95e0f62a2b.en.html](https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200422_1~95e0f62a2b.en.html)

<sup>5</sup> See <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32020D0440&from=EN#d1e266-1-1>

<sup>6</sup> The programme announced on 15 March 2020 provided for purchases of US Treasury securities and mortgage bonds with a minimum volume of purchases of USD 500 billion and USD 200 billion respectively.

month repo operations were conducted, each amounting to USD 500 billion.

The second group of measures, comprising part of the coordinated actions of large central banks, focused mainly on contractual terms on credit swap lines<sup>7</sup> of the US Federal Reserve with other central banks. The measures announced on 15 March originally included an interest rate cut by 25 basis points to OIS + 25 basis points and an extension of the maturity of swap lines provided by the US Federal Reserve to 84 days. Initially, the measures were announced only for the European Central Bank, the Bank of England, the Bank of Japan, the Bank of Canada, and the Swiss National Bank. On 19 March another nine central banks<sup>8</sup> were temporarily included for a period of not less than six months. On 20 March the frequency of operations with a seven-day maturity was increased from weekly to daily. As at 14 May the amount of the US Federal Reserves swap lines totalled USD 446.5 billion and were mainly used by the Bank of Japan (USD 224.2 billion) and the ECB (USD 143.1 billion).

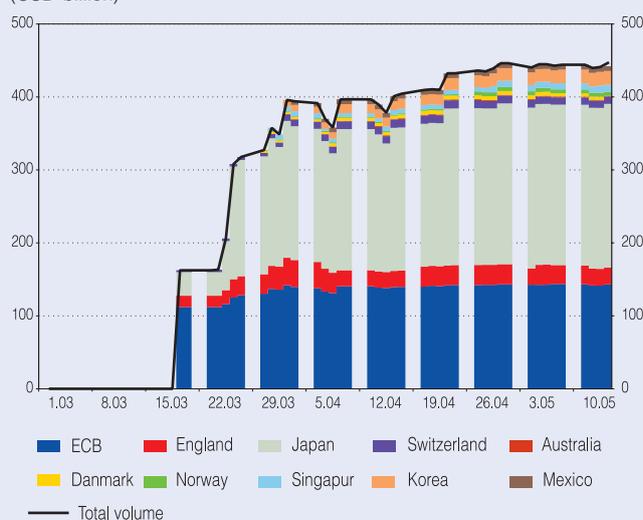
In addition to the measures for providing liquidity through swap lines, on 31 March an additional tool was launched to provide US dollar liquidity to central banks and international institutions (Foreign and International Monetary Authorities (FIMA) Repo Facility) with accounts at the Federal Reserve Bank by entering into repurchase agreements in US Treasury securities.

The scope of the third group of measures was the widest and included both a resumption of programmes applied during the financial crisis in 2008–2009 and establishment of entirely new programmes expanding significantly beneficiary groups of credit facility measures. On 17 March the Federal Reserve Board announced the establishment of a Primary Dealer Credit Facility (PDCF) and a Commercial Paper Funding Facility (CPFF). On 18 March a Money Market Mutual Fund Liquidity Facility (MMLF) was established. On 23 March the establishment of two new facilities was announced to support credit to large employers: the Primary Market Corporate Credit Facility (PMCCF) for new bond and loan issuance and the Secondary Market Corporate Credit Facility (SMCCF) to provide liquidity for outstanding corporate bonds on the secondary market. The establishment of tools for intervention in the corporate bonds market was a new and extraordinary measure launched by the US Federal Reserve System. The Term Asset-Backed Securities Loan Facility (TALF) was restored to support the flow of credit to consumers and businesses. The TALF enables also the issuance of asset-backed securities (ABS). The range of securities that can be purchased under the established MMLF and CPFF was widened.

On 9 April the Federal Reserve took additional actions to provide USD 2.3 trillion in the form of additional programmes and credit facilities established jointly with the US Department of Treasury. The measures included an expansion of the scope and an increase of the maximum amount under PMCCF and SMCCF to USD 750 billion. A new Main Street Lending Program was established<sup>9</sup> to purchase loans of small and medium-sized businesses meeting the terms and conditions of the programme<sup>10</sup> totalling USD 600 billion. The Main Street Lending Program consists of three separate facilities: Main Street New Loan Facility

### US Federal Reserve Swap Lines

(USD billion)



Note: By 14 May 2020 the central banks of Canada, Brazil, New Zealand and Sweden did not use their swap lines.

Source: FBI of New York.

<sup>7</sup> See <https://www.federalreserve.gov/newsevents/pressreleases/swap-lines-faqs.htm>

<sup>8</sup> Central banks of Australia, Brazil, Denmark, Korea, Mexico, New Zealand, Norway, Singapore and Sweden.

<sup>9</sup> See <https://www.federalreserve.gov/monetarypolicy/files/main-street-lending-faqs.pdf>

<sup>10</sup> Loans under the Main Street Lending Program are intended to support small and medium-sized businesses that were in sound financial condition before the onset of the COVID-19 pandemic by extending four-year loans to companies having 10,000 employees or fewer or revenue of USD 2.5 billion or less. The banks which have extended the loans should keep 5 per cent of them, whereas the remaining 95 per cent will be purchased by special purpose vehicles (SPV) under the Main Street Lending Program.

(MSNLF), Main Street Priority Loan Facility (MSPLF) and Main Street Expanded Loan Facility (MSELF). The first two facilities are intended to purchase new loans, while the third one is aimed at increasing the size of loans to small and medium-sized businesses which have been already disbursed. Furthermore, the US Federal Reserve established the Municipal Liquidity Facility to support state and local governments with funds totalling USD 500 billion. The facility will directly purchase short-term securities issued by US states and countries or cities with a population exceeding 1 million residents. The US Federal Reserve established also Paycheck Protection Program Liquidity Facility (PPPLF) intended to provide liquid funds to financial institutions offering loans under the Paycheck Protection Program.<sup>11</sup>

Most of the measures approved by the US Federal Reserve System in March and in early April were subsequently changed in terms of their scope and size until mid-May. On 11 May the Federal Reserve of New York announced<sup>12</sup> that purchases of exchange-traded funds (ETF) would start on 12 May as part of the SMCCF. Concurrently, weekly volumes of unlimited purchases by the Federal Reserve of New York<sup>13</sup> were reduced from USD 300 billion in the week ending 27 March to USD 30 billion in the week ending 22 May.

As a result of the monetary policy measures launched, the US Federal Reserve System balance sheet increased substantially from the beginning of March until 13 May by USD 2.8 trillion to USD 6.9 trillion, exceeding significantly the Bank's balance sheet growth during the 2008 global financial crisis, when the balance sheet figure rose USD 1.3 trillion between September and December 2008.

<sup>11</sup> See <https://www.sba.gov/funding-programs/loans/coronavirus-relief-options/paycheck-protection-program>

<sup>12</sup> See <https://www.newyorkfed.org/newsevents/news/markets/2020/20200511>

<sup>13</sup> See <https://www.newyorkfed.org/markets/domestic-market-operations/monetary-policy-implementation/treasury-securities/treasury-securities-operational-details>

## The USA

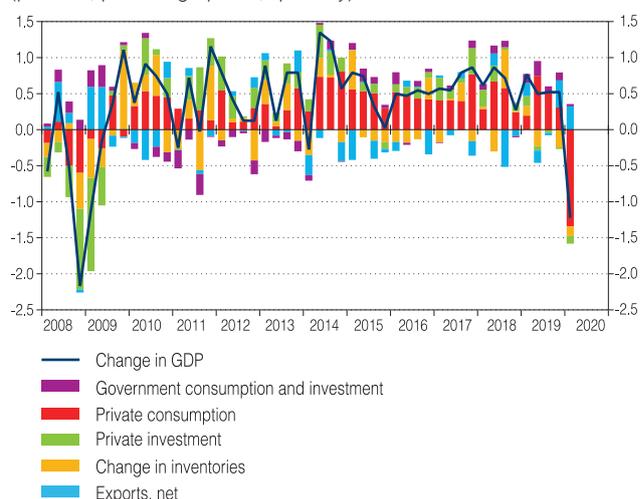
In the last quarter of 2019 US real GDP growth remained resilient, amounting to 2.3 per cent in 2019 against 2.9 per cent in 2018.

The first case of COVID-19 in the United States was confirmed in January. Soon after the first case the US authorities started to introduce measures to mitigate the spread of coronavirus. The measures were increasingly tightened in March which prompted a significant slowdown in the US economic activity. In the first quarter of 2020 the US real GDP fell by 1.2 per cent on a quarterly basis, exhibiting the strongest quarterly decline since the previous economic crisis in 2008. The GDP fall in the first quarter reflected primarily the contraction in household consumption and private investments.

In January and February 2020 US leading economic indicators showed mostly positive movements, reflecting an increase in economic activity compared with the fourth quarter of 2019. March saw a fall in the indicators which deepened significantly in April driven by COVID-19 containment measures. Despite the

### Contribution to the Change in US Real GDP by Component

(per cent; percentage points, quarterly)

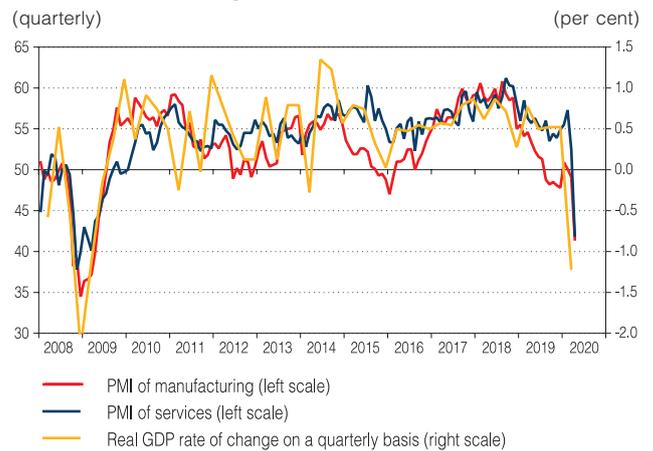


Source: Bureau of Economic Analysis.

fall in the indicators in March in the first quarter the average ISM-PMI manufacturing and services indices were higher than the average values for the previous quarter. In April the indicators declined well below the 50-point threshold to reach their lowest levels since 2009, signalling a significant contraction in economic activity. Consumer confidence indicators followed similar developments as the economic industrial and services indicators, and the average value of the indicators in the first quarter almost matched the previous quarter's average value irrespective of their sharp fall in March. In April the decline in both Conference Board Consumer Confidence Index and the analogous University of Michigan Consumer Sentiment Index accelerated but neither of the indicators reached the lows recorded in the 2008 financial crisis. In March 2020 household consumption and retail sales exhibited the strongest monthly fall compared with previous periods. March data on the construction sector also showed a strong contraction in the economic activity of the sector compared with the previous quarter. Overall, data available in mid-May 2020 signalled a significantly stronger decline in GDP in the second quarter of 2020 compared with the first quarter.

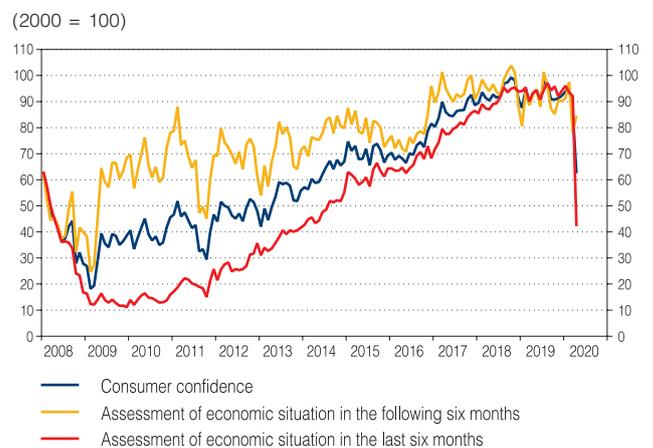
Over the first quarter of 2020 the annual inflation measured by the personal consumption expenditure index (PCE) remained under the US Federal Reserve target of 2 per cent. In January and February 2020 the annual rate of change in this price index stabilised at 1.8 per cent but in March it slowed substantially to 1.3 per cent reflecting the fall in fuel prices. Concurrently, the average annual change of core inflation, excluding food and energy product prices, slightly rose to 1.8 per cent in the first quarter from 1.6 per cent on average in the fourth quarter of 2019. CPI data, the other key US inflation indicator, showed a slowdown in annual inflation to 0.3 per cent in April 2020 from 1.5 per cent in March and 2.1 per cent on average in the fourth quarter of 2019 and the first quarter in 2020 attributable mainly to lower fuel prices. The annual growth rate of the core CPI index, excluding food and energy products, also slowed significantly in April to 1.4 per cent from 2.3 per cent on average in the fourth quarter of 2019 and 2.2 per cent in the first quarter of 2020.

## ISM-PMI and Change in US Real GDP



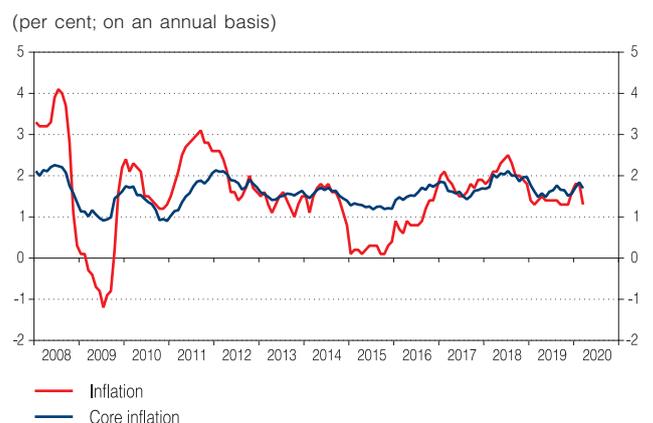
Sources: Institute for Supply Management, Bureau of Economic Analysis.

## US Consumer Confidence Indices



Source: the Conference Board.

## US Inflation Rate



Note: Inflation is measured by the personal consumption expenditure index. Core inflation is measured by the personal consumption expenditure index, excluding food and energy products expenditure.

Source: Bureau of Economic Analysis.

In January and February 2020 the US labour market conditions improved compared with the fourth quarter of 2019. The unemployment rate in February was 3.5 per cent exhibiting the lowest level in the last 50 years and the average quarterly number of new employees in the US non-agricultural sector was 216,000 against 220,000 in January and 210,000 in December. Social distancing measures launched by the US government in confronting COVID-19 caused an unprecedented deterioration in labour market conditions in the post-war history of the United States. Employment in the US non-agricultural sector decreased by 20.5 million jobs in April (against a fall by 870,000 jobs in March) posting the strongest monthly fall in the indicator compared with previous periods. The US unemployment rate in April rose to 14.7 per cent from 4.4 per cent in March exhibiting the highest level since the introduction of the indicator in 1948. The US participation rate fell to 60.2 per cent from 62.7 per cent in March, recording the lowest level since January 1973.

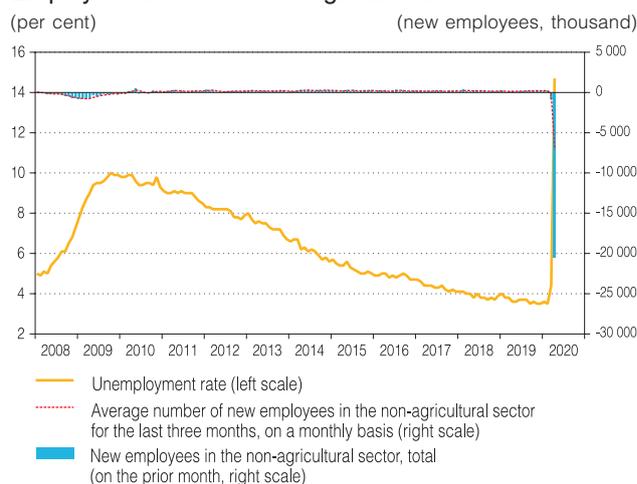
Taking into account increasing risks to US economic growth and financial market stability associated with the spread of COVID-19, in the first quarter the Federal Open Market Committee (FOMC) launched a number of extraordinary measures, including a resumption of programmes applied during the financial crisis in 2008–2009 and establishment of entirely new programmes to support the corporate debt market.<sup>5</sup>

The target range for the federal funds rate was lowered by 150 basis points to 0.00–0.25 per cent after FOMC two unscheduled meetings held on 3 March (by 50 basis points) and on 15 March (by 100 basis points). Coupled with the cut in the target range a decision was made to reduce the Primary Credit Rate by 150 basis points to its historical low of 0.25 per cent.

At its 15 March meeting the Federal Reserve Board announced a new program for purchases of US Treasury securities and mortgage bonds with a minimum volume of purchases of USD 500 billion and USD 200 billion respectively. On 23 March the framework of the program was changed: the volumes under the programme

<sup>5</sup> The US Federal Reserve monetary policy measures are described in detail in the Highlights entitled Monetary Policy Measures in the Euro Area and the United States Related to the COVID-19 Pandemic.

## US Unemployment Rate and Number of New Employees in the US Non-agricultural Sector



Source: Bureau of Labour Statistics.

became unlimited and purchases of commercial mortgage bonds were included to the purchases of residential mortgage bonds. Concurrently, the scheduled two-day meeting in March and the publication of the Summary of Economic Projections of the Federal Reserve Board members were officially cancelled. The next release of the document was foreseen to be published at the June meeting.

In addition, the contractual terms on the standing swap lines between the US Federal Reserve and other five major central banks were eased. Moreover, nine more central banks were temporarily included in the agreed swap lines.

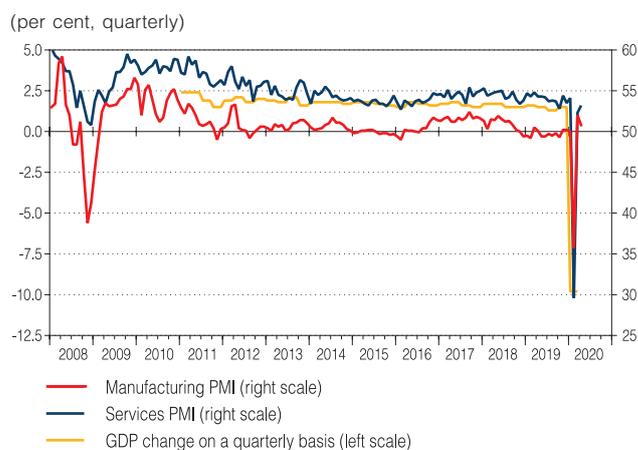
## China

In 2019 China's real GDP rose by 6.1 per cent posting the lowest annual economic growth since 1990. In the last quarter of 2019 quarterly growth of real GDP remained unchanged from the previous quarter at 1.5 per cent, but in the first quarter of 2020 the economic activity in China shrank 6.8 per cent on an annual basis and 9.8 per cent on a quarterly basis due to COVID-19 containment measures. This was the first quarter-on-quarter fall in GDP reported since China had started publishing these data in 1992.

On 23 January, nearly a month and a half after the first case of COVID-19 had been reported, the Chinese authorities in an attempt to reduce virus transmission decided to place on lockdown Wuhan and the surrounding regions with a population totalling 60 million people. On 10 March Chinese authorities announced that the spread of COVID-19 had been curbed to a large extent and in the following days the containment measures started to be gradually lifted. The duration of these measures determined to a large degree the dynamics of China's current economic data.

In February 2020 the values of services and manufacturing PMI went down dramatically. The value of manufacturing PMI fell to 35.7 points and services PMI to 29.6 points. The gradual lift of the measures against COVID-19 started in mid-March contributed strongly to the recovery of PMI values. Manufacturing PMI recovered to 52.0 points in March and fell 50.8 points in April. Components of current output and new orders improved significantly. New export orders remained strongly contracted, reflecting weak external demand as a result of the restrictive measures against COVID-19 imposed in other

## Manufacturing and Services PMI and Change in China's Real GDP



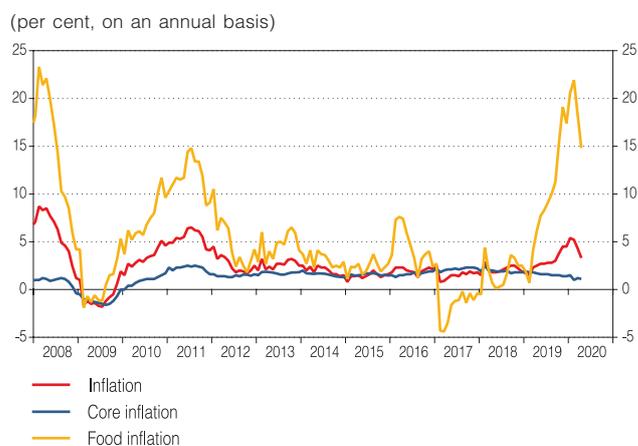
Sources: National Bureau of Statistics of China and China Federation of Logistics and Purchasing.

## Manufacturing PMI in China and Major Components



Source: China Federation of Logistics and Purchasing.

## China's Inflation Rate



Note: Inflation is measured by consumer price index. Core inflation is measured by consumer price index, excluding food and energy products.

Source: National Bureau of Statistics of China.

leading economies. Services PMI in March also recovered to 52.3 points indicating an improvement in the sector's economic activity compared with the previous month.

In 2019 inflation in China accelerated to reach 4.5 per cent at the close of the year driven mainly by meat price rises as a result of the spread of African swine fever in China. By the end of the first quarter of 2020 consumer price growth slowed to 4.3 per cent annually and to 3.3 per cent annually in April. Lower inflation was mainly attributable to food and, to a lesser extent, to the continued 2018 trend toward a gradual decline in the price increase of non-food goods.

Total investments in China declined strongly and at the end of the first quarter the fall was 16.1 per cent on an annual basis. March data on industrial production showed a fall by 1.1 per cent on an annual basis and growth by 3.9 per cent on an annual basis in April. Retail sales shrank year-on-year by 15.8 per cent at the end of the first quarter and the annual fall in sales moderated to 7.5 per cent.

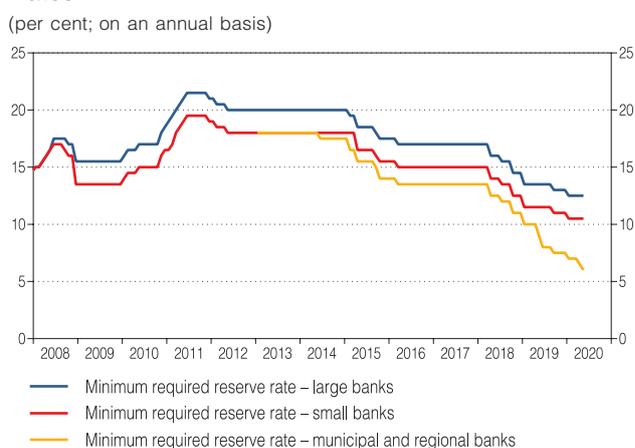
In the first four months of 2020 the People's Bank of China launched a series of monetary policy measures to mitigate the fallout from the measures against the spread of COVID-19 in China. On 3 February the central bank provided CNY 1.2 trillion (about USD 174 billion) to money markets in the form of reverse repo transactions and cut interest rates on these operations by 10 basis points to 2.40 per cent. The interest rate on 12-month medium-term loans to financial institutions was cut in two steps by overall 30 basis points to 2.95 per cent. Subsequently, the loan prime rates were also cut: by 10 basis points on 12-month loans to 4.05 per cent, and by 5 basic points on five-year loans to 4.75 per cent. In March the seven-day repo rates were lowered by 20 basis points to 2.20 per cent and in April the rate on minimum required reserves of municipal, regional and cooperative banks was cut by 50 basis points to 6.5 per cent.

### Fixed Capital Investment in China by Sector



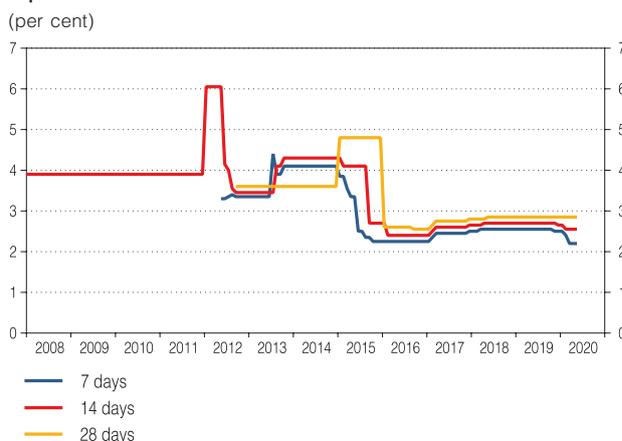
Source: National Bureau of Statistics of China.

### People's Bank of China Minimum Required Reserve Rates



Source: People's Bank of China.

### People's Bank of China Interest Rates on Repo Operations



Source: People's Bank of China.

## International Commodity Prices

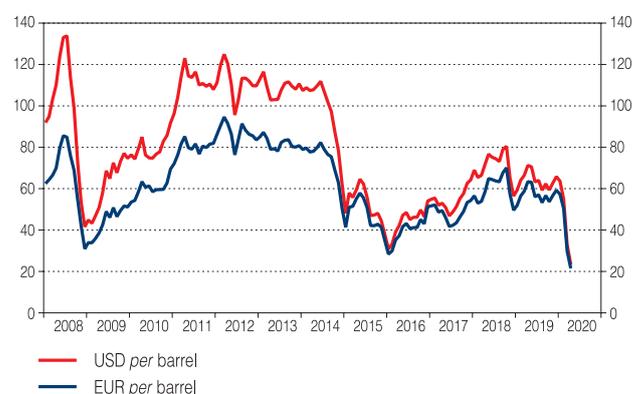
### Crude Oil

In the first quarter of 2020 the average crude oil price declined on an annual basis (by 17.7 per cent in euro) to USD 50.5 *per barrel*. In April oil prices fell further and the average monthly price was USD 23.3 *per barrel*, the lowest price from February 2002. Lower oil prices in January and February 2020 reflected market participants' expectations that oil demand would weaken significantly as a result of the negative effects from the measures initiated to mitigate the spread of COVID-19 in China. With the spread of the disease globally and the launch of severe international and domestic travel restrictions, the decline in demand for crude oil intensified in March. The break-up in negotiations between the members of OPEC and other large oil producers (OPEC+) on oil-production cuts followed by a price war between Saudi Arabia and Russia also added to the steep drop of oil prices in March. In April OPEC+ agreed on a historic cut in oil production<sup>6</sup>, but the downward trend in oil prices remained, reflecting the worsening outlooks to global economic activity. End-April saw unusual levels of WTI oil prices, the price of contracts with physical delivery in May 2020 reached negative values due to logistical difficulties of producers and traders related to strongly constrained capacity for oil storage in North America over this period.

In the first half of May 2020 market expectations for oil prices in the second and third quarters of 2020 varied within the range of USD 26 and USD 36 *per barrel*. This was in line with the International Energy Agency expectations (IEA) of a strong annual fall in global demand for crude oil in the second quarter of 2020 as a result of the containment measures to curb the spread of COVID-19. Concurrently, the IEA does not expect the agreement reached in April 2020 among OPEC+ members to re-balance the market as soon as the production restrictions come into force.

<sup>6</sup> On 12 April 2020 OPEC, Russia and other leading oil producing countries agreed on output curbs in daily oil-production to 9.7 million barrels, with effect from 1 May 2020, initially for two months with lower curbs after this period.

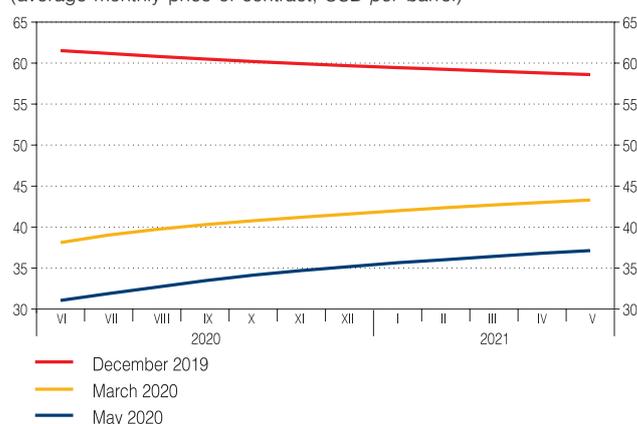
### Brent Crude Oil Price



Source: the World Bank.

### Brent Crude Oil Futures Prices

(average monthly price of contract, USD *per barrel*)



Note: May 2020 data refer to the first half of the month.

Source: JP Morgan.

## Metal and Food Prices

In the first four months of 2020 the containment measures launched globally against the spread of COVID-19 contributed to the plunge in demand for metals and to the drop in their prices accordingly. In the first quarter of 2020 the dollar metal price index fell year-on-year by 5.5 per cent from the corresponding period of 2019 and in April the index posted an annual drop by 18.0 per cent. Given the continuous euro depreciation against the US dollar on an annual basis metal prices in euro exhibited a lower fall in the first four months of 2020 compared with price changes in US dollars. In early 2020 metal price drops reflected to a large extent increasing inventories due to a slower resumption of China's industrial production and construction activities in some Chinese regions due to the measures launched to curb the spread of COVID-19. The subsequent global measures to mitigate the spread of the coronavirus entailed temporary closure of large production sites in Europe and the United States, which had a strong negative effect on demand for metals for industrial purposes. Concurrently, the disruption in supply chains impeded supply of metals. However, the impediments could not compensate for the decline in the prices in April 2020.

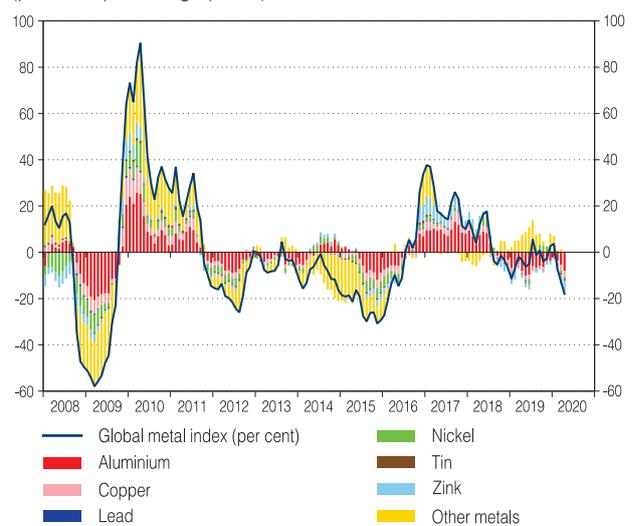
In the first four months 2020 almost all major metals recorded a fall on an annual basis across the metal price index sub-components. In April 2020 the rate of price fall in most sub-groups intensified. Aluminium prices, posting a strong decline in both dollars and euro, contributed most significantly to the fall in the overall index. The measures against the COVID-19 pandemic affected severely the world automotive industry, which is one of the largest consumers of aluminium. At the same time, aluminium production in China rose year-on-year in the first two months of 2020<sup>7</sup>, which also added to the fall in prices. The price of copper, which is of key importance to Bulgarian exports, also decreased on an annual basis in US dollars and euro. The lower demand contributed to the price drop of the metal after the extension of the Lunar New Year holidays in the regions consuming over 60 per cent of total copper consumption

<sup>7</sup> National Bureau of Statistics of China data as of 17 March 2020.

## Price Indices of Major Raw Materials and Commodity Groups

### Metals

(per cent, percentage points)



Sources: the ECB and BNB calculations.

in China, which prompted a delay in resuming production. Production difficulties in Europe and United States also affected adversely the demand for copper. A lower supply due to temporary production disruptions in some of the world's largest copper mines failed to offset the fall in the copper price.

Metal prices in the second and third quarters of 2020 are expected to decline year on year in both US dollar and euro.

Between January and March 2020 the global food price index in US dollars rose by 4.7 per cent on an annual basis (by 7.8 per cent in euro) compared with the first quarter of 2019. In April 2020 food prices continued to increase but at a lower rate: 0.9 per cent year-on-year. These developments reflected market participants' expectations that the harvesting of agricultural produce would be hampered by containment measures and the global supply disruptions due to disrupted transport links as a result of the measures launched to mitigate the spread of COVID-19. The price of wheat, which is essential for Bulgaria's exports of goods, recorded a strong annual rise in US dollars and in euros in the January to April period. A factor behind the price hike was an excessive stockpiling of staple goods in regions hit by COVID-19. Similar developments were observed in the price of coffee, which also rose. Another factor behind the rise in wheat prices were the restrictions on wheat exports announced by Russia and other Central Asian producers<sup>8</sup> to ensure sufficient wheat supply for the domestic markets during the pandemic.

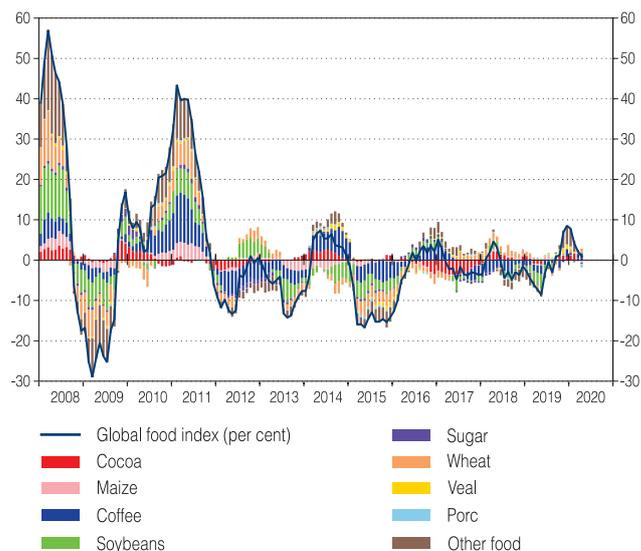
Market participants' expectations of food prices over the projection horizon point to levels remaining close to those from April 2020 in both US dollars and euros.

Based on the international metal and food price dynamics, developments in the terms of trade in Bulgaria were unfavourable in the first three months of 2020. If exchange rates are assumed to remain unchanged and market expectations of international commodity and food price dynamics materialise, the terms of trade for Bulgaria are expected to be positive in the second and third quarters of 2020.

<sup>8</sup> For more details: Wheat Outlook, WHS-20d, April 13, 2020, USDA, Economic Research Service.

## Food

(per cent, percentage points)



Note: The annual rate of change (per cent) and contribution (percentage points) by sub-component of respective price indices measured in US dollars.

Sources: the ECB and BNB calculations.

## 2. FINANCIAL FLOWS, MONEY AND CREDIT

Decreased external indebtedness and financial buffers accumulated in recent years have created good initial conditions for the Bulgarian economy before the COVID-19 crisis. In 2019 and the beginning of 2020 overall current and capital account surplus continued to increase and the balance on the financial account remained positive. March 2020 data show a small deficit on the current account, likely reflecting only partially COVID-19 crisis effects on external financial flows. At the same time, a negative balance on the financial account was registered in March due mainly to decreased foreign assets of banks as a result of BNB measures aimed at further strengthening the liquidity position of the banking system. In an environment of subdued global economic activity, over the second and third quarters of 2020 overall current and capital account surplus is expected to decrease on an annual basis, driven primarily by goods and services trade balance.

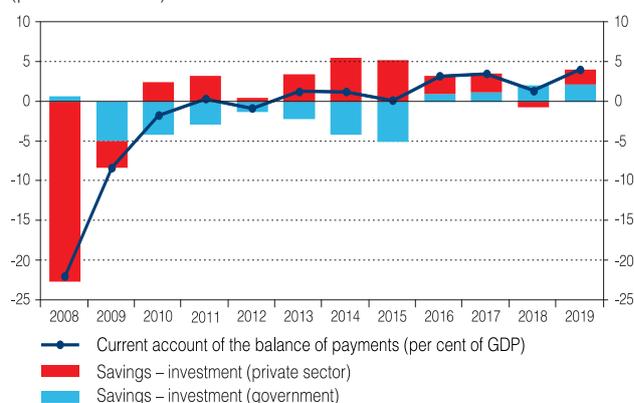
In the first four months of 2020 funds attracted from residents in the banking system continued growing at comparatively high rates. Factors driving this dynamics after the declaration of a national state of emergency in the middle of March included the confidence in the banking system, the lack of a safe alternative to bank deposits and potential formation of precautionary savings by economic agents in an environment of heightened uncertainty. Credit dynamics data by end-March do not yet show a significant slowdown in the annual growth compared to early 2020 rates. The formation of precautionary savings by economic agents due to the increased uncertainty in the macroeconomic environment is anticipated to drive a continuing rise in deposits over the projection horizon. Credit is projected to decelerate its annual growth as a result of weakening demand, possible tightening of credit standards and reduced risk appetite of banks.

### External Financial Flows

After the global financial and economic crisis in 2008–2009, Bulgaria's external position improved, with the current account deficit gradually contracting and a surplus reported since 2013, which in 2019 reached its highest historical level (4 per cent of GDP). Factors behind these trends included sustainable growth in exports at rates higher than those of external demand, high savings rates in the economy, lower foreign direct investment inflow and lower imports of investment goods due to more moderate investment activity as a whole. Over the reviewed period the net international investment position tended to improve steadily driven mainly by growth in Bulgaria's reserve assets and the high liquidity in the banking system as a result of which banks increased their foreign assets and reduced their foreign liabilities. Sustainable growth of economic activity contributed further to this effect. At the end of 2019 Bulgaria's international investment position reached its highest value of -31.6 per cent of GDP (-93.9 per cent of GDP in 2008). If assets and liabilities on foreign direct investment were excluded it also exhibited its highest positive level: 40.3 per cent

### Balance between Savings and Investments

(per cent of GDP)



Sources: the BNB, the NSI, BNB calculations.

of GDP. Lower external indebtedness and financial buffers accumulated in recent years have created good initial conditions for the Bulgarian economy before the COVID-19 crisis.

In 2019 the balance of payments current account surplus rose strongly from 2018, reflecting to the largest extent lower income payments to non-residents on direct investment<sup>9</sup> and stronger growth in nominal exports of goods and services compared with imports growth.<sup>10</sup> Lower dividend payment and distributed profit to non-residents were the main reason behind the higher current account surplus in January and February 2020 compared with the corresponding period of 2019. In March alone the current account deficit posted a decrease of EUR 40 million. The deficit reflected mainly the contracted surplus under the net secondary income due mostly to lower payments to the general government sector and also to the increasing trade deficit as a result of a stronger fall in nominal exports of goods than in nominal imports. March data on the trade balance may be seen as indicative of the initial COVID-19 crisis effects on Bulgaria's foreign trade flows.

In 2019 the capital account surplus, the flows on which reflected mainly transfers under the EU structural and cohesion funds programmes, rose from 2018 accounting for 1.5 per cent of GDP. In the first quarter of 2020 capital transfers under EU programmes continued to increase reflecting reimbursed funds on capital expenditure and pre-funded resources received in March from the European Commission<sup>11</sup>.

In the second and third quarters of 2020 the overall current and capital account surplus is expected to decrease on an annual basis, driven primarily by worsening in goods and services trade balance as a result of COVID-19 containment measures, slower economic activity and heightened global uncertainty. The major channels of influence for these developments are expected to be weaker external demand for

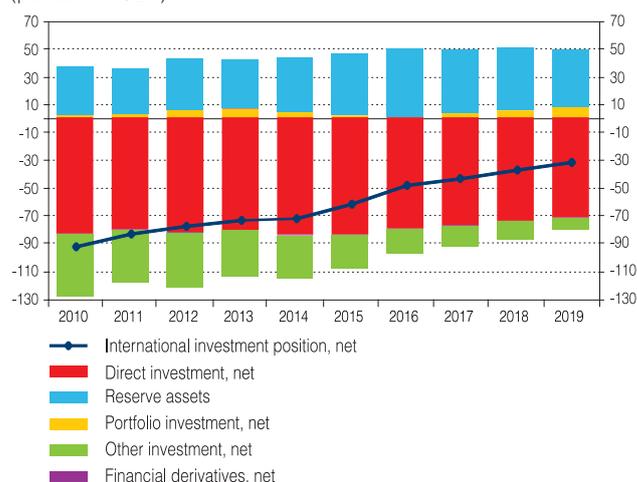
<sup>9</sup> Preliminary data subject to revisions which are usually adjusted upwards for outflows to non-residents.

<sup>10</sup> For a more detailed analysis of foreign trade flows and services trade, see Chapter 3, Exports and Imports of Goods and Services Section.

<sup>11</sup> A portion of EUR 175 million paid as pre-financing by the EC in March 2020 should be also reflected in current transfers on the account of secondary income, net.

## Net International Investment Position of Bulgaria

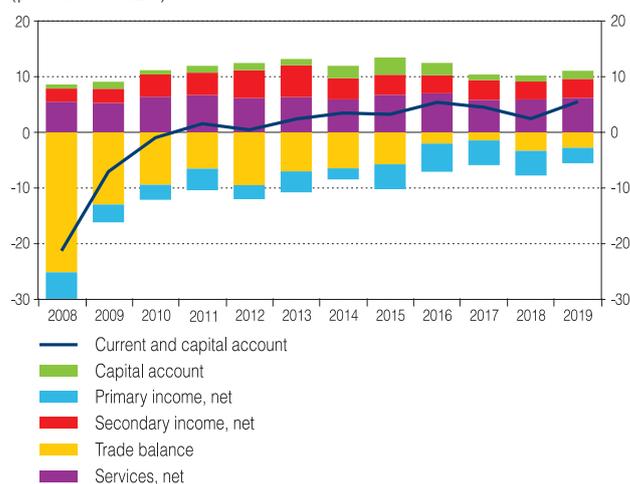
(per cent of GDP)



Sources: the BNB, the NSI, BNB calculations.

## Current and Capital Account Flow Dynamics and Contributions of Individual Components

(per cent of GDP)



Sources: the BNB, the NSI, BNB calculations.

## Flows on Major Balance of Payments Accounts

(EUR million)

	2019	January– March 2020	Change compared to January–March 2019
Current account	2,452.3	501.6	271.7
Trade balance	-1,685.7	-338.1	9.1
Services, net	3,763.7	463.3	69.3
Primary income, net	-1,680.2	-181.9	187.8
Secondary income, net	2,054.6	558.3	5.4
Capital account	891.3	386.0	192.8
Financial account	3,122.0	-1,089.4	-1,664.3
Change in reserves	-559.4	1,538.0	-

Source: the BNB.

Bulgarian goods and services and lower exports of tourist services due to supply constraints in Bulgaria.<sup>12</sup> Real exports of goods and services are expected to decline stronger than real imports due to both the export-oriented nature of the bulk of Bulgaria's industrial sector and the fact that Bulgaria is a net exporter of tourist services (travel, passenger transport) which are among the most severely affected services by the containment measures. Concurrently, imports of goods and services will reflect the subdued dynamics of domestic demand components. Assuming a gradual overcoming of the pandemic and the absence of a second wave of it in Bulgaria, restrictions on the supply of tourist services can be expected to be more strongly pronounced in the second quarter of the year and to gradually subside, while external demand is likely to suppress exports throughout the whole forecast period. The fall in the goods and services trade balance is expected to be only partially curbed by the foreseen positive terms of trade mainly as a result of the substantial drop in international prices of oil, of which Bulgaria is a net importer.<sup>13</sup> In the second and third quarters of 2020 funds under EU programmes are expected to increase, which will have a favourable effect on the balance of payments capital account balance and the secondary income account. EU funds are anticipated to reflect both resources to address the consequences of the COVID-19 crisis and the implementation of EU projects for the 2014–2020 period which have already started.

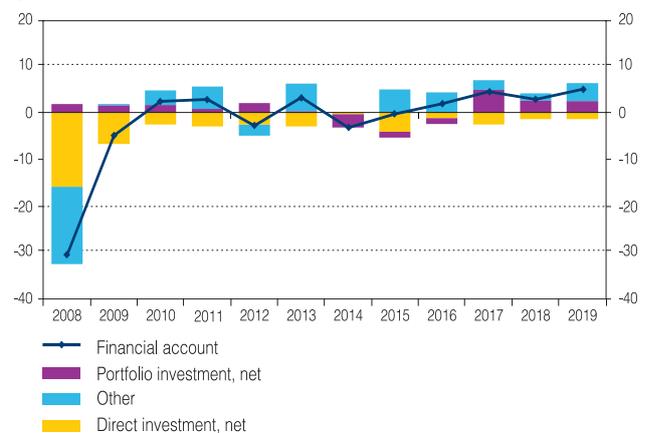
In 2019, the trend since 2016 toward a stronger increase in Bulgarian residents' foreign assets than foreign liabilities was sustained. Financial account flow dynamics in the last four years made Bulgaria a net creditor to the rest of the world, unlike the period up to 2008 which was characterised by a high inflow of foreign resources into Bulgaria, mainly in the form of FDI, and this drove a significant negative balance on the financial account.

<sup>12</sup> For details, see the research topic Main Transmission Channels of the COVID-19 Pandemic to Economic Activity in Bulgaria.

<sup>13</sup> For details, see Chapter 1 and the research topic Main Transmission Channels of the COVID-19 Pandemic to Economic Activity in Bulgaria.

### Financial Account Flow Dynamics and Contributions of Individual Components

(per cent of GDP)

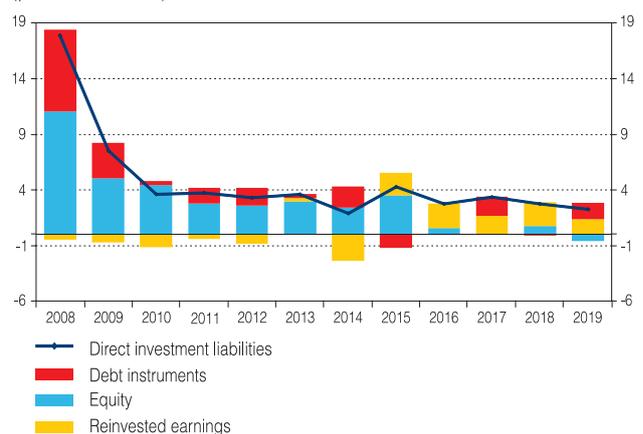


Notes: The Other item includes Other Investments, Net, and Financial Derivatives (Other than Reserves) and Employee Stock Options, Net.

Sources: the BNB, the NSI, BNB calculations.

### Direct Investment Liabilities by Type of Investment

(per cent of GDP)



Sources: the BNB, the NSI, BNB calculations.

In 2019 the financial account reported the highest positive balance up to now. Foreign assets developments throughout the year were mainly driven by the transactions of other sectors<sup>14</sup> and their holdings of long-term debt securities issued by non-residents. An increase in foreign liabilities on the financial account in 2019 was reported only in other sectors, reflecting largely direct investments attracted by them. In January–February 2020 the financial account balance remained also positive due to the higher growth of foreign assets (held mainly by banks and other sectors) than that of foreign liabilities (entirely due to other sectors). In March 2020 this trend was reversed, and the financial account balance turned negative at EUR 1.7 billion. This negative balance in March reflected primarily decreased foreign assets of banks as a result of BNB measures announced on 19 March 2020 to enhance additionally the liquidity position of the banking system in the context of the COVID-19 pandemic.<sup>15</sup>

In 2019 direct investment liabilities (reporting FDI inflows into Bulgaria) decreased from 2018 to EUR 1348 million (EUR 1520 million in 2018).<sup>16</sup> As of the end of 2019 the stock of total FDI in Bulgaria amounted to 89 per cent of GDP. By economic sector, the largest amount of FDI was recorded in real estate activities, manufacturing, financial and insurance activities and wholesale and retail trade; repair of motor vehicles and motorcycles. Country breakdown shows that EU Member States occupied the dominant share in attracted FDI accounting for 79 per cent of the total stock. In the first quarter of 2020 direct investment liabilities remained broadly unchanged from the corresponding period of 2019.

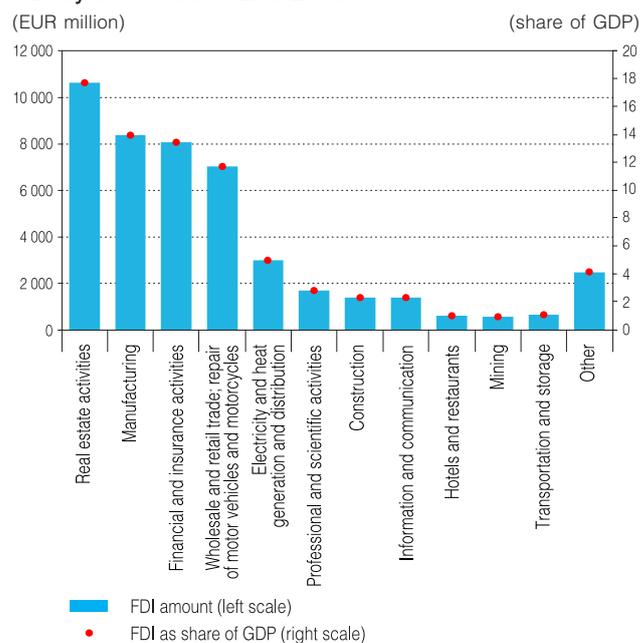
As a result of the net flows on the balance of payment current, capital and financial accounts during the period after the global financial and economic crisis of 2008–2009, Bulgaria’s gross international reserves have tended to increase. Over this period the dynamics of international reserves resulted in a high coverage of short-

<sup>14</sup> It should read sectors other than general government, banks and the central bank.

<sup>15</sup> For further details, see the BNB [press release](#) of 19 March 2020.

<sup>16</sup> Preliminary data subject to revisions which usually show an increase in foreign direct investment liabilities.

## FDI by Sector as of End-2019



Sources: the BNB, the NSI, BNB calculations.

term external debt of the Bulgarian economy and of goods and services imports. BOP data for the last 12 months show that gross international reserves rose significantly as of March 2020<sup>17</sup> compared to the end of 2019, due mainly to the BNB measures intended to further boost banking system liquidity. In March international reserve coverage of the average nominal imports of goods and non-factor services for the last 12 months grew to 8.8 months against 8.0 months in December 2019. The ratio of international reserves<sup>18</sup> to short-term external debt also remained high, reaching 304.1 per cent in February 2020.

Gross external debt of Bulgaria has followed a sustainable downward trend as a share of GDP over the recent years, reaching 55.8 per cent of GDP in February 2020 (100.1 per cent of GDP in 2008). As of February it amounted to EUR 33,827 million, with the largest portion of it generated by the private sector (in the form of intercompany loans and other sectors' loans). In terms of the maturity structure, long-term debt occupied 75.9 per cent of total gross external debt, thus reducing vulnerabilities to the Bulgarian economy amid a potential volatility of capital flows worldwide due to the COVID-19 crisis. In February 2020 interest payments on external debt continued to decline on an annual basis. These data indicate retention of current favourable terms for servicing foreign obligations by Bulgarian residents.

## Monetary and Credit Aggregates

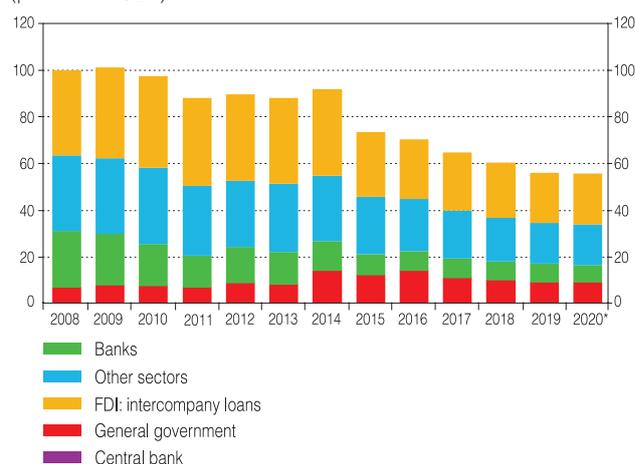
The period after the global financial and economic crisis of 2008–2009 was characterised by a high savings rate in the economy, comparatively strong growth in deposits and acceleration of credit growth over the past few years in the context of improved economic activity and a continuous downward trend in interest rates. Overall, between 2008 and 2019, growth in non-government sector's deposits exceeded significantly that in loans which led to a substantial decrease in loan to deposit ratios

<sup>17</sup> Valuation adjustments and price revaluation excluded.

<sup>18</sup> The analysis is based on gross international reserves on the BNB Issue Department balance sheet. The market value of international reserves includes changes stemming from transactions, valuation adjustments and price revaluation.

## Gross External Debt

(per cent of GDP)



Notes: Further details on individual institutional sectors are available on the BNB website, Statistics, External sector/Gross External Debt. Nominal GDP for 2019 is used in calculations of the gross external debt to GDP ratio for February 2020.

Sources: the BNB, the NSI, BNB calculations.

## Gross External Debt as of February 2020

(EUR million)

	Amount	Change	
		Since December 2019	For the last 12 months
General government	5,423.3	-4.3	-80.3
Central bank	0.0	0.0	0.0
Banks	4,580.9	-320.5	24.0
Other sectors	10,558.9	45.0	-39.2
FDI – intercompany loans	13,263.6	35.1	-96.0
<b>Total</b>	<b>33,826.7</b>	<b>-244.6</b>	<b>-191.5</b>

Note: Further details on individual institutional sectors are available on the BNB website, Statistics, External sector/Gross External Debt.

Source: the BNB.

of households and corporations<sup>19</sup>. These tendencies entail favourable initial conditions for firms and households shortly before the emergence of the negative effects on economic activity stemming from the COVID-19 crisis. Concurrently, the banking system is characterised by ample liquidity driven by the increase in deposits and consistent macroprudential measures of the BNB. Bank financing has been covered almost entirely by funds attracted from residents<sup>20</sup> thus limiting a potential unfavourable effect in terms of decreased liabilities to parent banks.<sup>21</sup> The banking system is continuously maintaining high levels of capital adequacy.

By end-2019 non-government sector's deposits reached BGN 85.2 billion or 71.8 per cent of GDP, from 51.6 per cent of GDP at the close of 2008. This dynamics was mainly driven by household deposits occupying 65.3 per cent of all non-government sector's deposits in December 2019 and 46.9 per cent of GDP (30.2 per cent of GDP at the end of 2008). For 2015–2019, the increase in deposits was driven by the retained high savings rate in the economy amid a favourable macroeconomic environment and rising incomes. Historically low interest rate levels were the reason for both corporations and households to prefer savings mostly in the form of overnight deposits allowing greater flexibility in withdrawing saved funds. In terms of the currency structure, households and corporations preferred to save primarily in national currency.

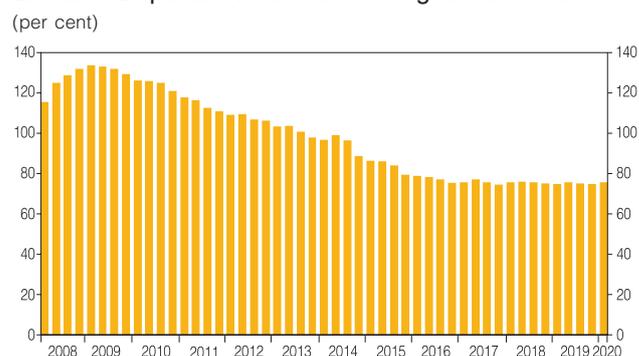
In the first three months of 2020 the annual growth rate in non-government sector's deposits slightly slowed down to 7.8 per cent in March (9.7 per cent at end-2019), though remaining close to the average level for the 2009–2019 period. Over the first quarter the share of non-government sector's deposits denominated in foreign currency rose somewhat at the expense of those in levs, more pronounced in the sector of households. Nevertheless, deposits in national currency continued to occupy the larger part

<sup>19</sup> See here the research topic Analysis of the Financial Situation of Firms and Households in the 2008–2019 Period.

<sup>20</sup> Deposits of residents occupied 93.4 per cent of the total amount of banking system deposits by end-2019. Non-government sector's deposits comprised 89.4 per cent.

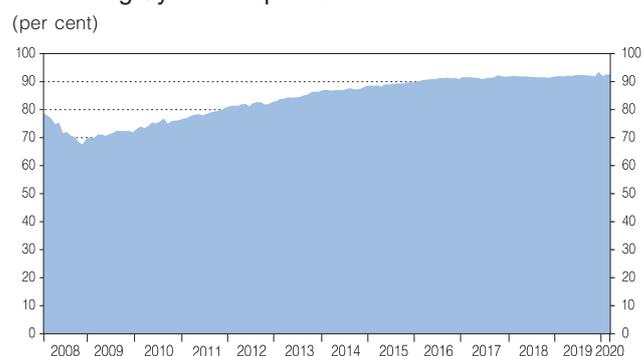
<sup>21</sup> For details, see Structural Changes in Bulgaria's Banking System Balance Sheet in the Period of the Global Financial and Economic Crisis, Economic Review, issue 3 of 2012, p. 39–42.

### Loans to Deposits Ratio of the Non-government Sector



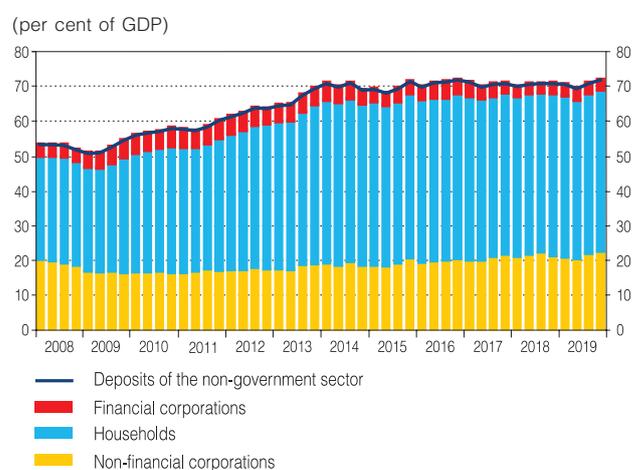
Source: the BNB.

### Share of Resident Deposits in the Total Amount of Banking System Deposits



Source: the BNB.

### Deposits of the Non-government Sector



Sources: the BNB, the NSI, BNB calculations.

of total deposits of the non-government sector, reaching 60.7 per cent in March 2020.

Between January and April 2020 funds attracted from residents in the banking system continued growing at comparatively high rates. Factors driving the continued upward dynamics in resident deposits in the period after the declared national state of emergency on 13 March 2020 included confidence in the banking system, the lack of a safe alternative to deposits as well as the potential formation of precautionary savings by economic agents amid a heightened uncertainty in the macroeconomic environment. These developments predetermined the retention of the effective implicit rate of minimum required reserves<sup>22</sup> at levels similar to those of the past few years. In April it was 9.34 per cent (9.34 per cent on average for 2015–2019), with bank deposits with the BNB comprising 8.21 percentage points in the fulfilment of minimum required reserves, and the remaining 1.13 percentage points in the form of recognised cash balances.

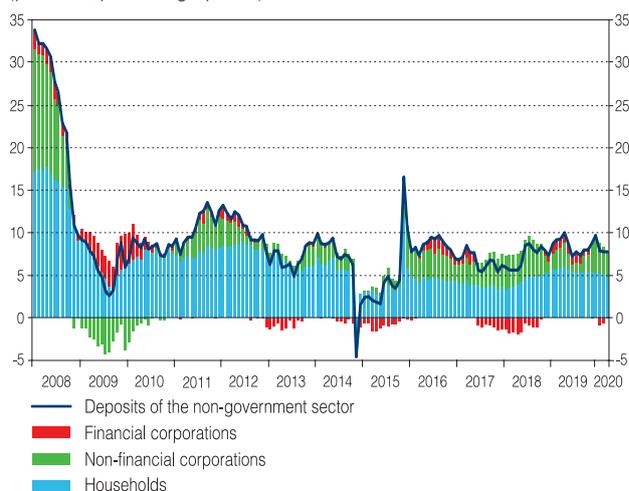
The monetary base followed a sustained upward tendency in the last ten years, reflecting both the continuously increasing amount of currency in circulation and growing bank reserves. Bank reserve dynamics was driven by rising minimum required reserves as a result of the increasing deposit base and the strong growth in bank excess reserves, especially in the period after 2014.

At the end of March 2020 bank funds exceeding the required minimum of reserve assets under Ordinance No 21 recorded a significant increase. In April the excess was 80.5 per cent of minimum required reserves on an average daily basis (29.8 per cent in December 2019). The significant increase in bank excess reserves was entirely driven by the package of measures approved by the BNB on 19 March 2020 and aimed at further strengthening the capital and liquidity of banks in order to limit the negative effects of the pandemic on the banking system and economic activity. In particular, one of the measures provides for an increase in banking

<sup>22</sup> According to Article 3 of BNB Ordinance No 21 on the Minimum Required Reserves Maintained with the Bulgarian National Bank by Banks, the rate of minimum required reserves on funds attracted from residents is 10 per cent of the reserve base, from non-residents 5 per cent and from the state and local government budgets 0 per cent.

### Annual Growth of Non-government Sector's Deposits and Contribution by Sector

(per cent, percentage points)



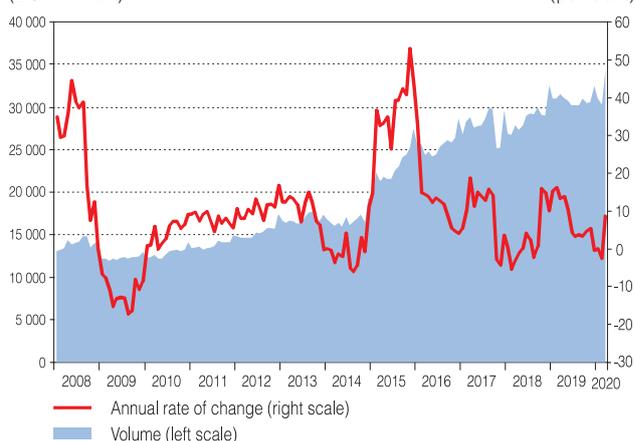
Note: The annual growth rate of non-government sector deposits in November 2015 reflects the exhausted base effect of KTB removal as a reporting unit from the monetary statistics since November 2014.

Source: the BNB.

### Reserve Money

(BGN million)

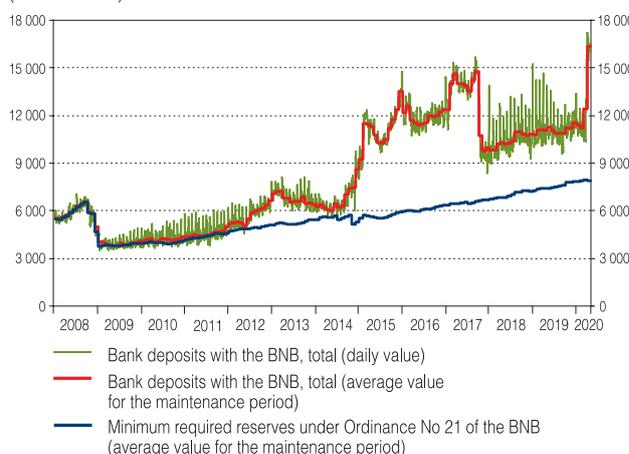
(per cent)



Source: the BNB.

### Bank Deposits with the BNB

(BGN million)



Note: Data presented in the chart cover the period to April 2020 inclusive.

Source: the BNB.

system liquidity by BGN 7 billion through reducing foreign exposures of banks, this measure being timely implemented.<sup>23</sup>

In the first four months of 2020 the annual growth rate of currency in circulation tended to slightly slow down, accounting for 9.2 per cent in April (10.3 per cent at the end of 2019). Given the introduced national state of emergency and closures of a number of trading establishments along with the expected decline in household consumption, especially of not necessity goods and services, the growth rate of currency in circulation remained comparatively high in March and April. A likely driver for its strong dynamics is the maintenance of reserve funds by economic agents in the form of cash balances and preserved preferences of certain economic agents to use cash for purchases of first necessity goods whose consumption was not limited to a great extent.

Reserve currency (euro) transactions with the BNB is the main lev liquidity management instrument of banks under the currency board arrangements. In the first four months of the year net euro sales of the BNB to banks were EUR 1.2 billion.

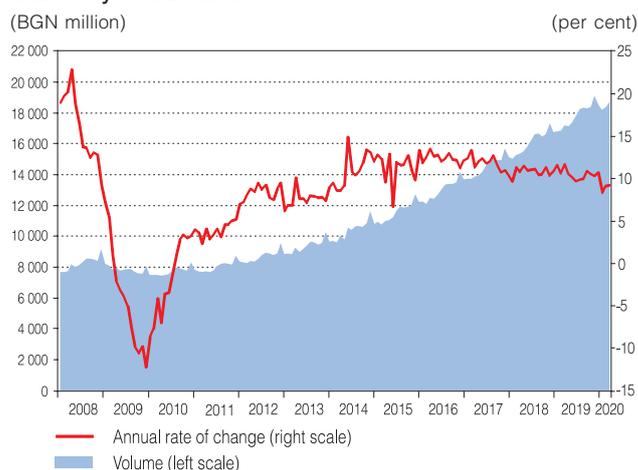
Banks' assets grew by 5.9 per cent on an annual basis in March 2020.<sup>24</sup> Claims on the non-government sector contributed most substantially to the growth of bank assets. Though to a less degree, the year-on-year increase in total assets was driven by the growth in both bank excess reserves and Bulgarian government bond portfolios. Concurrently, in March foreign assets of banks declined as a result of BNB measures initiated in response to the COVID-19 crisis.

In the years after the global financial and economic crisis of 2008–2009, growth rates of credit to the non-government sector were low, and even negative for households, reflecting mainly comparatively weak demand. A more substantial recovery has been observed since early 2017, initially more pronounced in consumer and housing loans, and since early 2018 a gradual increase in credit to non-financial corporations has started. Between 2017 and 2019 the credit to GDP ratio

<sup>23</sup> For further details, see the BNB [press release](#) of 19 March 2020.

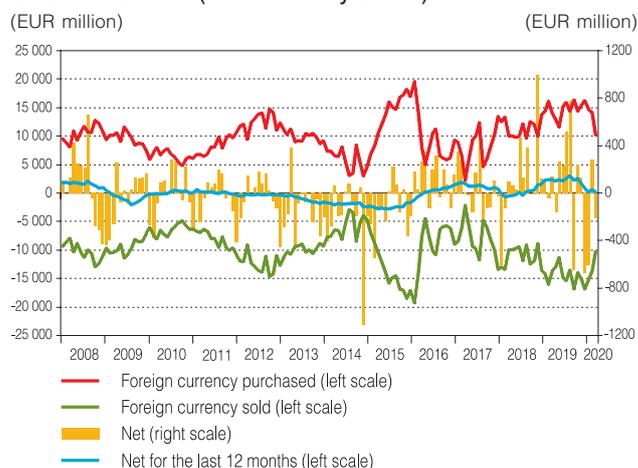
<sup>24</sup> Data from sectoral monthly reporting of other monetary financial institutions were used.

## Currency in Circulation



Source: the BNB.

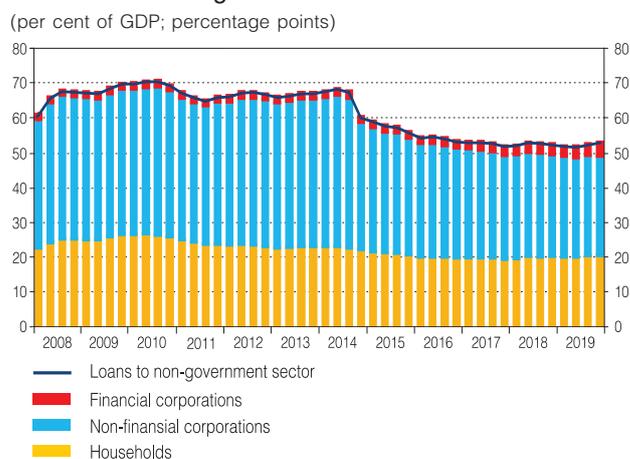
## Foreign Currency Purchases and Sales between the BNB and Banks (on a Monthly Basis)



Notes: Net means currency purchased minus currency sold by the BNB. Data refer to all bank transactions in foreign currency including liquidity management operations related to the transfer of own funds from lev accounts with the BNB to own accounts with the BNB in euro and *vice versa*.

Source: the BNB.

## Loans of the Non-government Sector



Sources: the BNB, the NSI, BNB calculations.

was relatively stable to reach 52.8 per cent by end-2019. The larger portion of the non-government sector's credit continued to be concentrated in the sector of non-financial corporations which held 55.2 per cent of total loans as of December 2019. Credit to non-financial corporations as a share of GDP fell to 29.2 per cent, from 41.5 per cent at the end of 2008, and for households, this ratio declined to 20.1 per cent, from 24.9 per cent at the end of 2008.

Credit dynamics data by end-March do not yet reflect significant negative economic effects of the COVID-19 crisis and no essential slowdown of annual growth rates in firms and households loans compared to early 2020 rates. In the first quarter of 2020 credit to non-financial corporations and households continued to increase at comparatively high rates, its growth reaching 7.1 per cent in March (7.4 per cent by end-2019). This dynamics was favoured by historically low levels of lending rates and robust inflows of funds to the banking system. The short period between the declaration of the national state of emergency and the end of the first quarter is probably another reason for comparatively limited effects currently observed on lending dynamics.

In March 2020 credit to non-financial corporations posted annual growth of 5.2 per cent, slightly slowing from the end of the previous year (5.9 per cent in December 2019). Over the first three months of 2020 new<sup>25</sup> corporate loans retained their upward trend in volumes<sup>26</sup> with an increased share of loans in levs at the expense of euro in contrast to 2019. In March the share of lev loans was 48.8 per cent and that of euro loans comprised 49.7 per cent of total new loans extended to non-financial corporations.

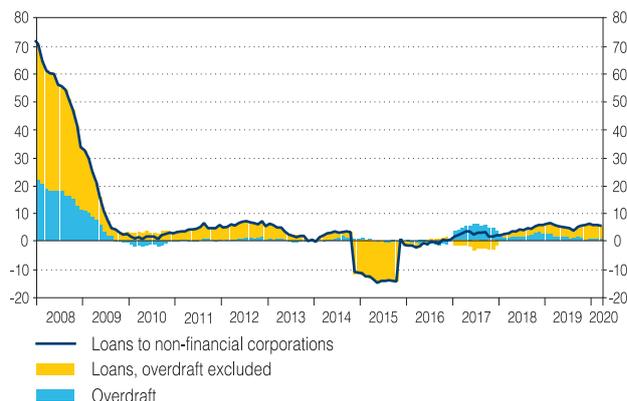
Household credit still retained its upward annual growth trend observed since the second quarter of 2019, its rate reaching 9.9 per cent in March (9.5 per cent at the end of 2019). Housing loans, rising year on year by 14.8 per cent as of March (14.5 per cent in December 2019), contributed most substantially to the accelerated growth in household loans. At the same time, the annual growth of consumer loans slowed down

<sup>25</sup> The terms 'new' and 'newly extended' hereinafter referred to as the statistical category 'new business'.

<sup>26</sup> Based on a 12-month moving average.

## Annual Growth of the Credit to Non-financial Corporations and Contributions of Individual Types of Loans

(per cent, percentage points)

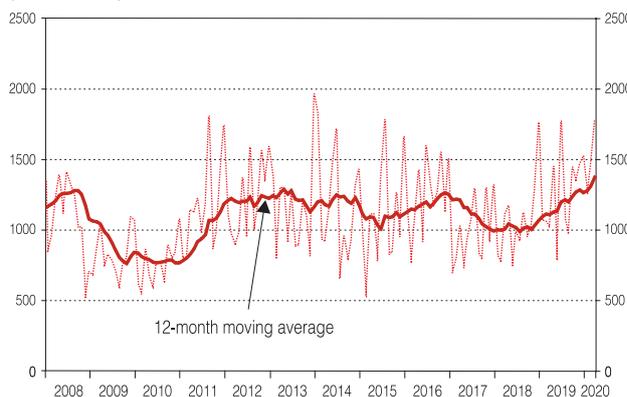


Note: The annual growth rate of loans to non-financial corporations in November 2015 reflects the exhausted base effect of KTB removal as a reporting unit from the monetary statistics since November 2014.

Source: the BNB.

## New Loans to Non-financial Corporations (Monthly Volumes)

(BGN million)

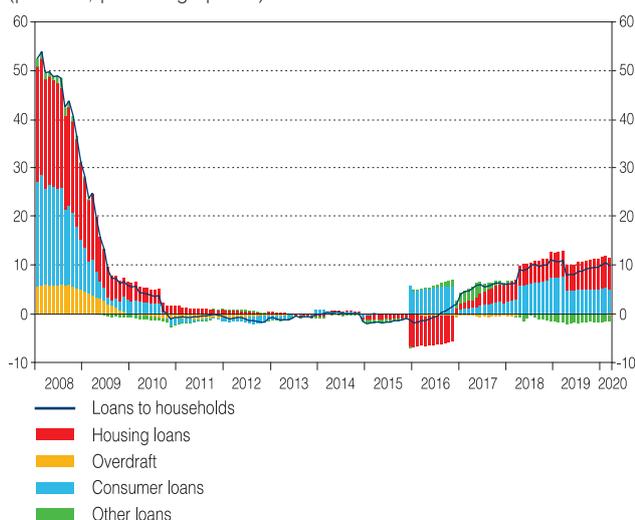


Note: For data characterised by significant fluctuations, additionally moving averages computed for suitably selected periods are provided hereinafter in the chart in order to smooth the fluctuations in corresponding time series and present trends in their development.

Source: the BNB.

## Annual Growth of Household Credit and Contributions of Individual Types of Loans

(per cent, percentage points)



Note: Based on additional information received from reporting units, a revision of household loans was carried out according to their purpose of use in the period December 2015 – August 2019.

Source: the BNB.

slightly to 10.4 per cent in March (10.8 per cent at the end of 2019). Other loans dynamics continued to be driven largely by government repayments of loans extended under the National Programme for Energy Efficiency of Multi-family Residential Buildings whose volume exceeded that of new loans under this programme. The volume of new housing loans in the first three months of the year continued to increase, while the volume of new consumer loans in March was close to the level of end-2019.<sup>27</sup>

In March 2020 compared to February 2020 a more pronounced slowdown in the annual growth of consumer credit was observed (10.4 per cent as of March against 11.5 per cent as of February). A comparatively weaker deceleration in the annual growth rate of housing and corporate loans was recorded in this period.

The summarised weighted results of the bank lending survey<sup>28</sup> for the fourth quarter of 2019 suggest some easing of credit standards<sup>29</sup> in

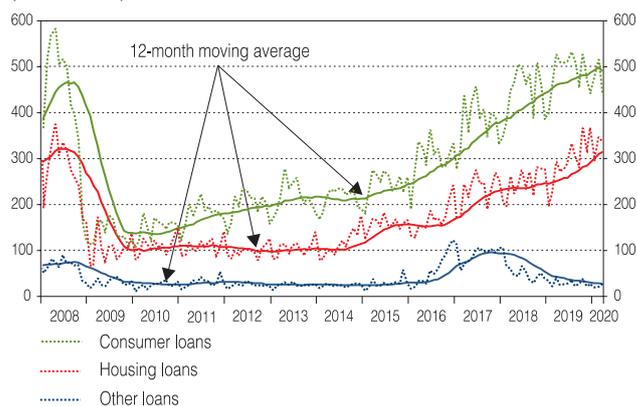
<sup>27</sup> Based on 12-month moving average.

<sup>28</sup> Bank Lending Survey in Bulgaria is carried out by the BNB on a quarterly basis. Summarised results of the survey are presented through weighting bank responses by their market share in the relevant credit segment.

<sup>29</sup> Credit standards are understood as internal bank guidelines or criteria for loan approvals established prior to negotiating the terms of extended loans. Credit standards determine the type of the loan and collateral considered admissible by banks, taking into account specific priorities by sector, etc. Credit standards specify also all relevant conditions to be met by a borrower.

## New Loans to Households (Monthly Volumes)

(BGN million)



Source: the BNB.

approving credit applications of corporations and households *vis-à-vis* the previous quarter and a continued increase in credit demand. Preliminary data obtained from May 2020 bank lending survey for the first quarter of 2020 show that credit standards for both firms and households were significantly tightened compared to the prior quarter, with the strongest tightening reported in housing loans. Preliminary data suggest that the main factor contributing to the stringer requirements for extension of corporate, consumer and housing loans was the lower risk aversion of banks. As regards demand, banks registered a decline on the part of both corporations and households, most pronounced in demand for corporate and consumer loans. In the second quarter of the year banks expect demand to continue decreasing and credit standards to be additionally tightened.

Over the second and third quarters of 2020 deposits are anticipated to increase further, driven largely by the projected rise in precautionary savings of economic agents in the context of an uncertainty around the future development of the macroeconomic environment and the lack of a safe and risk-free alternative to deposits. Credit is projected to decelerate its annual growth as a result of weakening demand, possible tightening of bank credit standards and reduced bank risk appetite.

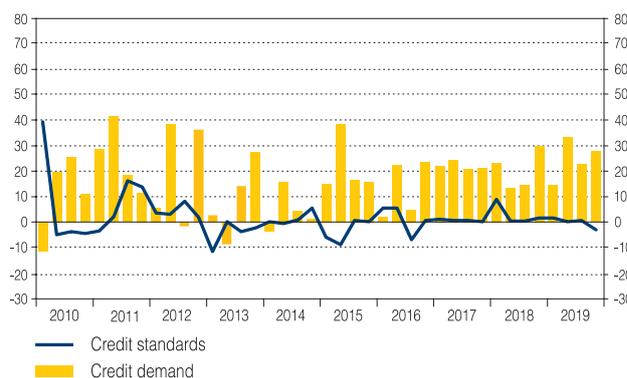
## Interest Rates

The high liquidity in the banking system and the inflow of funds from residents along with the extended period of ECB's accommodative monetary policy contributed to the formation of a long-term downward trend in interbank money market rates and deposit interest rates which reached historical lows in early 2020. The regulatory changes implemented by the BNB in early 2016 which were related to the introduction of a definition of bank excess reserves and the application of the ECB's deposit facility rate on excess reserves when this rate is negative strengthened the ECB's monetary policy transmission mechanism to the Bulgarian economy with regard to money market interest rates. In October 2017 an additional change was introduced under which the BNB applies on bank excess reserves whichever is lower between

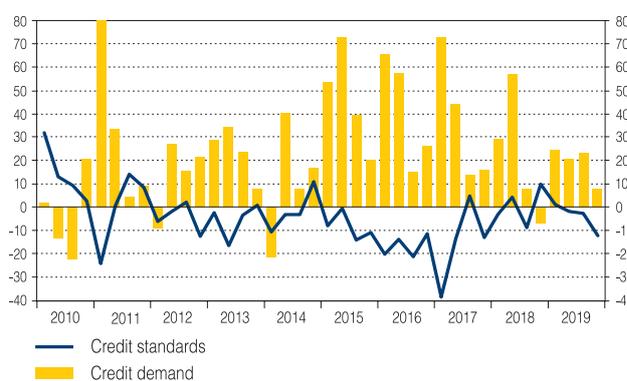
## Changes in Demand and Credit Standards

(balance of opinions; percentage points)

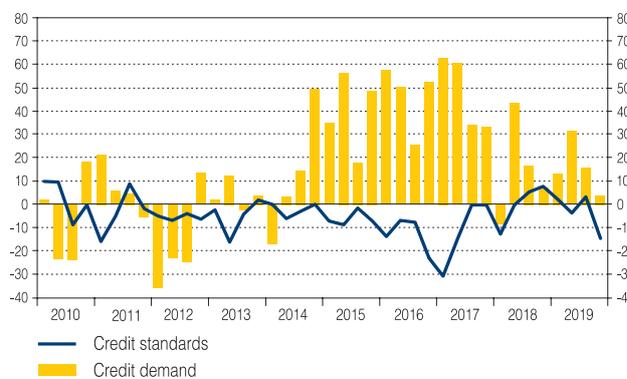
### a) corporate loans



### b) consumer loans



### c) housing loans



Notes: As regards credit standards, charts present banks' balance of opinions defined as a difference in percentage points between the percentage of banks responding 'tightened' ('considerably' and 'somewhat'), and the percentage of banks responding 'eased' ('considerably' and 'somewhat'). As regards credit demand, the balance of opinions is defined in percentage points as a difference between the percentage of banks responding 'increased' ('considerably' and 'somewhat') and the percentage of banks responding 'reduced' ('considerably' and 'somewhat'). All opinions are weighted by the bank's market share in the relevant credit segment.

Source: the BNB.

0 per cent and the ECB's deposit facility rate reduced by 20 basis points.

Under the currency board arrangement and the fixed BGN/EUR exchange rate, interest rate dynamics in the interbank money market in Bulgaria has been closely following developments in the euro area money market. In April 2020 LEONIA Plus index<sup>30</sup> reached its historically lowest level at -0.68 per cent, dropping by 12 basis points from March. LEONIA Plus moving closer to the interest rate at which excess reserves are remunerated (currently -0.70 per cent) was significantly affected by the BNB measures of middle-March to increase liquidity in the banking system. The significant increase in liquidity maintained primarily as excess reserves with the BNB discouraged banks to trade in the interbank money market as they did not need any additional liquidity, while contributing to levelling out of LEONIA Plus with the excess reserves rate. In April trading volumes in the interbank money market dropped by nearly 70 per cent from March. Reflecting the fall in LEONIA Plus, while retaining €STR unchanged, the negative spread between the two indices widened to reach in April -15 basis points (-5 basis points in December 2019).

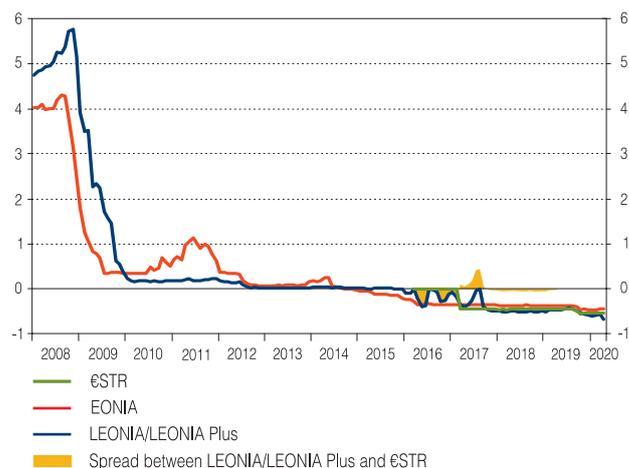
Interest rates on new time deposits of households and non-financial corporations followed a continuing downward trend during the 2009–2016 period. Over the last few years they stood at the attained historically low levels close to 0 per cent. In March 2020 the average weighted interest rate on new time deposits of non-financial corporations and households accounted for 0.2 per cent. Broken by currency, lev and euro deposit rates were almost equal in the first three months of the year. Concurrently, interest rates on USD-denominated deposits remained higher and continued to display a strong volatility.

Interest rates on new loans to non-financial corporations followed a gradual downward tendency in the 2009–2019 period which continued in the first quarter of 2020 as well. Since the beginning of 2018 interest rates on new euro loans have dropped to levels lower than those of lev loans.

<sup>30</sup> LEONIA Plus (LEv OverNight Interest Average Plus) is a reference rate of unsecured overnight deposit transactions in Bulgarian levs on the interbank market.

## Overnight Interbank Money Market Rates (Average Monthly Value)

(per cent, percentage points)



Notes: With effect from 2 October 2019, €STR replaced EONIA. EONIA (euro overnight index average) will be computed by applying a fixed spread to the €STR and published until the end of 2021.

LEONIA Plus replaced LEONIA on 1 July 2017. LEONIA Plus monthly values are calculated as an arithmetic average for days when overnight unsecured lending transactions are concluded in the interbank market in levs.

Sources: the BNB, the ECB.

As of March 2020 the interest rate on new corporate loans in BGN amounted to 3.2 per cent and on those in euro to 2.5 per cent which was historically their lowest level.<sup>31</sup> Though slightly rising since the end of 2018, as of March 2020 interest rates on newly extended loans to non-financial corporations in USD remained at levels significantly lower than the average for the period under consideration.

The annual percentage rate of charge (APRC) on new consumer loans to households followed a trend toward a gradual decline from the beginning of 2010, remaining at the achieved levels in the last two years (9.9 per cent<sup>32</sup> as of March 2020). Downward dynamics in APRC on consumer loans over the review period was largely affected by the interest rate component of charges, reaching in March 8.1 per cent (13.1 per cent at the end of 2009).

APRC applied to new housing loans followed a declining trend throughout the whole period from the beginning of 2010 to March 2020 when it reached its historically lowest level of 3.4 per cent. Similarly to consumer loans, APRC dynamics in housing loans was influenced to a larger extent by the interest rate component of charges. Nevertheless, since mid-2014 the implicit rate of non-interest service charges has tended to decline steadily, remaining during the whole period lower than the percentage rate of charges on consumer loans.

The downward trend in interest rates on new loans to corporations and households over the past few years was favoured by both the overall decline in euro area money market rates and local factors, such as high liquidity and competition in the banking sector, increasing volumes and decreasing costs of attracted funds and banks' lower risk assessments. In particular, risk assessments reflected the overall macro-economic environment improvement, favourable prospects in the housing market, increased borrowers' solvency and lower collateral risk.<sup>33</sup> In March spreads between lending rates on new

<sup>31</sup> The above values of interest rates on loans to non-financial corporations are weighted averages on a 12-month basis.

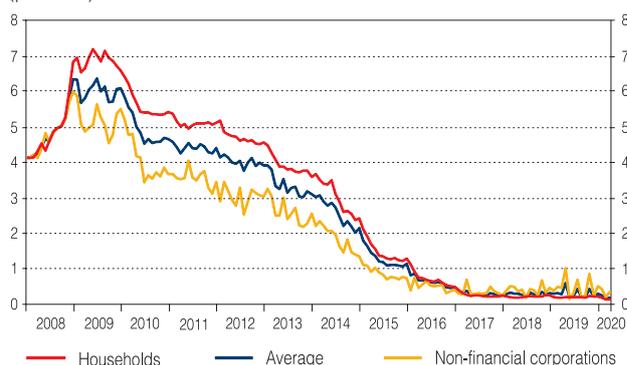
<sup>32</sup> Values indicating the APRC and interest rates are weighted averages of the interest rates on household consumer and housing loans on a 12-month basis.

<sup>33</sup> The analysis employs results obtained from the bank lending survey.

## Interest Rates on New Time Deposits

### a) by sector

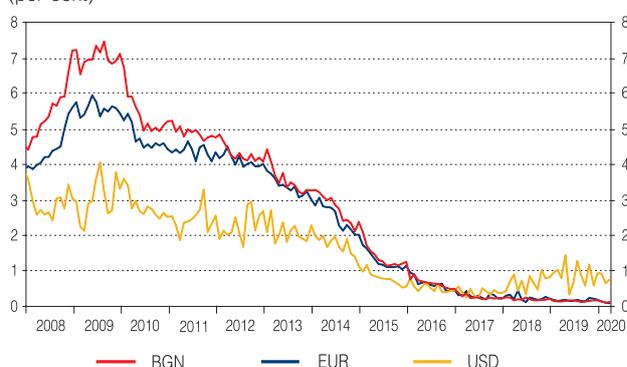
(per cent)



Notes: The average interest rate is calculated for all sectors, maturities and currencies weighted by the relevant volumes of new deposits. Average deposit rates for non-financial corporations and households are based on interest rates for all maturities and currencies weighted by relevant volumes of new business.

### b) by currency

(per cent)



Note: The average interest rate by currency is based on rates for all sectors and maturities weighted by relevant volumes of new business. Source: the BNB.

corporate and housing loans in Bulgaria and the corresponding euro area rates reached historical lows of 148 and 154 basis points, respectively.<sup>34</sup>

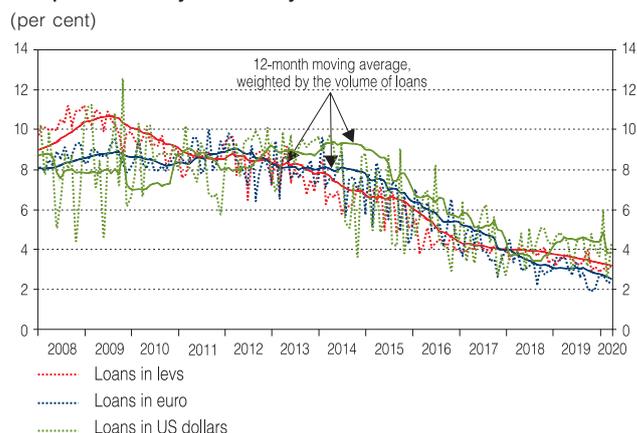
In the context of weakening economic activity and rising unemployment as economic consequences of the COVID-19 crisis, currently low levels of lending interest rates appear to be a favourable factor in terms of cost of financing for economic agents.

In the second and third quarters of 2020 deposit rates are expected to retain the achieved low levels, driven mainly by high liquidity in the banking system and projected further increases in resident deposits in an environment of a heightened uncertainty stimulating strongly precautionary savings of households. At the same time, bank interest rates charged to households and non-financial corporations on new loans are projected to increase. Given the increase in euro area money market rates since the middle of March, particularly in the medium and long-term segments (six-month and 12-month EURIBOR) and their use as reference rates by some banks, interest rates on new loans would probably begin increasing. Additional factors likely to affect lending rates upwards are the expected deterioration of borrower creditworthiness and a higher risk premium for the sovereign risk which could lead to an overall increase in credit risk premia. A possible rise in non-performing loans in the banking system which can be expected as a result of the worsening macroeconomic environment may also contribute to the increase in interest rates on new loans.

In the first four months of 2020 seven auctions of BGN-denominated government securities of two issues were held: a new government bond issue with an original maturity of five years (coupon interest of 0.01 per cent) and a reopened issue with an original maturity of ten years and six months (coupon interest of 0.50 per cent) used as a benchmark of the long-term interest rate for assessing the degree of convergence. The first four auctions (the value of approved bids was BGN 200 million for each of them) were held before the introduction of the state

<sup>34</sup> Spreads are calculated as a difference between average interest rates in Bulgaria and the euro area in all maturities for the relevant type of loan, overall in national currency and euro, weighted by the relevant volumes of new loans for a 12-month period.

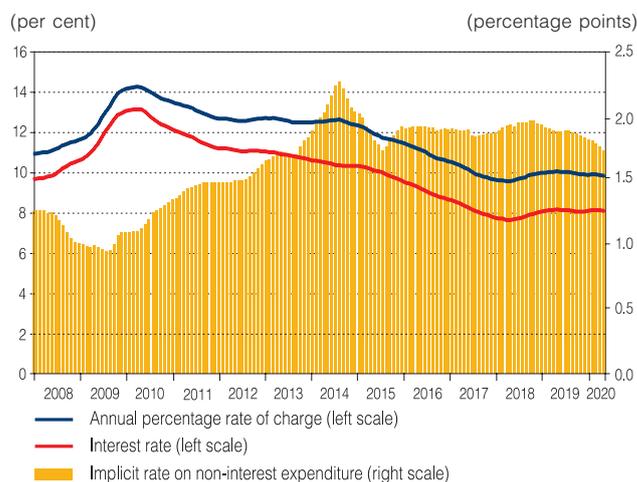
## Lending Rates on New Loans to Non-financial Corporations by Currency



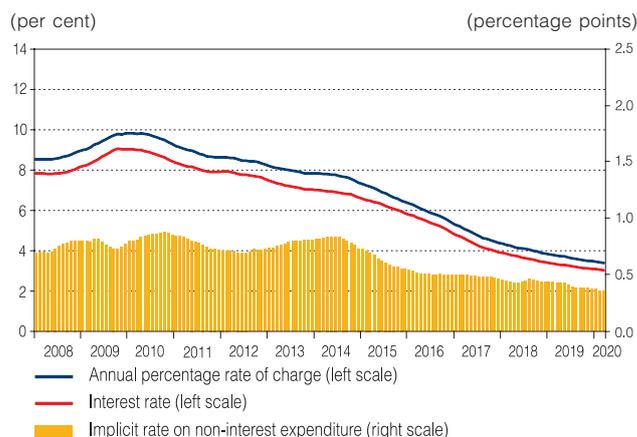
Source: the BNB.

## Interest Rates and Annual Percentage Rate of Charges on New Household Loans

### a) consumer loans



### b) housing loans



Notes: Interest rates in all maturities and currencies are weighted by the relevant volumes of new loans for a 12-month period. The implicit rate is the difference between the APRC and the relevant interest rates and reflects the approximate per cent of all non-interest service charges on loans (including fees and commissions).

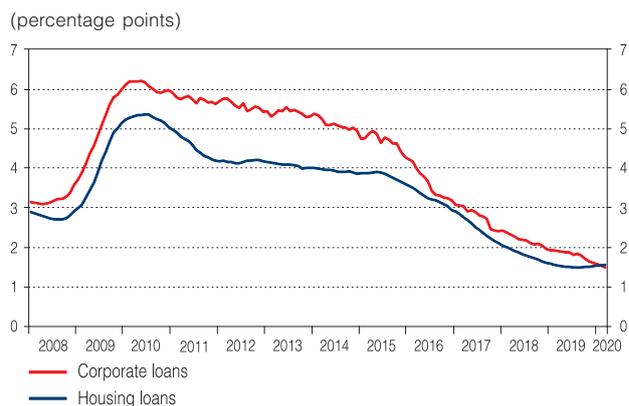
Source: the BNB.

of emergency in the middle of March, attracting high demand in line with expectations due to the concentration of maturing government securities (BGN 723 million) in this period. The average weighted yield of five-year bonds was -0.11 per cent at their first offering in January, followed by an even lower negative yield of -0.14 per cent achieved in the February reopening. At the January and February auctions for the benchmark issue on the primary market, a further decline in the yield was reported to a level of 0.13 and 0.12 per cent (compared to 0.32 per cent in the previous reopening of the issue in July 2019). Concurrently, the long-term interest rate used for assessing the degree of convergence fell by 6 basis points from the end of 2019 to 0.12 per cent in February. A similar downward trend was observed in Bulgarian long-term Eurobond yields in international capital markets, most pronounced in the long end of the maturity curve.

Reflecting the significant increase of the uncertainty and the higher volatility in global financial markets due to the COVID-19 spread, already in March 2020 a minimal increase was reported in the long-term interest rate (by 3 basis points to 0.15 per cent) which continued in April, as expected (by 5 basis points to 0.20 per cent). The increase in yields was more essential in the first two April auctions of government bonds in the primary market (while maintaining the offered amounts): by 26 basis points for five-year bonds (to 0.13 per cent) and by 43 basis points for ten-year-and-six-month bonds (to 0.55 per cent). During the subsequent increase (to 0.56 per cent) in the average weighted annual yield of five-year bonds on the basis of the bids admitted to the seventh auction, the Ministry of Finance decided to reject all bids received.

After the introduced state of emergency in response to COVID-19, Bulgarian long-term Eurobonds issued in international capital markets increased their yields. The increase exceeded 100 basis points for bonds maturing in 2028 and 2035. Reflecting the growing uncertainty in financial markets, in the middle of March a dramatic rise was recorded in the yields of almost all government securities of euro area countries, with this increase compensated partially after the launch of a wide range of monetary and fiscal policy measures to address the crisis. Similar downward dynamics was not observed in Bul-

### Interest Rates on New Corporate and New Housing Loans: the Spread between Bulgaria and the Euro Area



Sources: the BNB, the ECB.

### Long-term Interest Rates in the Primary and Secondary Markets of Government Securities



Note: The chart shows the yields reported in the primary and secondary markets of government bonds with a ten-year-and-six-month original maturity. The frequency of auctions for issues with this maturity corresponds to the number of observations marked in blue.

Source: the BNB.

garian government bond yields, with the spread between Bulgarian and German government securities yields widening further.

Expectations for Bulgarian government bond yield dynamics in the second and third quarters of 2020 show an essential uncertainty surrounding both external and internal factors. It is expected that gradually eased containment measures and recovering global economic activity would contribute to a decrease in financial market fluctuations and affect favourably Bulgarian government bond yields. At the same time, under assumptions of a more pessimistic scenario about global economic growth or resumption of the epidemiological threat, government securities yields are likely to retain their upward trend. Internal factors involving both government bond supply and demand appear to be an additional source of uncertainty.

### Financial Flows between the Consolidated Budget and Other Sectors of the Economy

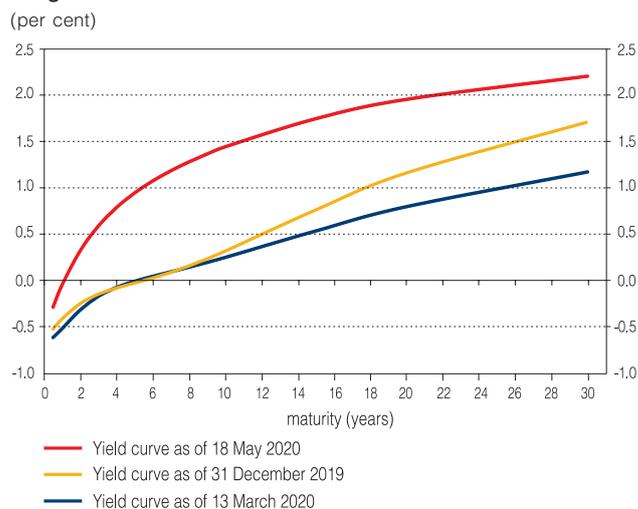
Government's revenue and expenditure policy, and budget financing operations affect the allocation of liquidity across economic sectors<sup>35</sup>.

The last quarter of 2019 saw the usual end-of-year re-channelling of liquidity from the budget to the non-government non-bank sector through higher non-interest expenditure and budget payments under the EU Common Agricultural Policy to the total amount of 7.1 per cent of GDP for the quarter. Given the lack of one-off payments, such as preliminary financing for the purchase of military equipment in the third quarter, the external sector again was a source of liquidity for the budget (to the amount of 1.9 per cent of GDP for the quarter), reflecting mainly relationships between the national budget and the EU budget.<sup>36</sup> Between October and December 2019 the budget policy had a slightly negative, but minimal (0.3 per cent of GDP for the quarter)

<sup>35</sup> Division of economic sectors in this section is based on the information obtained from monthly reports under the Consolidated Fiscal Programme and therefore does not match the sector classification used in the National System of Accounts.

<sup>36</sup> Over the last quarter of 2019 grants received under EU programmes totalled BGN 814.3 million, while national budget contribution to the EU budget was BGN 196 million. In addition, two new loans were disbursed in November by the European Investment Bank and the Council of Europe Development Bank (CEB) to the total amount of BGN 196 million, ensuring co-financing of EU programme projects.

### Reference Government Securities Yield Curve in Bulgaria



Notes: The reference yield curve of Bulgaria government securities is based on BNB own calculations under the version of Nelson–Siegel–Svensson model (1994). The yield curve is shown at the end of 2019, at the moment of introduction of the state of emergency on 13 March 2020 and on 18 May 2020.

The chart employs daily data on the yields of Bulgarian government securities traded in capital markets.

Sources: the MF, BNB calculations.

effect on financial sector liquidity (excluding the BNB) as a result mainly of newly issued government securities (BGN 69 million). Reallocated liquidity from the budget to the non-government sector exceeded net flows received from the external sector to the financial sector, resulting in a fall of the government deposit with the BNB by BGN 1.6 billion, or 4.9 per cent of GDP for the quarter.

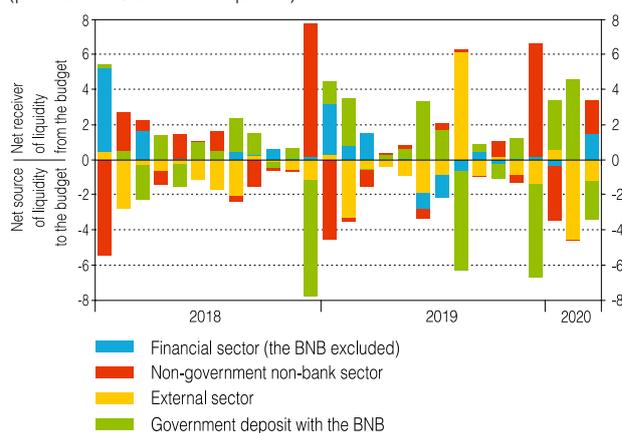
In the first quarter of 2020 allocation of liquidity between the budget and the rest sectors of the economy was impacted, albeit towards the end of the period, by the complicated situation around the COVID-19 spread. In January and February an increase was registered in the government deposit with the BNB (by BGN 1.8 billion) due largely to the positive net financial flows from the external and non-government non-bank sectors. In March, however, only the external sector continued to contribute positively to the change in the liquidity position of the government, reflecting primarily preliminary funds paid by the EC under all operational programmes to the amount of EUR 175 million. Concurrently, in March funds were re-channelled from the government deposit to the non-government non-bank sector, reflecting partially measures undertaken to postpone corporate tax payments and other budgetary payments.

With the expansion of the scope of measures introduced by the government to support businesses and households and the increased effects of the operation of automatic stabilisers on tax revenue, a more essential positive effect of the budget policy on the liquidity of the non-government non-bank sector can be expected in the second and third quarters of 2020. Net positive financial flows from the external sector are expected to continue over the projection horizon. Under an assumption of a more active issuing policy to ensure necessary funds for the budget in the second and third quarters of the year, a negative effect on the liquidity of the financial sector (excluding the BNB) is likely to be observed.

In the 2009–2019 period, Bulgaria's gross international reserves followed a sustained upward trend, their value reaching BGN 48.6 billion or 40.9 per cent of GDP by end-2019. The amount of gross international reserves reflects develop-

## Consolidated Budget Effect on Other Sectors' Liquidity (Monthly)

(per cent of GDP for the quarter)



Notes: This chart is based on monthly data of CFP implementation by including also information obtained from MF monthly bulletins on state budget performance and major CFP indicators and MF Central Government Debt and Guarantees monthly bulletins. The scope of observed indicators on a monthly basis does not correspond fully to that of quarterly data which could explain potential inconsistencies between monthly and quarterly data. The analysis employs flash estimates of the BNB for the first quarter of 2020.

Sources: the MF, the BNB, BNB calculations.

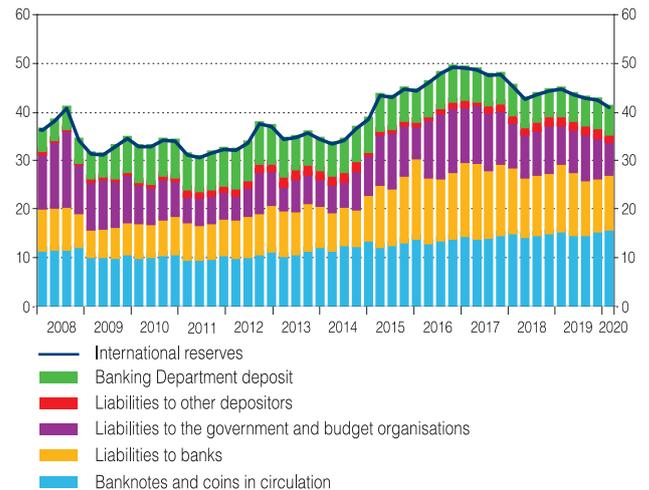
ments in financial flows generated in the process of interaction of external and internal economic factors and corresponds to the Issue Department balance sheet liabilities, according to currency board principles. The largest increase (as a share of GDP) among the components of Issue Department's liabilities was recorded in currency in circulation, reaching by end-2019 16.1 per cent of GDP (12.6 per cent of GDP at the end of 2008) and bank reserves coming to 11.3 per cent of GDP in December 2019 (6.9 per cent of GDP in December 2008).

In the first quarter of 2020 the long-term upward trend in international reserves was sustained, their market value (including valuation adjustments and price revaluations) growing by EUR 1.7 billion from the end of 2019 to EUR 26.5 billion (BGN 51.8 billion). This dynamics was mainly driven by the increase in bank reserves, in particular excess reserves, resulting from BNB measures and to a lower extent, from the increased government deposit with the BNB.

In the second and third quarters of 2020 bank reserves with the BNB are expected to retain their high levels, thus contributing to the growth in gross international reserves on an annual basis. Reserve dynamics is expected to be largely driven by the BNB measures resulting in a significant rise in excess reserves of banks and the projected continuous increase in minimum reserve requirements as a result of the growing reserve base. As regards currency in circulation, some moderation can be expected in their annual growth rate under the influence of weakening household consumption, reflecting the downturn in economic activity. There is a significant uncertainty surrounding the expected dynamics of the government deposit over the forecast horizon, reflecting risks to the projection of revenue and expenditure sides of the budget in terms of both effects of automatic fiscal stabilisers on the budget balance and effects of discretionary measures undertaken by the government. The issuing policy can also have a strong effect on government deposit dynamics. Under an assumption of an issue in international capital markets over the projection horizon, there may be a substantial increase in the government deposit thereby providing a liquidity buffer for pursuing a growth-enhancing fiscal policy until the end of the year.

## Gross International Reserves

(per cent of GDP)



Sources: the MF, the BNB, BNB calculations.

# 3. ECONOMIC ACTIVITY

In the last five years Bulgaria's real GDP has been growing by more than 3 per cent *per year* (3.4 per cent in 2019), mainly driven by private consumption. The improvement in economic activity was accompanied by employment growth and decreasing unemployment rate, reaching historically low levels of 4.2 per cent on average for 2019. The spread of COVID-19 in Europe, including in Bulgaria at the end of the first quarter of 2020, was the reason for the severe deterioration of the short-term outlook for economic activity. The introduced containment measures disrupted most of the economic activities around the country, which, coupled with weaker external demand, resulted in deterioration of business climate and financial performance of firms. This led to a decline in consumer confidence, rise in unemployment and income losses for some households, limiting their possibilities and propensity to consume.

According to NSI flash estimates, in the first quarter of 2020 real GDP increased by 0.3 per cent on a quarterly basis. This growth was due to the recorded increase in exports of goods and services, which was likely driven by the fact that COVID-19 cases were mostly concentrated in quarter-end. Concurrently, final consumption expenditure and fixed capital investment decreased compared to the fourth quarter of 2019. We expect that the negative impact of COVID-19 on consumer expenditures and placed orders in the second quarter of 2020 will result in a fall in real GDP compared to the January-March period. Under the assumption of no second wave of COVID-19 and new tightening of measures, the economic recovery will most likely start in the third quarter of the year on a quarterly basis.

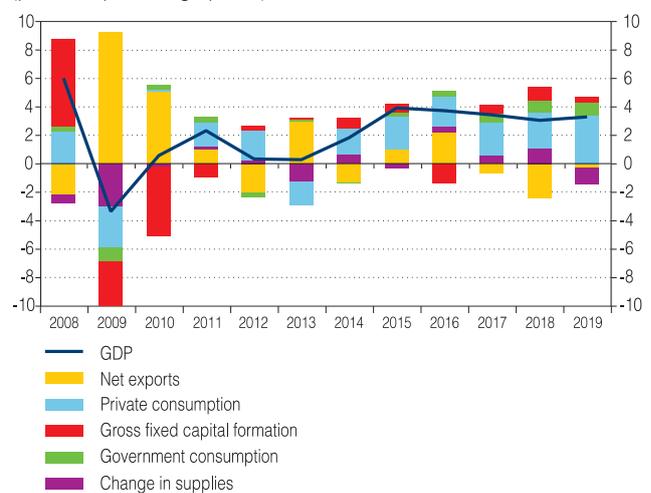
## Current Economic Environment

Before the beginning of the COVID-19 crisis households and firms in Bulgaria operated in a favourable macroeconomic environment. Against this background, real GDP increased by 3.4 per cent in 2019, with positive economic growth reported for the tenth consecutive year and GDP growth of over 3 per cent year on year for the fifth consecutive year. This trend was accompanied by a fall in the unemployment rate to a historically low level (4.2 per cent on average for 2019).

Rising employment, nominal household labour income growth and improving consumer confidence helped increase the final consumption expenditure of households, making a major positive contribution to GDP growth over the last five years. This trend was also favoured by the environment of declining interest rates and active supply of bank credit to the private sector. Concurrently, employment growth and nominal income increase in the 2015–2019 period facilitated the accumulation of savings<sup>37</sup> in the form of liquid assets (mainly deposits in the banking

Contribution to Annual GDP Growth by Final Use Component

(per cent, percentage points)



Sources: the NSI, BNB calculations.

<sup>37</sup> For details on the savings accumulated at the macro level, see External Financial Flows Section in Chapter 2.

system)<sup>38</sup> available in case of unexpected economic shocks.<sup>39</sup>

Net exports made a rather negative contribution to real GDP growth over the last five years mainly due to one-off factors.<sup>40</sup> At the same time, stronger external demand and high competitiveness of Bulgarian firms maintained in the 2015–2019 period were a factor behind the long-term upward trend in exports and economic activity in export-oriented industry, while the enhanced business climate favoured the economic development of domestic market oriented sectors such as construction and services, stimulating the growth of goods and services imports.

The improvement of the budget balance as a result of the favourable macroeconomic environment since 2016 and higher absorption of funds within the new programming 2014–2020 period enabled the government to follow a policy of increasing income and implementing projects in key sectors of the economy such as road infrastructure, education and healthcare. As a result, both government consumption during 2016–2019 and fixed capital investment financed with public funds over 2018–2019 contributed significantly to the GDP growth.

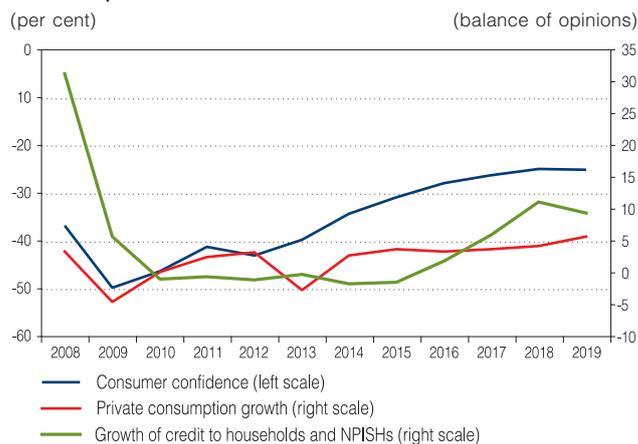
The spread of COVID-19 in Europe, including in Bulgaria at the end of the first quarter of 2020, led to a severe deterioration of the economic situation in the country and the short-term outlook for GDP growth. The introduced measures to curb the spread of coronavirus had a significant adverse impact on the economic activity in all sectors in Bulgaria. In April 2020 the overall business climate indicator declined by 41.7 per cent from the previous month, approaching its long-term minimum of February 1997 and suggesting that the economy is entering recession.

<sup>38</sup> In 2019 household savings rate was of about 8.8 per cent of their disposable income. NSI Household Budget Survey data are used. For details, see the Household Behaviour Section in Chapter 3.

<sup>39</sup> Despite these favourable initial conditions at macroeconomic level before the spread of COVID-19, EC surveys suggest an uneven distribution of accumulated savings with 43 per cent of households stating that they do not have savings, while 30 per cent of households asserted that their savings would enable them to maintain their current standard of living for no more than 3 months. In the context of the pandemic this could lead households to reduce substantially their consumer spending. For more details, see the study of [Eurofound Living, working and COVID-19 dataset](#)

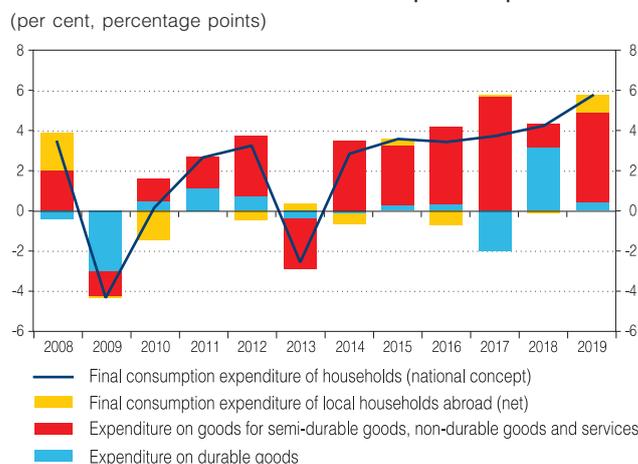
<sup>40</sup> For details, see Exports and Imports of Goods and Services Section in Chapter 3.

### Consumer Confidence, Household Credit and Private Consumption Growth



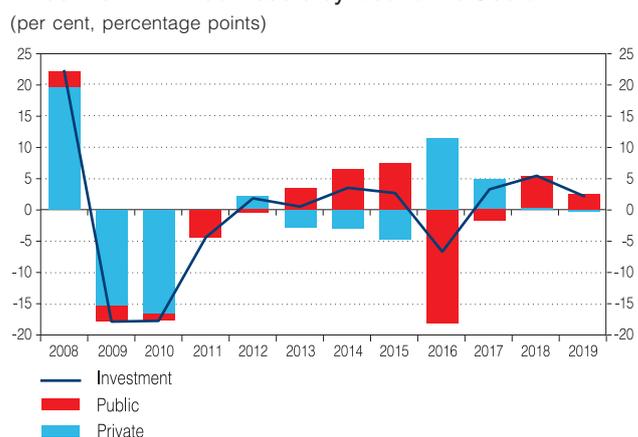
Sources: the NSI, BNB calculations.

### Growth of Household Final Consumption Expenditure



Sources: the NSI, Eurostat, BNB calculations.

### Investment in Fixed Assets by Economic Sector



Sources: the NSI, BNB calculations.

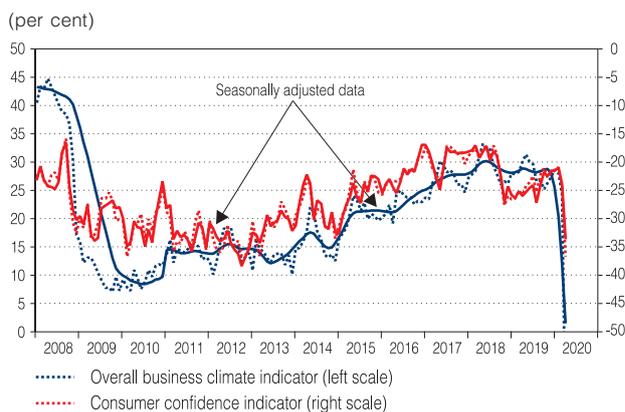
Concurrently, the economic uncertainty indicator constructed by the BNB exceeded its long-term level in April 2020 mostly due to a change in firms' expectations about the future economic activity.

Given the nature of the measures taken to contain the spread of the virus, initially, the negative effect was most pronounced in the services sub-sectors, especially those related to trade, catering, travel and entertainment. According to NSI business surveys published in April 2020, the share of firms with reduced demand in the services sector increased to 38.3 per cent compared to 8.7 per cent in March. In the retail trade sector the share of managers pointing to a decline in sales in the last three months rose to 43.2 per cent in April against 12.4 per cent in March. These developments are directly related to the movement restrictions and social distancing measures introduced and to the change in households' behaviour due to the spread of the coronavirus, which resulted in a sharp reduction in visits to accommodation facilities, restaurants and retail outlets.

Another sector affected by the spread of the COVID-19 is the export-oriented industry. According to the NSI surveys in April 2020 about 37.2 per cent of the firms in industry acknowledged that production is not sufficiently assured with orders from other countries (compared to 18.2 per cent in March). Since this could be considered as a leading indicator of goods exports' dynamics, its increase is likely to result in a contraction in Bulgarian exports in the following months.

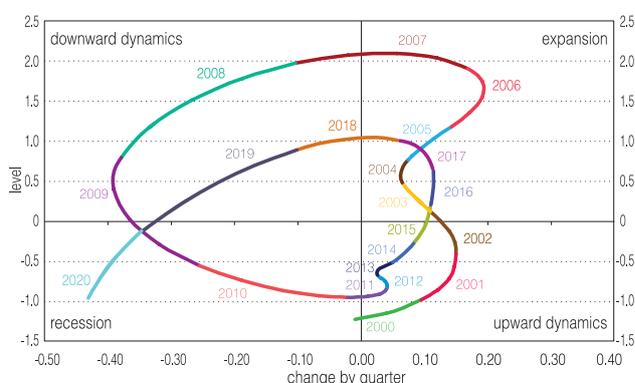
NSI short-term economic indicators dynamics gives mostly negative signals about economic activity in Bulgaria in the first quarter of 2020. In January–March 2020, the industrial production index declined by -0.4 per cent on a quarterly basis reflecting the increase in industrial production in the first two months and its strong decrease in March (by -5.1 per cent month on month). Lower economic activity in March was entirely due to manufacturing, posting a downturn compared to previous month in almost all major sub-sectors, excluding those related to production of food, pharmaceuticals, repair and installation of machinery and equipment. Construction also recorded negative trends with

## Business Climate and Consumer Confidence



Sources: the NSI, EC.

## Business Climate Indicator Dynamics



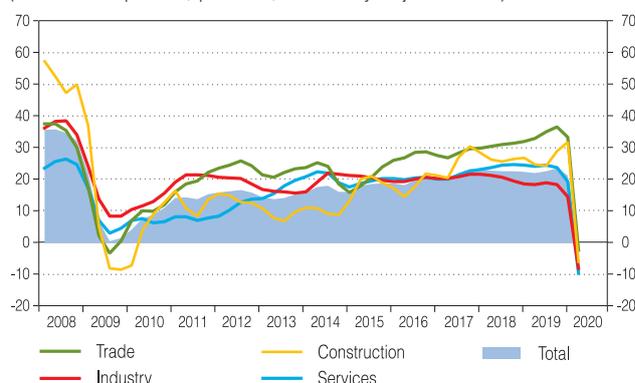
Notes: The chart compares the business climate level (the vertical axis) and its quarterly change (the horizontal axis). The business climate series has been transformed using the HP filter (with a parameter  $\lambda = 100$ ) in order to eliminate short-term fluctuations, after which it has been standardised.

The four chart grids allow to distinguish the four phases of the business cycle.

Sources: the NSI, BNB calculations.

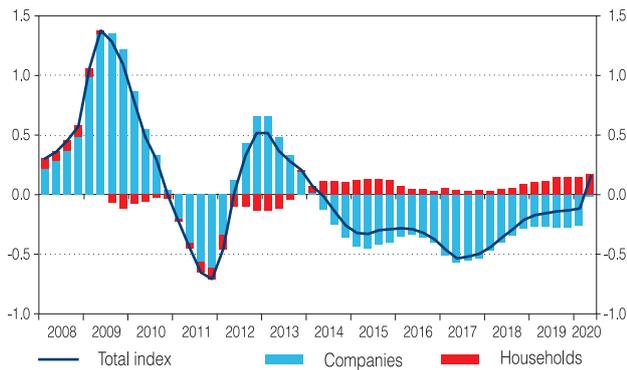
## Expectations about Future Economic Activity

(balance of opinions, per cent; seasonally adjusted data)



Sources: the NSI, BNB calculations.

## Uncertainty Indicator in the Economy (Corporations and Households)



Note: Higher values of this indicator should be interpreted as an increase in uncertainty. Positive/negative values of the global indicator show that the uncertainty in economy is above/below its long-run level. This indicator is constructed under a methodology presented in: Ivanov, E. Constructing an Uncertainty Indicator for Bulgaria, BNB Discussion Papers 109/2018, and corresponds to the indicator U1 constructed in the paper.

Sources: EC, BNB calculations.

construction output index declining by -4.2 per cent on a quarterly basis in the first quarter of the year<sup>41</sup> mainly due to building construction.

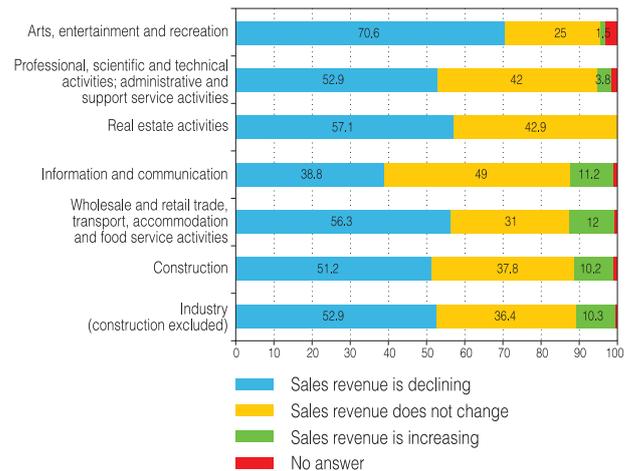
According to the consumer survey regularly conducted by the EC, in March and April there was a significant decline in the consumer confidence indicator, which was also accompanied by lower intentions of households to purchase durable goods. This development reflects the significant increase in household pessimism about the future economic situation in the country and labour market conditions. In terms of households structure, sentiment deteriorated the most for households with average income level for Bulgaria (second and third quartile of income distribution)<sup>42</sup>. These are households whose members have a relatively higher education level, are aged between 30 and 49 and therefore it could be expected that they account for most of final consumer expenditure. NSI data on retail trade turnover at constant prices show that between January and March 2020 sales declined in real terms both on a quarterly and annual basis.

Despite the worsening of economic indicators, according to NSI flash estimates real GDP rose

<sup>41</sup> Construction output index declined by -11.2 per cent in March 2020 on the previous month.

<sup>42</sup> In statistics, there are three quartiles and, in this case, they divide household income into four equal parts. The first quartile includes the first 25 per cent of households with lowest income, the second quartile includes the following 25 per cent of households with higher income and the upper quartile includes the households with highest income.

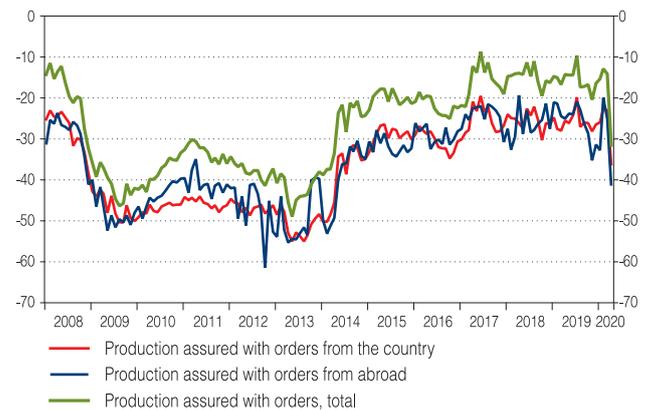
## Change in Firms' Sales Revenue in the First Month of the COVID-19 Spread



Source: the NSI.

## Production Assured with Orders from Other Countries and Finished Goods Inventories

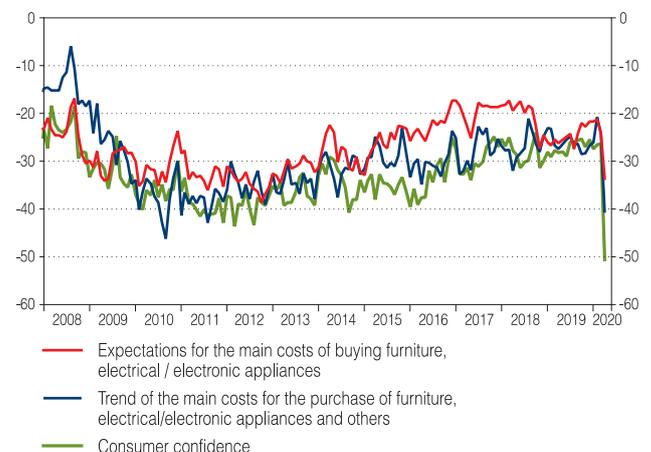
(balance of opinions, per cent; seasonally adjusted data)



Sources: the NSI, BNB calculations.

## Consumer Confidence and Sentiment for Durables Purchases

(balance of opinions, per cent)



Source: EC.

## Real GDP Growth by Final Use Component

(per cent, quarter-on-quarter; seasonally adjusted data)

	2016				2017				2018				2019				2020
	I	II	III	IV	I												
Consumption	1.3	-0.1	0.7	2.1	-0.1	1.5	1.2	1.8	1.0	0.8	1.2	0.6	1.9	1.6	1.5	1.1	-0.1
incl.																	
Household consumption	1.4	-1.1	0.8	3.0	-0.9	1.4	1.5	2.7	0.7	0.0	1.1	0.3	2.3	2.3	1.2	0.2	-
Government final consumption expenditure	-0.8	3.1	0.1	2.2	0.9	-1.0	0.6	0.8	3.3	2.2	0.5	-0.4	2.0	-0.2	2.5	3.0	-
Collective consumption	-0.8	2.7	1.5	1.1	1.9	0.5	1.3	1.3	-0.4	3.2	0.4	2.5	2.2	0.1	2.4	0.5	-
Gross fixed capital formation	-3.0	-2.3	-1.1	-0.8	1.1	2.3	1.1	1.5	2.2	0.5	0.2	0.4	0.3	0.7	0.8	1.3	-0.9
Exports of goods and non-factor services	2.9	4.5	0.2	1.1	1.8	1.9	2.0	-2.4	0.4	0.9	0.1	4	-1.3	-2.0	3.6	-0.5	0.1
Imports of goods and non-factor services	0.4	2.1	1.2	1.9	2.5	1.2	1.1	3.2	0.7	1.9	-1.0	2.4	0.2	-0.5	3.4	-3.1	-0.2
<b>GDP</b>	<b>1.0</b>	<b>1.0</b>	<b>0.7</b>	<b>1.1</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>0.7</b>	<b>0.6</b>	<b>0.9</b>	<b>1.0</b>	<b>0.8</b>	<b>1.0</b>	<b>0.7</b>	<b>0.7</b>	<b>0.8</b>	<b>0.3</b>

Source: the NSI.

## Real GDP Growth by Final Use Component

(per cent)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Consumption	2.7	-3.9	0.5	2.0	1.8	-1.6	1.8	2.7	2.5	3.0	3.5	4.4
incl.												
Household consumption	2.3	-2.9	0.1	1.7	2.0	-1.7	1.8	2.2	2.1	2.2	2.5	3.4
Government final consumption expenditure	1.0	-0.8	-0.2	0.3	-0.3	0.0	0.1	0.0	0.1	0.2	0.5	0.4
Collective consumption	-0.7	-0.2	0.6	0.1	0.0	0.1	-0.1	0.3	0.2	0.4	0.4	0.5
Gross fixed capital formation	6.2	-5.8	-4.9	-1.0	0.4	0.1	0.7	0.6	-1.4	0.6	1.0	0.4
Exports of goods and non-factor services	1.3	-6.2	4.7	6.3	1.2	5.8	2.0	4.2	5.5	3.7	1.1	1.3
Imports of goods and non-factor services	-3.5	15.5	0.5	-5.3	-3.3	-2.8	-3.4	-3.1	-3.3	-4.4	-3.6	-1.5
<b>GDP</b>	<b>6.1</b>	<b>-3.4</b>	<b>0.6</b>	<b>2.4</b>	<b>0.4</b>	<b>0.3</b>	<b>1.9</b>	<b>4.0</b>	<b>3.8</b>	<b>3.5</b>	<b>3.1</b>	<b>3.4</b>

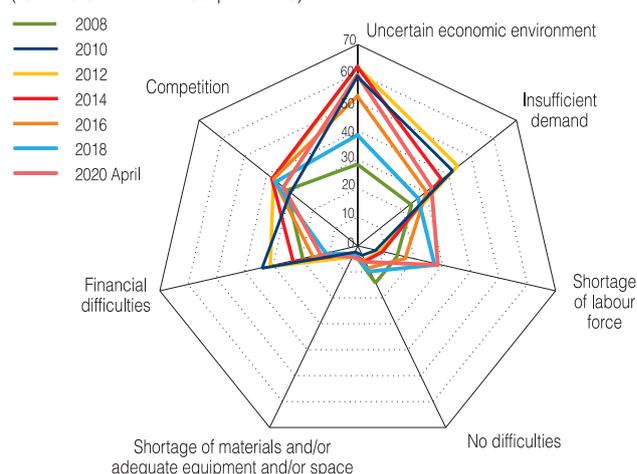
Source: the NSI.

by 0.3 per cent on a quarterly basis in the first quarter of the year. This development is driven by an increase in goods and services exports coupled with a decline in imports. Final consumption expenditure and fixed capital investment decreased compared to the fourth quarter of 2019.

Given the impact of the measures introduced to curb the spread of COVID-19 between March and May 2020, it is expected that the negative effects from the containment measures on consumer demand and supply will be concentrated mostly in the second quarter of 2020, resulting in a fall in real GDP compared with the January–March period. Increased economic uncertainty, deterioration of business climate, negative consumer sentiment, loss of jobs and income, possible tightening of financing conditions coupled with declines in household purchasing power are expected to dampen final consumption expenditure and private investment

## Factors Limiting Economic Activities of Corporations

(relative share of all corporations)



Note: Average for the period calculated as sector-weighted (industry, construction, trade and services).

Sources: the NSI, BNB calculations.

growth. Government consumption is projected to contribute positively to GDP growth in terms of higher wage, healthcare and operating expenditure. In the third quarter of 2020, the progress of ongoing projects will continue to be a factor for the growth of public investment, while restrictions on new commitments provided for in the Law on Amendment of State Budget Law for 2020 should contribute to dampened dynamics of investment under new projects. The expected decline in exports of goods and services is anticipated to limit the economic activity due to deterioration of the economic situation in Bulgaria's major trading partners and disruption of global value chains. Under the assumption of no second wave of COVID-19 and new tightening of measures, the economic activity is expected to start recovering gradually in the third quarter of the year on a quarterly basis.

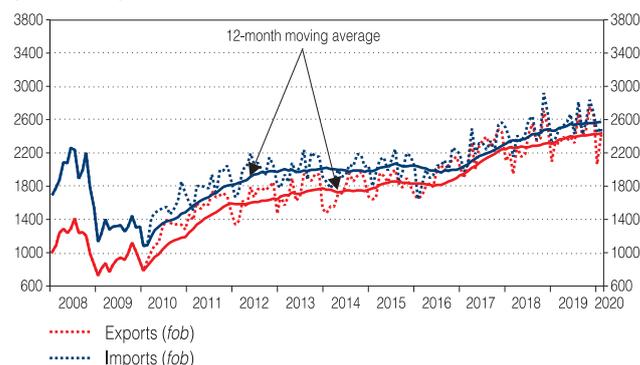
## Exports and Imports of Goods and Services

The global spread of COVID-19 along with the measures taken to contain it in a number of countries, including Bulgaria, represent significant negative shock to the country's external trade flows both from the demand and the supply side. Increased global uncertainty, deteriorated economic activity in Bulgaria's trading partners and disrupted activity of global value chains are the main channels through which Bulgarian goods exports will be affected. On the other hand, weakened economic activity in the country is a precondition for lower demand of imported goods.

The high competitiveness of the Bulgarian economy, as demonstrated by the sustainable growth of exports outpacing external demand in the period after 2009, places Bulgaria in a favourable position prior to the crisis caused by the spread of COVID-19.<sup>43</sup> However, unlike the global financial and economic crisis of 2008–2009, some of the negative effects on the external trade flows in the current COVID-19 crisis arise from the restrictive measures imposed on the activity of a number of economic sectors in

<sup>43</sup> Bulgarian firms' competitiveness is confirmed by the analysis of constant market shares indicating that after 2015 (except for 2018) the exports of goods and services increased at a higher rate compared to external demand growth. The decline in nominal exports of goods in 2018 reflects mainly one-off-supply-side factors in the country.

Dynamics of Nominal Exports and Imports of Goods (EUR million)



Source: the BNB.

## Exports by Commodity Group, January – February 2020

	Value (EUR million)	Change* (EUR million)	Growth** (per cent)	Contribution**, percentage points
Wood products, paper, ceramics and glass	228.6	9.4	4.3	0.2
Machines, vehicles, appliances, instruments and weapons	1,352.1	39.3	3.0	0.8
Mineral products and fuels	562.8	-69.7	-11.0	-1.4
Base metals and related products	756.3	29.4	4.0	0.6
Animal and vegetable products, food, drinks and tobacco	787.0	69.2	9.6	1.4
Textiles, leather, clothing, footwear and other consumer goods	620.0	31.3	5.3	0.6
Chemical products, plastics and rubber	641.5	24.6	4.0	0.5
<b>Total exports</b>	<b>4,948.2</b>	<b>133.6</b>	<b>2.8</b>	<b>-</b>

\* Change on the corresponding period of previous year.

\*\* Growth/contribution to growth of total exports over the period on an annual basis.

Source: the BNB.

Bulgaria, which may lead to an expected negative shock on the exports of goods and services.

The foreign trade data as of February 2020 reflect to a small extent the deterioration of the international environment as a result of the spread of COVID-19, as the only more severely affected trading partners of Bulgaria at that point in time were China and Italy. Consequently, the year-on-year upward trend in nominal exports of goods, which started in 2014, was maintained over January–February 2020. The exports of all commodity groups, excluding petroleum products<sup>44</sup>, posted a growth. Animal and vegetable products<sup>45</sup>, followed by machines<sup>46</sup> made the largest positive contribution to the exports growth at the start of the year. The high positive contribution of machine exports in the beginning of 2020 was in line with the long-term trend observed in the period after the financial and economic crisis of 2008–2009, when the share of goods with relatively higher value added increased in the structure of Bulgarian exports.

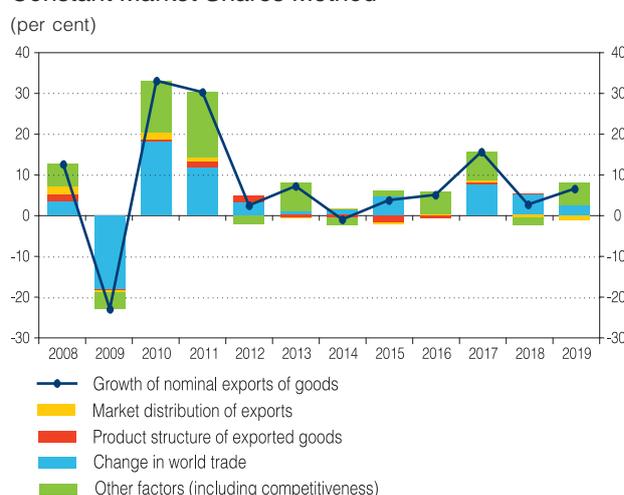
In the first two months of 2020 prior to the extensive spread of the COVID-19 pandemic in Europe, foreign trade data show that the share

<sup>44</sup> In this chapter it should read mineral products and fuels group under the Combined Nomenclature. The fall in exports of petroleum products in early 2020 can be partly explained by lower oil prices on an annual basis in the January to February period on average along with fading one-off factors which had contributed to the high exports growth in this group in the beginning of last year.

<sup>45</sup> In this chapter, it should read animal and vegetable products, food, drinks and tobacco group under the Combined Nomenclature.

<sup>46</sup> In this chapter, it should read the machines, vehicles, appliances, instruments and weapons group under the Combined Nomenclature.

## Decomposition of Nominal Exports of Goods Using the Constant Market Shares Method



Sources: Eurostat, BNB calculations.

of exports to EU countries<sup>47</sup> rose on an annual basis reaching 68.2 per cent in total Bulgarian exports. This increase can be explained by Bulgaria's integration in GVCs<sup>48</sup> within the EU as evidenced by the large share of intermediate products in the country's exports<sup>49</sup>.

Although flash estimates of GDP indicate a weak growth of real exports of goods year on year in the first quarter of 2020, this is likely due to the wider global spread of COVID-19 being reported by the end of the quarter and due to the execution of already placed export orders. In addition, the balance of payments data for March 2020 signal a year-on-year decline in nominal exports of goods.

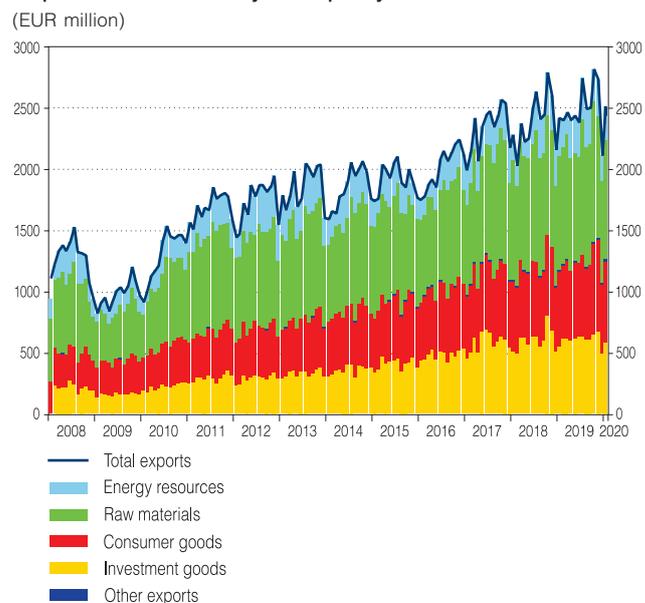
Exports of goods are expected to fall significantly on an annual basis in the second and third quarters of 2020 as a result of the negative impact of the COVID-19 crisis. Due to the high degree of openness of the Bulgarian economy and its integration in global value chains, weakened external demand for Bulgarian goods will have a significant negative impact on the country's exports, which will be more pronounced in the second quarter of the year, provided there is no second wave of COVID-19 and a reintroduction of containment measures. These expectations are supported by the NSI business survey data showing that the share of firms in industry whose production is not sufficiently assured with orders from abroad rose to 37.2 per cent in April 2020 against 18.2 per cent in March. Furthermore, the share of managers indicating insufficient demand from international markets as a factor limiting their activity, also increased in April. In addition to the demand side constraints, exports of goods is likely to be further constrained in terms of supply. According to NSI business survey in industry, in April 2020 the share of managers pointing to the shortage of materials as a factor hampering their activities rose to 7.1 per cent against 2.6 per cent in March. This is probably attributable to difficulties in supplying raw materials for produc-

<sup>47</sup> EU data for 2020 include the United Kingdom due to the comparisons made with past years and the fact that there are no major changes in the trade relations between the EU and the United Kingdom.

<sup>48</sup> For further information on the reliance of Bulgarian exports on GVCs, see the research topic Main Transmission Channels of the COVID-19 Pandemic to Economic Activity in Bulgaria.

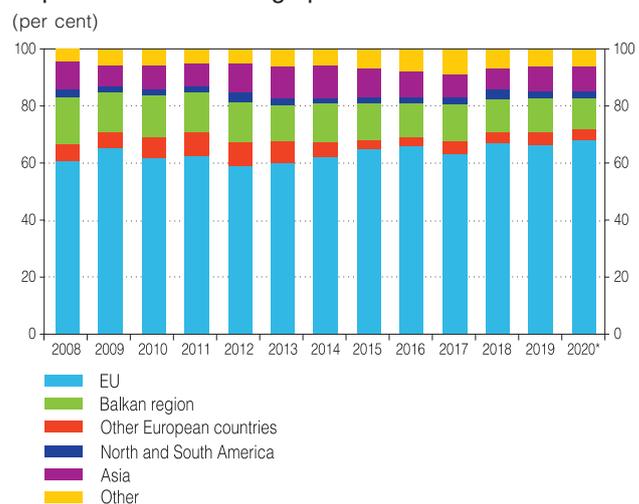
<sup>49</sup> According to OECD data for 2015 the share of intermediate products from industry in Bulgaria's gross exports of goods and services accounted for 33.1 per cent.

## Exports of Commodity Groups by Use



Source: the BNB.

## Exports of Goods: Geographical Breakdown



\* Data for 2020 refer to January and February.

Source: the BNB.

tion due to disrupted cross-border movement of goods and people resulting from the COVID-19 containment measures.

In the years following the global financial and economic crisis of 2008–2009 nominal imports of goods increased at a slower pace compared to the pre-crisis period partly reflecting the change in GDP growth structure<sup>50</sup>. In the first two months of 2020 growth of nominal imports of goods slowed significantly from the same period of 2019 amounting to 1.6 per cent on an annual basis. According to NSI flash estimates of GDP, this is in line with the year-on-year decline in real gross fixed capital formation and moderation in annual growth of final consumption in real terms in the first quarter of 2020. Consumer goods contributed most to the growth of nominal imports of goods in the period January–February, while only mineral products posted a decline.

The geographical structure of imports has seen a gradual increase in the share of goods from EU Member States since 2018. This trend continued also in the beginning of 2020, with imports of goods from EU accounting for 50.9 per cent of total imports in the January to February period, confirming the strong linkages between Bulgaria's foreign trade flows and developments in EU countries. A longer-term perspective suggests after 2008 a gradual increase of imports from Asia and mostly from China, which by 2019 and in the beginning of 2020 is one of the three major trading partners of Bulgaria in terms of imports of goods. For the January–February 2020 period imports of goods from EU Member States grew by 6.7 per cent compared to the same period of 2019. Concurrently, imports from non-EU countries decreased by 3.3 per cent on an annual basis, mostly as a result of lower imports of petroleum products from Russia, while imports from China rose by 5.5 per cent on an annual basis.

According to flash estimates of GDP real imports of goods rose slightly on an annual basis in the first quarter of 2020, probably impacted by the fact that a wider spread of COVID-19 was only present at the end of the quarter. At the

<sup>50</sup> In the period after 2009, domestic demand growth was driven rather by private consumption than by gross fixed capital formation. Concurrently, BNB calculations show that private consumption has a smaller share of import component than investments.

## Imports of Commodity Groups by Use, January – February 2020

	Value (EUR million)	Change* (EUR million)	Growth** (per cent)	Contribution** (percentage points)
Consumer goods	1276.9	124.3	10.8	2.3
Raw materials	1997.9	9.9	0.5	0.2
Investment goods	1327.5	4.5	0.3	0.1
Energy resources	733.6	-63.3	-7.9	-1.2
Other imports	33.9	7.0	25.8	0.1
<b>Total imports (CIF)</b>	<b>5369.9</b>	<b>82.4</b>	<b>1.6</b>	<b>-</b>

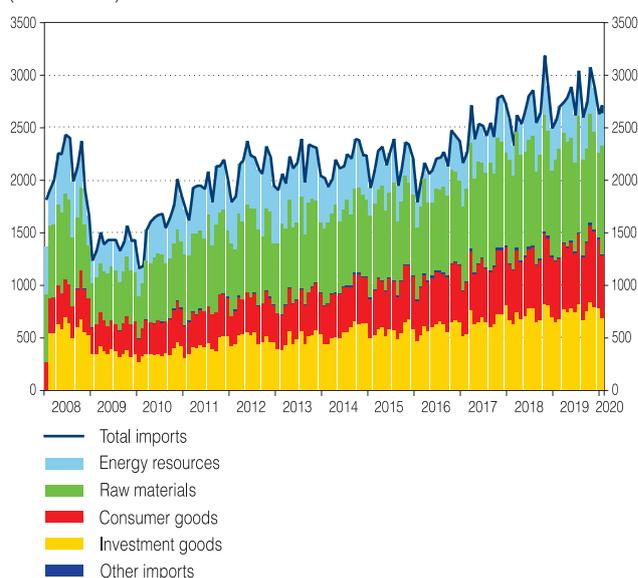
\* Change on the corresponding period of previous year.

\*\* Growth/contribution to total import growth over the period on an annual basis.

Source: the BNB.

## Imports of Commodity Groups by Use

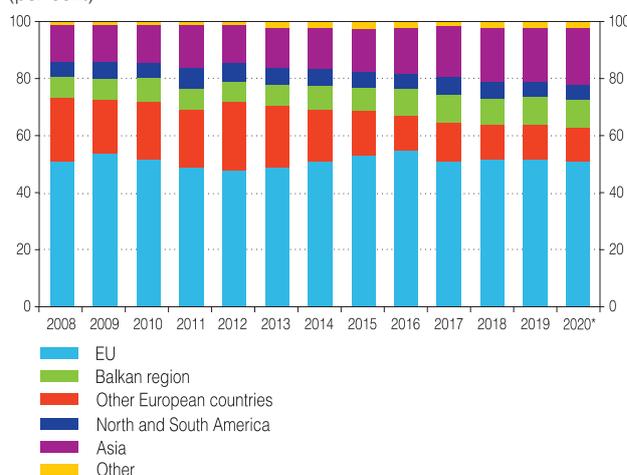
(EUR million)



Source: the BNB.

## Imports of Goods: Geographical Breakdown

(per cent)



\* Data for 2020 refer to January and February.

Source: the BNB.

same time, balance of payments data for March 2020 suggest a year-on-year decline in nominal imports of goods in line with the worsening economic activity in the country.

Imports of goods are expected to fall significantly in the second and third quarters, which is going to be more pronounced in the second quarter. These expectations are underpinned by the prospects of a subdued consumption of households and deterioration of investment activity as a result of the COVID-19 pandemic and the introduced containment measures. Among domestic demand components in Bulgaria, investment in fixed capital and private consumption have the largest share of imported products, which explains the expected high degree of impact on the imports of goods<sup>51</sup>.

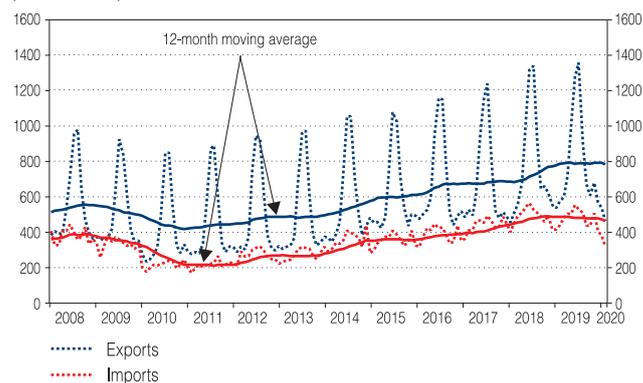
In terms of imports and exports of services, the data available by March 2020 cover a small part of the period in which trade flows could have been affected by the measures against COVID-19. The structure of imports and exports of services is of essential importance for the initial conditions of the trade in services under which the country entered the pandemic crisis. The COVID-19 restrictions imposed globally on the operation of accommodation establishments and the provision of travel services have a direct impact on tourism and transport services (particularly passenger transport). According to balance of payments data, the share of travel revenues in Bulgaria's total exports of services accounted for 40.6 per cent in 2019, while that of transport services was 21.5 per cent (of which about 26.3 per cent passenger transport<sup>52</sup>). At the same time, the share of travel in imports of services accounts for 28.5 per cent and that of transport services 38.4 per cent (of which passenger transport has a share of around 18 per cent). The large share of tourist services in both exports and imports of services may lead to a significant negative impact of COVID-19 containment measures on the trade in services. This is supported by the balance of payments data for the first quarter of 2020, which indicate a reversal in the steady upward trend

<sup>51</sup> According to BNB calculations based on OECD supply and use tables for 2014 the share of import component in the expenditure for investment and private consumption is 0.55 and 0.42, respectively.

<sup>52</sup> An approximation has been made based on more detailed Eurostat data for 2018.

## Dynamics of Exports and Imports of Services

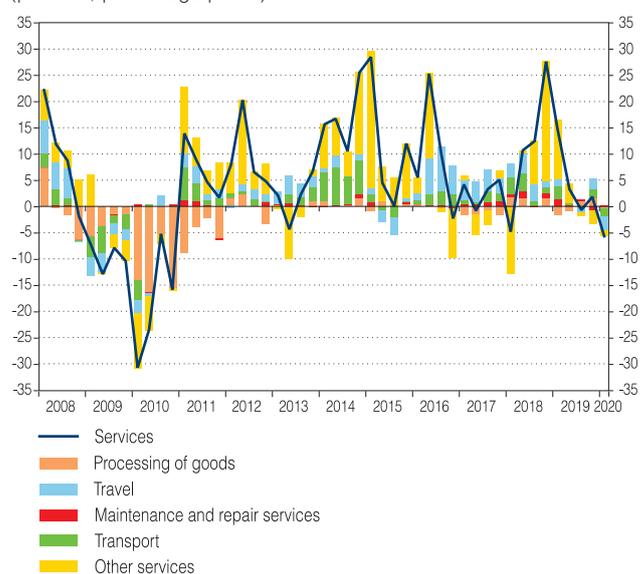
(EUR million)



Source: the BNB.

## Annual Change of Services Exports and Contribution by Sub-component

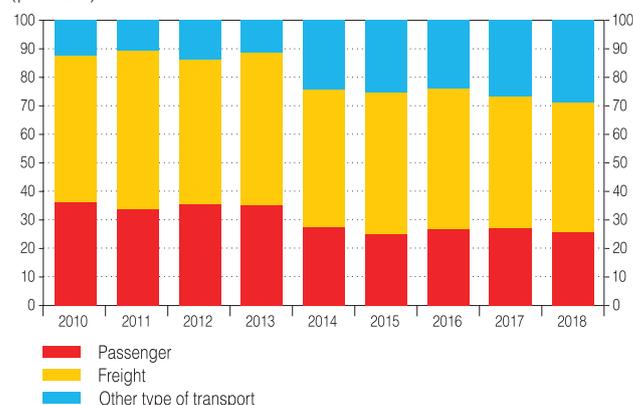
(per cent, percentage points)



Source: the BNB.

## Structure of Exports of Transport Services per Method of Transport

(per cent)



Source: Eurostat.

in exports of services observed after the global financial and economic crisis of 2008–2009. Nominal exports of services fell by 5.7 per cent in the first quarter of 2020 compared to the corresponding period of last year. The decline in the first quarter was entirely concentrated in March (19.3 per cent on an annual basis) and was mainly due to the earnings from travel and transport services. NSI data show that visits of foreign nationals to Bulgaria in March 2020 declined by 44 per cent year on year, with all Bulgaria's partners posting a decrease in visits by geographical breakdown. In addition, according to NSI survey conducted among managers of accommodation establishments around 72.2 per cent of the managers report a decline in operating revenue in March from February 2020.

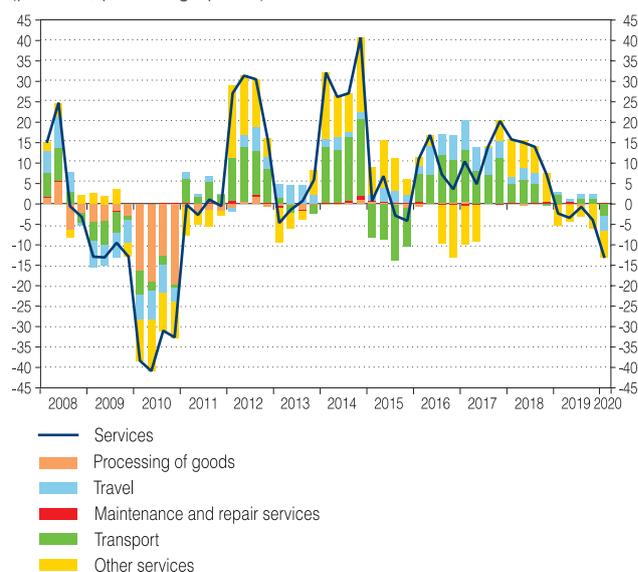
Nominal imports of services also fell on an annual basis in the first quarter of 2020. Despite the upward trend in expenditure of Bulgarian residents on travel abroad observed since 2012, it was discontinued in 2019 mainly as a result of one-off factors related to insurance and pension services. In the first two months of 2020, before the global spread of COVID-19, imports of services continued to fall (mostly financial services). In March 2020 the decline in imports of services accelerated sharply reaching 27.3 per cent year on year. Expenditure of Bulgarian nationals on travel and transport abroad decreased the most. According to NSI data, Bulgarians' visits abroad increased on an annual basis in the first two months of 2020. However, following the introduction of a state of emergency in Bulgaria and in a number of other countries, their number fell year on year by 51.8 per cent in March 2020.

According to flash estimates of GDP real volumes and price components contributed to the year-on-year decline in exports of services in the first quarter of the year. Concurrently, this downturn was entirely due to smaller volumes, whereas import prices of services rose compared to the first quarter of 2019.

In the second and third quarters of 2020 trade flows in services are expected to be significantly lower than in the corresponding period of the previous year with a stronger decline in the second quarter. This will be in line with the reduced demand reflecting households' limited consumption possibilities in Bulgaria and abroad

### Annual Change of Services Imports and Contribution by Sub-component

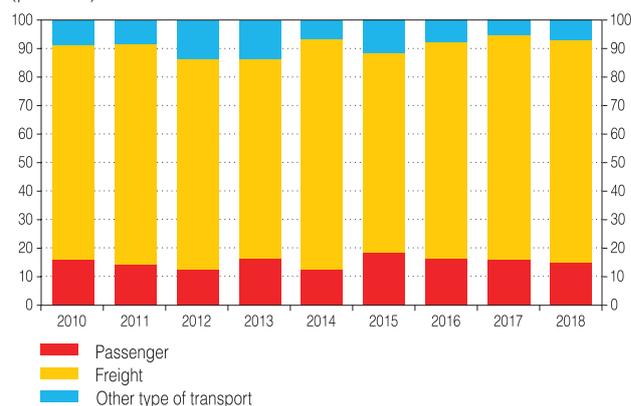
(per cent, percentage points)



Source: the BNB.

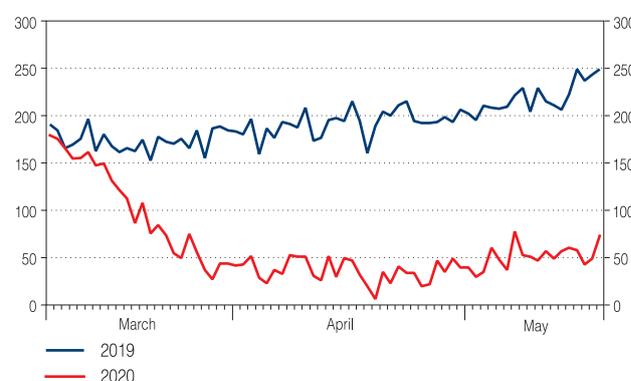
### Structure of Imports of Transport Services per Method of Transport

(per cent)



Source: Eurostat.

### Number of Flights Performed on the Territory of Bulgaria



Note: Data refer to the 8 March – 27 May period.

Source: European Organisation for the Safety of Air Navigation.

along with a lower supply due to the introduced anti-epidemic measures. Tourist and passenger transport services (with a larger share in exports of services than in imports) are expected to be most affected by COVID-19 containment measures. Data on the number of flights performed over the territory of Bulgaria in April give timely indications of the extent of impact on travel and transport sectors. The indicator shows a decline in flight traffic by 81.2 per cent in April 2020 on the corresponding period last year.

## Behaviour of Firms and Competitiveness

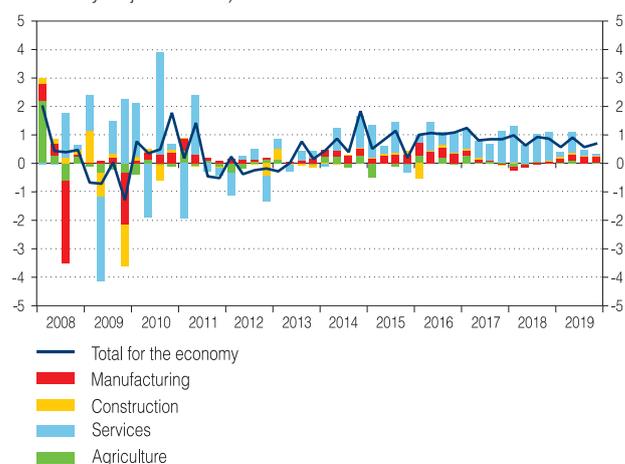
COVID-19-related temporary ban on activities of certain sectors coupled with containment measures introduced in Bulgaria and its major trading partners had a negative impact on the economic activity in the country. Given the nature of the measures taken, initially the negative effect was most pronounced in the services sub-sectors, especially those related to trade, catering, travel and entertainment. However, significant negative effects were also observed in industry. By comparison, during the global financial and economic crisis of 2008–2009 it was the industry that was most affected, while services sector generally made a positive contribution to value added growth.

Reduced economic activity and fall in income may lead to layoffs and wage cuts in firms. According to March 2020 NSI survey around 17.2 per cent of respondent firms took measures to lay off employees, while in 24.4 per cent of firms some of the employees went on unpaid leave. Furthermore, a significant share of surveyed firms in all economic sectors reported a decline in sales revenue over the same period.

Currently available data for March and April 2020 show that the most affected sectors include wholesale and retail trade; repair of motor vehicles and motorcycles, accommodation and food service activities and manufacturing where the highest number of newly registered unemployed and a significant decline in turnover were recorded. The measures against COVID-19 have a strong negative impact also on the other economic activities such as agriculture, mining, construction and business services. This reflects weakened aggregate demand and reduced productivity of the employees as a result of

## Value Added Growth and Contribution by Sector

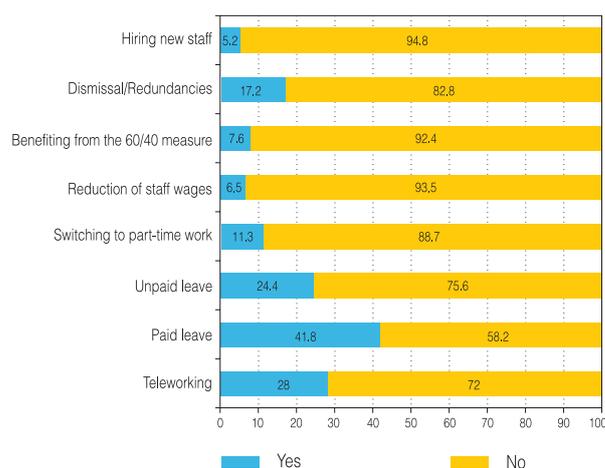
(per cent, percentage points, quarter-on-quarter; seasonally adjusted data)



Note: Non-additive data on contributions due to direct seasonal adjustment of value added and its components.

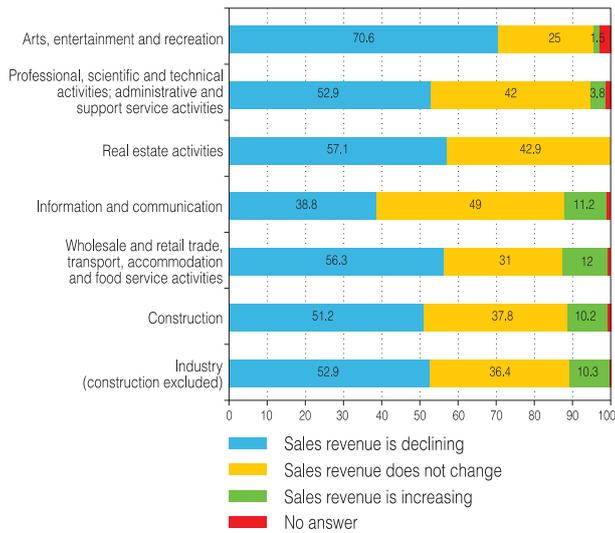
Sources: the NSI, BNB calculations.

## Staff Measures Initiated by the Firms in March 2020



Source: the NSI.

## Change in Firms' Sales Revenue in March 2020



Source: the NSI.

difficulties in reaching the workplace, need of reorganising the work process and difficulties in administrative services.

Industry, which is one of the sectors relatively strongly affected by the measures against COVID-19 provides around one fifth of the employment and value added in the economy and accounts for a significant part of Bulgaria's exports. In the beginning of 2018 the economic activity in the sector began to deteriorate driven by specific internal and external factors. Internal factors included carrying out scheduled repairs in key enterprises in the industry<sup>53</sup>, resulting in a temporary decline in value added in specific quarters of 2018 and 2019. External factors related to the deterioration of trade relations between the USA and China which led to a slower growth of international trade and industrial output. Given the high degree of industry integration in GVCs<sup>54</sup> shutting down of a number of related production capacities in Bulgaria's major trading partners resulted in a fall in turnover and economic activity of firms operating in international markets in March 2020.

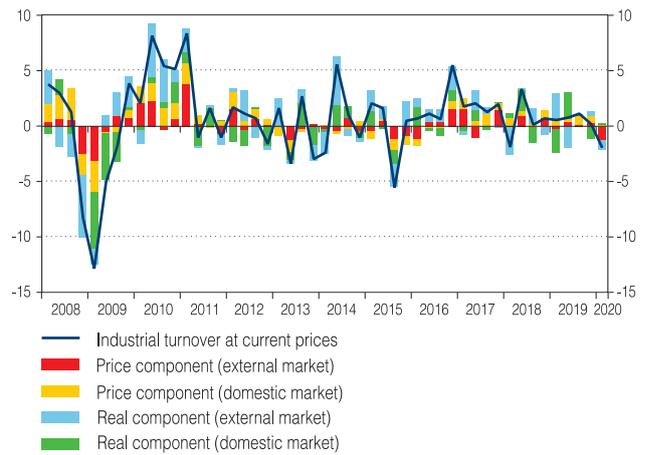
Data on production capacity utilisation rate as of April 2020 show that the average production capacity utilisation rate of firms in industry was 67.9 per cent on average against 78 per cent in

<sup>53</sup> For further details, see Economic Review, 2/2018 and 2/2019.

<sup>54</sup> For more details, see: DP/105/2017 [The Role of Bulgaria in Global Value Chains](#).

## Industrial Turnover Dynamics

(per cent, percentage points, quarter-on-quarter; seasonally adjusted data)

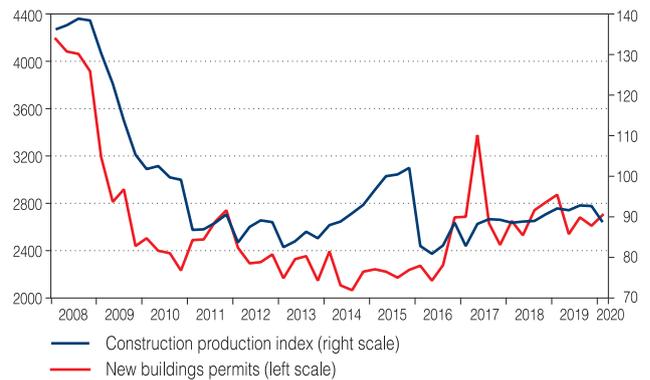


Sources: the NSI, BNB calculations.

## Construction Production Dynamics and New Buildings Permits Issued

(number of buildings; seasonally adjusted data)

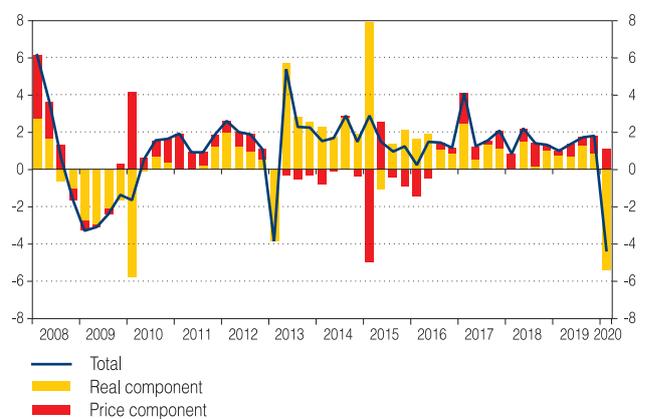
(2015 = 100; seasonally adjusted data)



Sources: the NSI, BNB calculations.

## Dynamics of Nominal Retail Trade Volumes

(per cent, percentage points, quarter-on-quarter; seasonally adjusted data)



Note: Data for the fourth quarter of 2019 are for October and November.

Sources: the NSI, BNB calculations.

January. Unlike many other countries in Europe (such as Spain, Italy, France, Great Britain, Germany) where COVID-19 containment measures entailed stronger restrictions on industrial enterprises' activities, in Bulgaria this sector continued to operate albeit at a lower intensity.

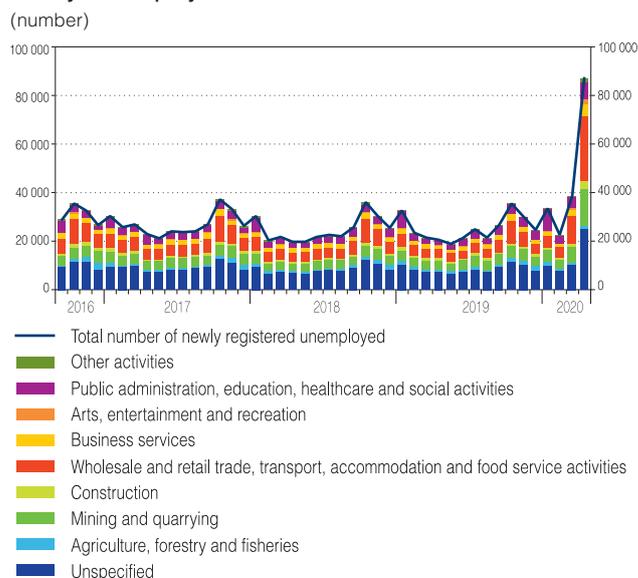
The accelerated growth in house prices after 2015 helped increase employment and value added in construction. The number of new building permits issued and the construction output index rose over the period. In March 2020 the calendar-adjusted index of construction output declined by 14 per cent on an annual basis mainly driven by building construction downturn, which can be explained by the negative effects of the state of emergency in Bulgaria.

The rise in employment and wages in recent years boosted domestic demand and accelerated private consumption growth which favoured firms operating in trade and consumer services. As a result, by the end of 2019 employment in services returned to levels seen before the global financial and economic crisis of 2008–2009 with turnover increasing steadily in the last years. Data on retail trade show that turnover declined by 14.2 per cent year on year in March 2020 driven by both lower supply as a result of the temporary closure of large commercial premises and weaker demand due to decreased consumption of durable goods and formation of precautionary savings by households.

Employment Agency data confirm that during the state of emergency from 13 March to 13 May 2020 the increase in newly registered unemployed was higher than the usual for this period of the year. The total number of newly registered unemployed over that period was 130 thousand (about 4 per cent of the labour force<sup>55</sup>), which is a double increase compared to the same period of 2019. According to the Employment Agency data as of 18 May on the distribution of newly registered unemployed by economic sector in March and April wholesale and retail trade, transportation and storage, accommodation and food service activities and manufacturing posted the strongest increase in unemployed in absolute terms. Arts, entertainment and recreation also

<sup>55</sup> Data on labour force in the age group over 15 years have been used according to NSI Labour Force Survey for the first quarter of 2020.

## Newly Unemployed in the Labour Offices



Source: Employment Agency.

registered a significant rise in the number of unemployed people compared to the same period of last year. However, in absolute terms, their number is lower due to the small share of this sector in both total employment and value added in the economy.

Data provided by the National Social Security Institute (NSSI) on payments made under the measure to preserve jobs in Bulgaria through subsidised employment (the so-called 60/40 measure) give an initial indication of its effect, and it should be noted that applications for which no payments have been made are submitted. As of 14 May 2020 NSSI transferred funds under the programme totalling BGN 18.9 million to 4150 enterprises in May and 236 enterprises in April, respectively<sup>56</sup>. The measure helped preserve the jobs of 52,397 employees in March, with enterprises employing more than 50 persons benefiting most of the programme, while lower amount of funds was targeted to enterprises with fewer employees<sup>57</sup> (11.8 per cent of total amount paid whereby 13.0 per cent of employees who received a subsidy in March were employed in those enterprises). The allocation of funds by economic activity is in favour of the most affected sectors: accommodation, transport and wholesale and retail trade, to which 45.4 per cent of total funds are directed, employing 44.2 per cent of all employees who received financial support. Manufacturing enterprises also benefited from a strong support accounting for 25.7 per cent of total funds earmarked for employees in that sector amounting to 32.5 per cent of all supported persons.

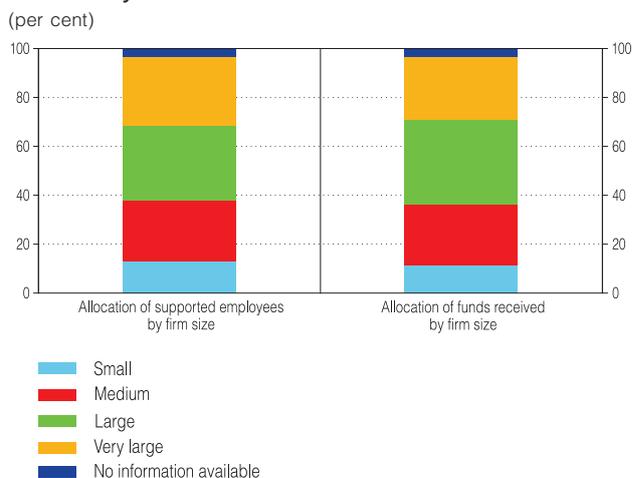
Although firms in Bulgaria usually respond to negative shocks by reducing employment (as suggests historical experience and especially during the financial and economic crisis of 2008–2009), compensation *per* employee is another possible channel through which firms will absorb the negative effects from the anti-pandemic measures. The long-term trend towards convergence of

<sup>56</sup> Currently, payments made only for April amount to BGN 1.9 million and due to the fact that the scope of the payments is still limited the analysis is focused on the payments made in March.

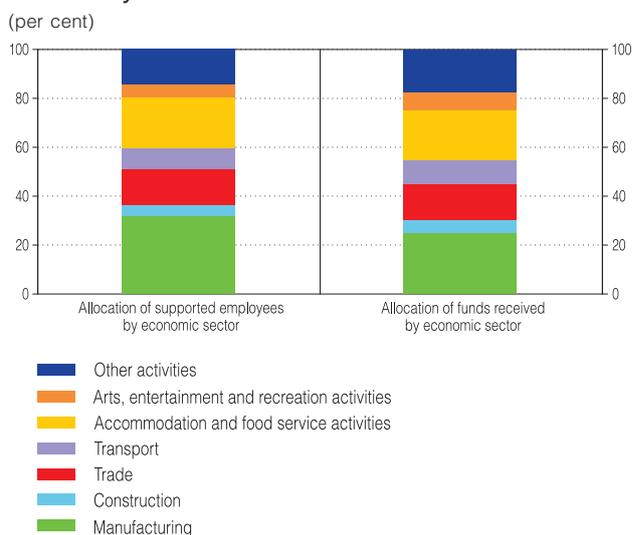
<sup>57</sup> Information from Amadeus database was used to classify enterprises by economic sector and size. Out of a total of 4150 enterprises which received payments from NSSI for March as of 14 May, data in Amadeus are available on 3875 firms (93 per cent of firms which received funds).

## Initial Data on the Allocation of Funds under the Measure to Preserve Jobs in Bulgaria through Subsidised Employment (the so-called 60/40 measure)

### Allocation of Funds Received and Staff Members Covered by Firm Size



### Allocation of Funds Received and Staff Members Covered by Economic Sector



Note: Firms are grouped by number of employees hired and sector of activity. Firms are classified by size as follows: small firms are those with less than 10 employees, medium firms with employees between 11 and 50, large enterprises with employees between 51 and 250, and very large enterprises with more than 251 employees. No information available on 6 per cent of firms.

Sources: the NSSI, Amadeus database and BNB calculations.

## Gross Value Added Change

(per cent, quarter-on-quarter; real rate, seasonally adjusted data)

	2016				2017				2018				2019			
	I	II	III	IV												
Agriculture, forestry and fishing	5.7	0.0	4.3	-1.0	5.5	0.8	1.3	0.9	-2.7	-1.4	0.9	0.2	0.6	2.5	0.2	0.4
Mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply; water supply; sewerage, waste management and remediation activities	2.0	1.7	1.6	1.4	0.9	0.5	0.1	-0.3	-0.6	-0.4	-0.2	0.2	0.7	0.8	1.0	0.9
Construction	-12.3	1.6	1.6	1.2	1.0	1.1	0.0	-0.3	0.6	-0.4	0.5	0.8	0.8	1.4	1.0	1.1
Wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities	-1.2	2.2	1.0	0.9	0.6	0.5	0.4	1.6	1.4	0.4	0.8	1.3	-0.2	-0.2	0.0	-0.6
Information and communication	7.9	1.5	0.9	1.7	-0.5	3.3	2.7	2.8	3.0	2.4	1.5	1.5	-0.2	0.7	0.6	0.5
Financial and insurance activities	3.6	2.9	-1.7	2.2	-1.0	-0.3	2.0	-1.7	1.7	0.2	1.2	2.7	0.2	2.0	0.4	1.0
Real estate activities	3.2	0.8	1.9	1.1	2.1	2.5	-0.6	4.6	3.4	1.9	2.8	2.1	0.2	2.6	0.5	-0.5
Professional, scientific and technical activities; administrative and support service activities	-1.7	1.5	0.1	-0.3	0.4	0.1	1.2	1.8	3.8	1.2	2.1	0.9	-0.4	1.6	-0.1	1.1
Public administration, education, human health and social work activities	-2.1	0.5	0.9	1.0	2.7	0.2	0.9	0.9	0.6	0.8	1.1	1.0	1.4	1.3	0.5	0.4
Culture, sport and entertainment; other activities; activities of households as employers; non-identified activities of households producing goods and services for own use; activities of extraterritorial organisations and bodies	-1.6	0.3	-0.9	1.3	2.3	0.6	2.7	0.3	0.4	0.0	1.4	0.9	0.4	1.6	-0.2	-0.1
<b>Gross value added, total for the economy</b>	<b>1.0</b>	<b>1.1</b>	<b>1.0</b>	<b>1.1</b>	<b>1.3</b>	<b>0.8</b>	<b>0.8</b>	<b>0.9</b>	<b>1.0</b>	<b>0.6</b>	<b>0.9</b>	<b>0.9</b>	<b>0.6</b>	<b>0.9</b>	<b>0.6</b>	<b>0.7</b>

Source: the NSI.

## Gross Value Added Change

(per cent; on an annual basis)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Agriculture, forestry and fisheries	31.8	-8.9	-11.9	5.9	-11.1	3.5	7.0	-7.9	7.7	9.0	-2.0	3.6
Mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply; water supply; sewerage, waste management and remediation activities	2.3	-7.4	-4.9	7.7	3.0	0.1	3.8	3.2	7.3	3.3	-1.5	2.6
Construction	15.1	6.8	-18.7	-4.0	-4.5	0.3	-3.4	4.3	-7.3	4.5	1.4	3.4
Wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities	-2.9	-4.3	13.6	3.1	-0.2	3.7	0.7	7.1	1.0	2.8	3.9	0.5
Information and communication	74.2	-2.5	0.3	12.4	-3.2	2.1	0.7	2.2	16.5	6.1	10.6	2.5
Financial and insurance activities	10.5	13.2	24.7	-3.3	-4.7	-7.5	0.0	-0.9	6.9	1.0	2.7	4.8
Real estate activities	-5.0	1.2	3.6	0.0	2.9	-2.2	2.2	2.4	5.9	7.2	11.4	5.6
Professional, scientific and technical activities; administrative and support service activities	-7.8	7.7	-7.1	2.6	-3.8	3.3	1.0	9.8	1.7	1.3	9.0	2.7
Public administration, education, human health and social work activities	1.0	0.9	2.8	-2.6	3.0	-5.1	4.1	2.2	-3.1	5.8	3.1	4.6
Culture, sport and entertainment; other activities; activities of households as employers; non-identified activities of households producing goods and services for own use; activities of extraterritorial organisations and bodies	33.9	7.1	-15.2	15.6	-6.1	1.7	2.4	8.7	-0.2	5.5	2.6	2.9
<b>Gross value added, total for the economy</b>	<b>6.2</b>	<b>-1.0</b>	<b>0.8</b>	<b>2.6</b>	<b>-0.4</b>	<b>-0.2</b>	<b>2.2</b>	<b>3.5</b>	<b>3.5</b>	<b>4.2</b>	<b>3.5</b>	<b>3.0</b>

Source: the NSI.

income levels in Bulgaria with those in the euro area coupled with strengthening labour market conditions in the country contributed to the faster growth of compensation *per* employee than labour productivity resulting in constant increase in labour costs since 2008. NSI data on average wage for the first quarter of 2020 indicate wage growth slowdown in Bulgaria which is likely to result in a wage decline quarter on quarter in the second quarter driven by firms' deteriorated financial situation and measures lowering wages in certain sectors as stated in NSI March surveys. The expected quarter-on-quarter fall in wages is a precondition to a slower growth of labour costs in the following quarters.

In the last ten years gross operating surplus increased in all main sectors except for construction, slightly deteriorating in industry since the beginning of 2018 as a result of the already mentioned internal and external factors. Higher profits reported in the last years can be used as a financial buffer during COVID-19 crisis<sup>58</sup>. Turnover data in all sectors observed by the NSI decreased substantially in March 2020, which covers only two weeks of the national state of emergency. Therefore, more significant declines in firms' sales might be expected in the following months compared to March adversely impacting their profits.

Negative effects on consumer demand and fall in company orders are expected to be concentrated mostly in the second quarter of 2020, whereby under the assumption of no second wave of COVID-19 and new tightening measures against virus spread, the recovery of firms' economic activity will start in the third quarter of the year on a quarterly basis.

## Household Behaviour

The first negative consequences of COVID-19 spread and containment measures for Bulgaria's labour market manifested themselves in increases in registered unemployment<sup>59</sup> to 8.9 per cent in April 2020 from 5.9 per cent in February.

<sup>58</sup> For more information, see the research topic Analysis of the Financial Situation of Firms and Households in the 2008–2019 Period.

<sup>59</sup> According to the Employment Agency a constant rate of labour force comprising the number of persons in the age group over 15 years since the last census of population is used to determine the unemployment rate.

## Job Vacancies/Unemployed Ratio and Average Wage

(per cent, job vacancies/unemployed) (per cent, on an annual basis)

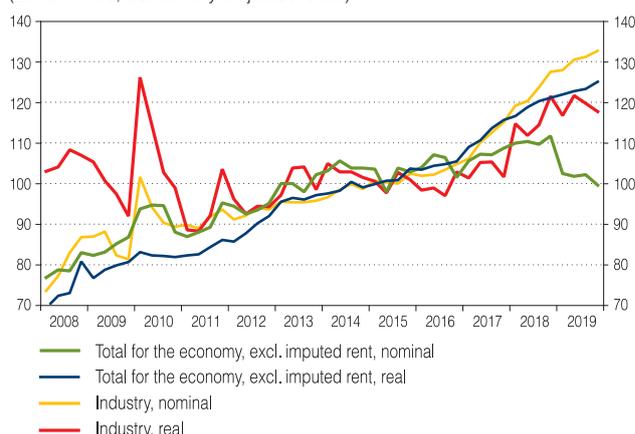


Note: The quotient between job vacancies over the month and unemployed is an indicator of the labour market conditions. If the indicator increases, fewer unemployed persons compete for one job, which is interpreted as tightening of labour market conditions.

Source: the NSI, Employment Agency, BNB calculations.

## Unit Labour Costs

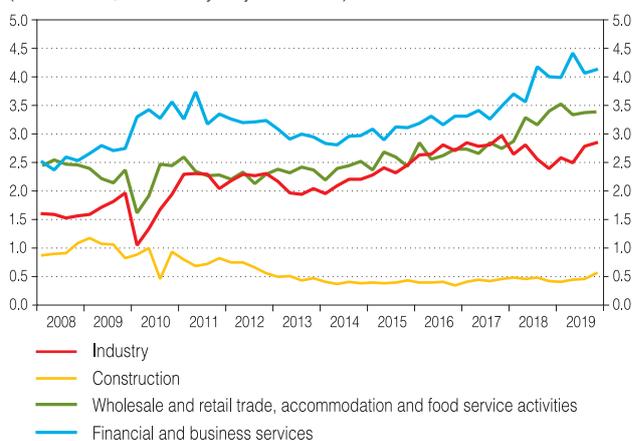
(2010 = 100; seasonally adjusted data)



Sources: the NSI, BNB calculations.

## Gross Operating Surplus at Current Prices

(BGN billion; seasonally adjusted data)



Sources: the NSI, BNB calculations.

Within about nine weeks of state of emergency the number of newly registered unemployed exceeded 130 thousands<sup>60</sup>. By comparison, during the global financial and economic crisis of 2008–2009 this number was reached within about 18 weeks. As a result of the loss of employment and income by some households consumer confidence decreased significantly, with all these factors contributing to final consumption slowdown<sup>61</sup> in the first quarter of 2020.

In the last few years the labour market was characterised by labour demand exceeding supply, pushing up wage increases and consequently labour force participation<sup>62</sup>. As of the end of 2019 economic activity of working age population reached a historically highest level, while unemployment rate<sup>63</sup> fell below its level of end-2008. According to the Labour Force Survey conducted by the NSI in the first quarter of 2020 labour supply measured by labour force declined as a result of the temporary exclusion of a large part of the population from the labour market in the context of the spread of COVID-19 and containment measures. The 60/40 measure to preserve employment was introduced by the government on 9 April and according to NSI data it was applied to around 52 thousand jobs<sup>64</sup>.

The current situation arising from the spread of COVID-19 and containment measures is another factor for a significant contraction in labour demand in the next two quarters which will also have a negative impact on employment and wage growth. In the years following the global financial and economic crisis of 2008–2009 wages rose at higher rates than consumer prices

<sup>60</sup> A more detailed Employment Agency data breakdown available only with monthly frequency shows that unskilled workers account for 46 per cent of newly registered unemployed in March and April 2020.

<sup>61</sup> According to NSI flash estimates of GDP in the first quarter of 2020.

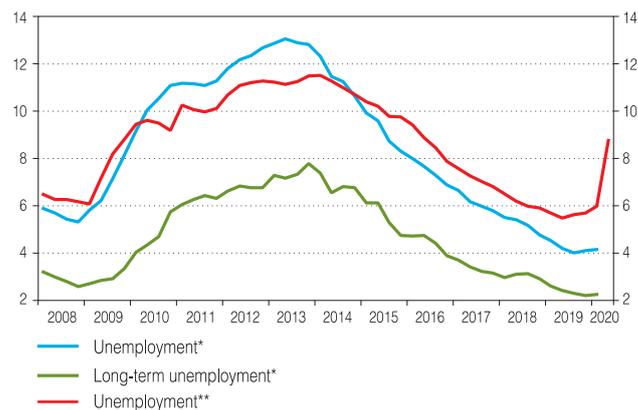
<sup>62</sup> The labour force participation rate is the relative share of economically active persons (aged 15 and older) of the population of the same age.

<sup>63</sup> Unemployment rate is the proportion between the number of unemployed and the labour force based on Labour Force Survey data. The labour force (currently economically active population) comprises persons aged 15 and older who provide the supply of labour for the production of goods or services. Labour force includes both employed and unemployed persons.

<sup>64</sup> For more details, see the Behaviour of Firms and Competitiveness Section.

## Unemployment Rate

(per cent, share of labour force, seasonally adjusted data)



\* NSI data.

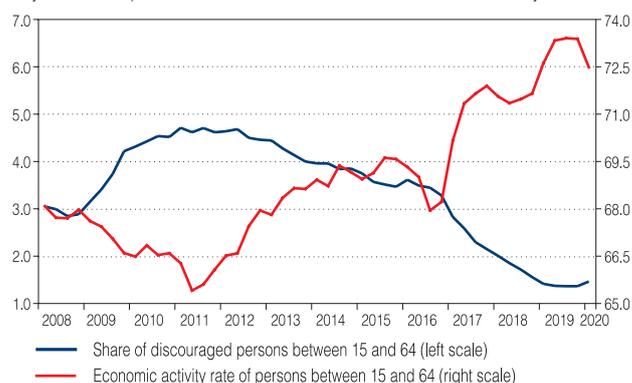
\*\* Employment Agency data.

Sources: NSI Labour Force Survey, Employment Agency, BNB calculations.

## Economic Activity and Share of Discouraged Persons

(per cent, seasonally adjusted data)

(per cent, seasonally adjusted data)

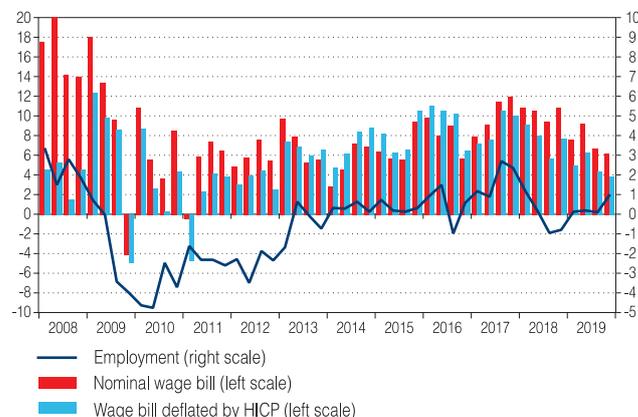


Sources: NSI Labour Force Survey, BNB calculations.

## Employment and Nominal Wage Bill

(per cent, annual change)

(per cent, annual change)



Sources: the NSI – SNA, BNB calculations.

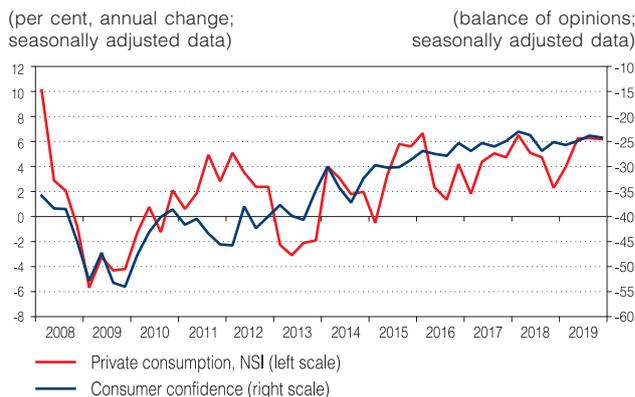
which supported households' purchasing power. Employment and households' purchasing power increase over the last years had a favourable effect on consumer confidence and consequently on private consumption which had a major contribution to real GDP growth after 2014.

According to NSI short-term employment and labour costs statistics in March 2020 the number of employed in the economy decreased by 2.3 per cent on an annual basis, while average wage slowed its growth to 5.9 per cent on an annual basis compared to an average growth of 9.3 per cent in the last years. COVID-19 containment measures and their implications on the labour market affected consumer confidence. The EC consumer survey shows that consumer confidence index dropped significantly in March and April also driven by lower households' propensity to purchase durable goods. This change reflects the strong increase in household pessimism about the future economic situation in the country and labour market conditions. In terms of households structure, pessimism increased the most in average income households (second and third quartile), whose members have a relatively higher education level, are aged between 30 and 49 and probably they would account for most of final consumer expenditure.

Household consumption was also severely impacted. In March retail trade turnover declined by 14.2 per cent on an annual basis at constant prices with only retail trade in food, drinks and tobacco and retail trade in pharmaceutical and medical goods, cosmetics and toiletries groups posting a growth which can be explained by the increased uncertainty and the ensuing hoarding of food and medicines by the population. The observed lower households' propensity to buy durable goods will probably remain unchanged given the high level of uncertainty regarding households' employment and income, and the formation of precautionary savings by some households.

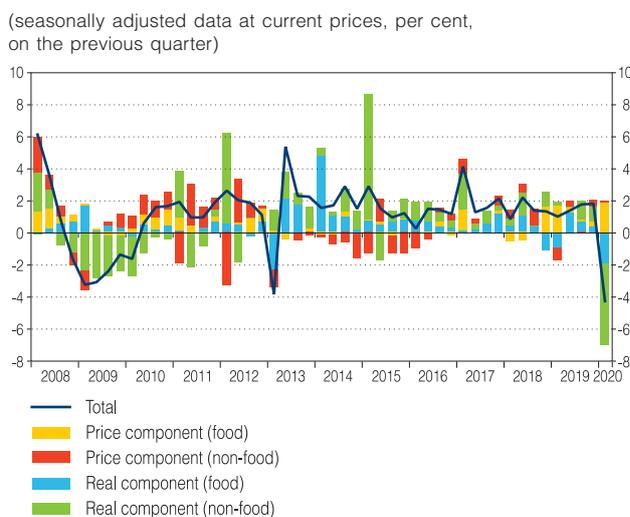
In the last ten years households were invariably a net creditor to the banking system mainly due to the increase in wages and employment over the period and to the high savings rate. NSI Household Budget Survey data show that households save around 9 per cent on average of their disposable income over that period,

### Private Consumption and Consumer Confidence



Sources: the NSI, BNB calculations.

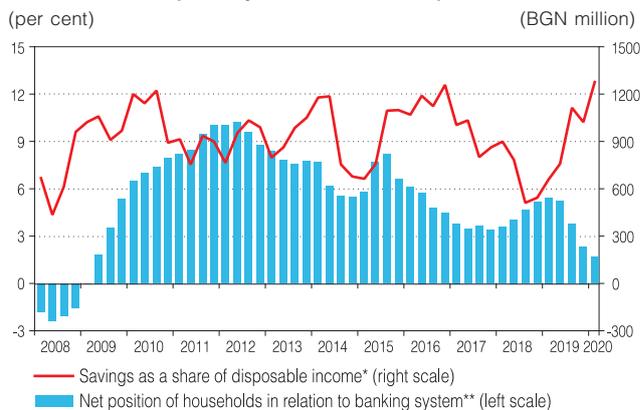
### Retail Trade Turnover



Note: Non-additive data on contributions due to direct seasonal adjustment of the total amount and its components.

Sources: the NSI, BNB calculations.

### Household Propensity to Save and Expectations



\* BNB data.

\*\* NSI data.

Sources: NSI Household Budget Survey, NSI Consumer Survey, the BNB.

this trend being sustained in the last two years despite low interest rates on bank deposits. The increase in households' savings compared to 2008 improved their financial resilience, creating a buffer in case of income or employment loss. NSI Household Budget Survey data indicate that the share of savings in household disposable income rose in the first quarter of 2020 in line with lower consumer confidence and increased uncertainty. Over the same period households' net position in the banking system measured as the difference between households' deposits and loans continued to increase on a quarterly basis though at a lower rate than in the previous quarters.

The change in households' behaviour in the following months will depend on both the scope and duration of the current COVID-19 containment measures, and on the availability

## Employment and Income Dynamics

	2016				2017				2018				2019			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
(per cent, quarter-on-quarter; seasonally adjusted data)																
Employed persons	0.3	0.5	-0.7	0.5	0.3	0.1	1.0	0.4	0.0	-0.2	-0.3	-0.2	0.3	0.0	-0.1	0.4
Nominal wage <i>per</i> employee*	1.6	0.8	1.7	1.0	3.0	2.9	2.9	2.1	2.2	1.8	2.9	2.0	1.0	1.3	0.5	1.7
Real wage <i>per</i> employee**	1.9	1.4	1.4	0.9	2.5	2.4	2.9	1.0	1.8	1.0	1.9	1.6	0.4	0.7	-0.1	1.3
Wage bill, nominal terms	1.7	1.5	1.9	1.5	2.9	2.7	3.1	2.3	2.8	2.0	2.4	2.4	1.3	2.1	1.3	1.5
Wage bill, real terms**	2.0	2.1	1.6	1.5	2.5	2.1	3.2	1.3	2.4	1.2	1.4	2.0	0.6	1.5	0.7	1.1
(per cent, on corresponding quarter of previous year, non-seasonally adjusted data)																
Employed persons	0.9	1.5	-1.0	0.6	1.2	0.9	2.7	2.4	1.2	0.2	-0.9	-0.8	0.1	0.2	0.1	1.0
Nominal wage <i>per</i> employee*	8.2	5.8	7.4	3.6	6.9	9.3	11.3	11.7	9.4	9.0	9.5	10.3	7.1	7.5	4.0	4.9
Real wage <i>per</i> employee**	9.4	8.4	8.6	4.4	6.1	7.8	10.4	9.8	7.7	6.5	5.6	7.1	4.5	4.6	1.7	2.5
Wage bill, nominal terms	9.9	8.0	9.0	5.7	8.0	9.1	11.5	12.0	10.9	10.6	9.5	10.9	7.6	9.3	6.8	6.2
Wage bill, real terms**	11.1	10.6	10.2	6.5	7.2	7.6	10.6	10.1	9.1	8.0	5.7	7.7	5.0	6.3	4.4	3.8

## Employment and Income Dynamics

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Employed persons	2.4	-1.7	-3.9	-2.2	-2.5	-0.4	0.4	0.4	0.5	1.8	-0.1	0.3
Nominal wage <i>per</i> employee*	13.5	10.6	12.0	6.5	8.0	8.3	5.6	5.8	6.2	9.9	9.6	5.8
Real wage <i>per</i> employee**	1.6	8.1	8.7	3.0	5.4	8.0	7.4	6.9	7.6	8.6	6.7	3.3
Wage bill, nominal terms	16.3	8.3	7.1	4.9	6.0	7.1	5.4	6.8	8.1	10.2	10.5	7.4
Wage bill, real terms**	4.0	5.8	4.0	1.4	3.5	6.7	7.2	8.0	9.5	8.9	7.6	4.9

\* The wage is calculated according to NSI data (SNA), with social security contributions paid by the employer deducted from the compensation per employee. The difference is divided by the number of employees.

\*\* Data deflated by HICP.

Sources: NSI – SNA, BNB calculations, Eurostat.

## Retail Trade Turnover

(per cent, quarter-on-quarter; seasonally adjusted data at constant prices)

	2016				2017				2018				2019				2020
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I
<b>Retail trade, excluding motor vehicles and motorcycles</b>	1.6	1.9	1.1	0.8	2.4	0.5	1.4	1.1	0.1	1.5	0.2	1.0	0.8	0.6	1.3	0.9	-4.7
incl.																	
Food, drinks and tobacco products	1.9	1.9	1.0	0.7	0.2	0.4	1.5	3.2	1.2	2.7	1.0	-3.0	-2.7	3.4	1.7	1.0	-4.3
Textile, clothing, footwear and leather	2.5	2.9	1.3	-0.2	12.6	-2.7	-5.3	0.5	3.9	6.4	1.8	4.9	-12.6	0.5	7.0	4.7	-20.4
Household appliances, furniture and other household goods	2.3	0.3	1.2	2.0	1.0	2.9	1.5	1.2	1.3	3.2	1.5	0.9	2.7	1.4	3.2	4.8	-7.1
Computer and communication equipment, etc.	-1.8	5.3	1.9	7.7	-1.8	0.5	0.5	2.1	6.6	1.9	-1.9	-4.0	-2.5	-1.1	1.3	0.9	-11.9
Pharmaceutical and medical goods, cosmetics and toiletries	2.0	3.5	3.6	0.9	0.9	2.4	1.3	1.3	-1.6	2.0	1.6	2.3	-2.3	0.9	1.1	2.6	4.8
Unspecialised shops with different kinds of goods	0.0	1.2	2.5	1.4	4.2	2.0	2.1	0.3	4.2	2.9	0.3	0.1	-0.9	-1.0	0.5	1.4	-1.2
Automobile fuels and lubricants	0.8	1.5	-2.2	-3.0	6.8	-2.3	1.2	-1.1	-7.6	3.5	-0.9	6.0	6.3	-2.3	1.4	-1.1	-11.2

Source: the NSI, short-term business statistics.

## Retail Trade Turnover

(per cent, on an annual basis)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>Retail trade, excluding motor vehicles and motorcycles</b>	8.9	-7.7	-8.4	0.6	5.3	3.8	10.2	11.8	6.1	5.4	3.3	3.3
incl.												
Food, drinks and tobacco products	1.6	8.7	2.0	2.5	4.8	1.5	21.9	7.2	7.3	3.7	2.6	3.8
Textile, clothing, footwear and leather	19.7	-9.0	6.9	3.0	7.2	10.9	7.8	4.1	9.7	9.1	8.2	-2.6
Household appliances, furniture and other household goods	6.8	-23.3	-16.5	-4.8	10.0	4.3	1.9	3.0	5.1	7.1	6.5	8.7
Computer and communication equipment, etc.	17.3	-24.7	-1.6	-0.4	-4.8	5.9	-3.8	10.1	2.2	6.8	7.8	-5.8
Pharmaceutical and medical goods, cosmetics and toiletries	21.8	13.6	7.9	7.6	8.9	11.3	12.2	9.7	10.7	6.7	3.8	2.5
Unspecialised shops with different kinds of goods	31.0	59.0	21.1	6.5	5.7	5.6	5.7	4.3	5.0	11.2	7.7	-1.3
Automobile fuels and lubricants	5.3	-8.5	-29.6	-2.7	6.2	-1.6	6.7	34.6	2.5	1.9	-5.3	10.1

Source: the NSI, short-term business statistics.

of liquidity buffers (savings). Given the unprecedented suspension of operations in a number of economic sectors and the rapid increase in the unemployment rate in March and April the negative impact on households' employment and income is expected to be stronger in the second and third quarters of 2020 than that at end-2008. There are currently some factors which will partly limit the adverse consequences to households' employment and income in Bulgaria. These factors include the lifting of containment measures which started in May and the labour market situation before the spread of COVID-19, and in particular significant labour shortage<sup>65</sup>.

<sup>65</sup> According to NSI business surveys, around one-third of firms indicated in 2019 that the lack of personnel (including skilled personnel) hamper their activity compared to one-seventh before the outbreak of the global financial and economic crisis in 2008–2009.

## Fiscal Policy Impact on the Economy

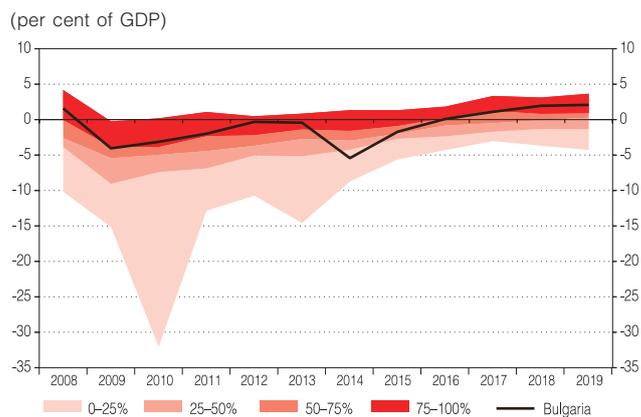
Bulgaria is among EU countries having the most favourable fiscal position before the beginning of the COVID-19 crisis. Low debt burden and the availability of significant liquidity buffers provide the government with fiscal space to undertake discretionary measures to overcome the consequences of the crisis, while minimising the risks to public finance sustainability in the context of a protracted period of subdued economic activity worldwide and increased volatility in financial markets.

In the 2016-2019 period public finance sustainability improved driven by the favourable macroeconomic environment, measures boosting tax collection and to a lesser extent the positive effects of discretionary changes in social security policy and income policy. Good tax revenue performance combined with a gradually increasing absorption of EU Operational Programme funds helped implement priority expenditure policies in sectors of key importance for the long-term potential growth of the Bulgarian economy such as road infrastructure, education and healthcare. Concurrently, budget surpluses were reported over that period with a general government budget balance of 2.1 per cent of GDP at end-2019 (with a deficit of 1 per cent of GDP on a cash basis mainly as a result of a one-off payment in August 2019 related to Bulgarian army modernisation). The general government consolidated debt accounted for 20.4 per cent of GDP at the end of 2019, significantly below the EU average, and along with the lowest government bond yields ever predetermined the historically low debt interest payments (0.56 per cent of GDP).

Consolidated fiscal programme (CFP) budget surpluses recorded a positive trend in the last four years continuing in the first three months of 2020. By the end of the first quarter CFP surplus amounted to BGN 1427 million, down BGN 380 million compared to the reported surplus for the same period of last year. Data on consolidated fiscal programme performance as of March 2020 have not yet been significantly affected by the COVID-19 crisis reflecting only the most immediate effects of the measures provided for in the Law on Measures and Actions during the State of Emergency (LMASE).

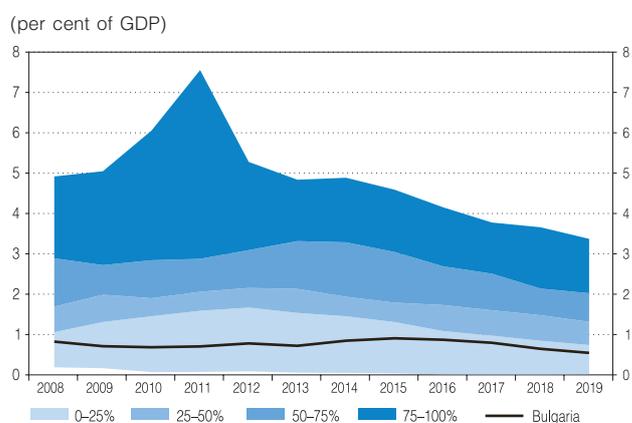
In March 2020 annual budget revenue growth stood at 1.1 per cent slowing down on March

## General Government Budget Balance: Quartile Chart Based on EU Countries Data



Sources: Eurostat, BNB calculations.

## Interest Expenditures: Quartile Chart Based on EU Countries Data



Sources: Eurostat, BNB calculations.

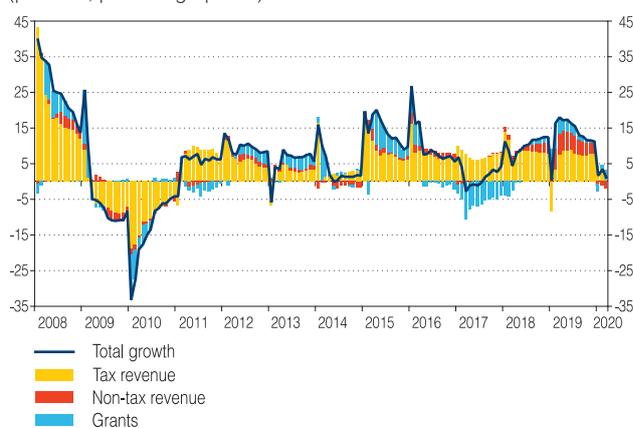
2019 (from 17.8 per cent) due to the decline in non-tax revenue and the lower grant and tax revenue growth. Lower revenue into the Electric Power System Security Fund's budget due to the decreased 'obligation to society' fee between 2019 and 2020 made the main negative contribution to non-tax revenue dynamics on an annual basis. As a result of the measures related to the state of emergency by March non-tax revenue in municipal budgets and state budget declined by 8.0 per cent and 0.4 per cent on respectively an annual basis.

By March 2020 tax revenue rose by 0.7 per cent on annual basis, measures introduced by the LMASE impacting most strongly corporate tax revenue (a 41.5 per cent annual decline) as a consequence of the extension of deadlines under the Corporate Income Tax Law. Social security and health insurance contributions led tax revenue growth, though their growth rate moderated to 7.9 per cent compared to the high rates recorded in 2019 and early 2020. Concurrently, revenue from personal income tax increased by 8.8 per cent on an annual basis. By end-March revenue from indirect taxes has not yet reflected the deteriorating economic environment in Bulgaria. In March revenue from value added tax was at the same level as in the corresponding period of the previous year. Revenue from value added tax on imports, which posted an annual decrease by end-2019, remained also lower by March (-5.4 per cent). VAT receipts from domestic and intra-Community acquisitions (net) marked an increase of 3.1 per cent on an annual basis.

On the expenditure side of the budget, the impact of the outbreak that started in March was limited to finance directly the most urgent costs in the healthcare system. At the end of the first quarter of 2020 total expenditures on the consolidated fiscal programme grew 5.5 per cent on an annual basis driven largely by staff costs (3.1 percentage points) and social payments (2.8 percentage points). Higher staff costs reflected mainly the rise in the budget sector staff incomes included in the fiscal framework and wage increases in education. Compared to the end of 2019, an accelerated growth in current operating expenditure (to 5.8 per cent) was observed, with social payments retaining their high growth rates (6.2 per cent). Capital expenditure had a positive, though relatively minor contribution to budget expenditure growth over

### Contributions of Major Groups of Revenue to Growth in Total Revenue and Grants, Cumulatively (on an Annual Basis)

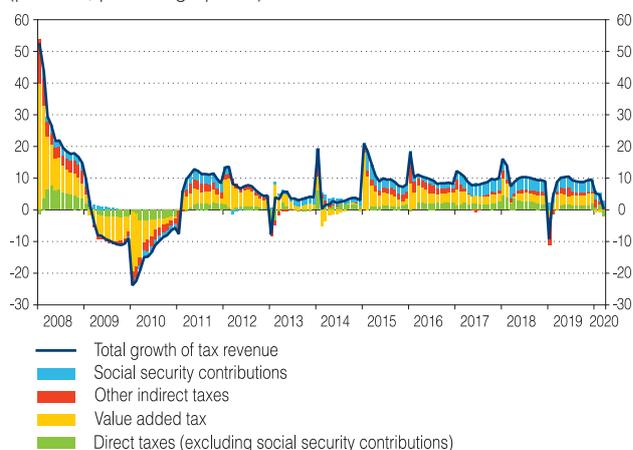
(per cent; percentage points)



Sources: the MF, BNB calculations.

### Contributions of Major Tax Groups to Tax Revenue Growth, Cumulatively (on an Annual Basis)

(per cent; percentage points)



Sources: the MF, BNB calculations.

the first quarter. They picked up by 8.2 per cent on an annual basis, entirely due to the increase in EU co-financed investments (30.0 per cent), while national investments exhibited a decline (-21.8 per cent). Based on cash-based implementation of the state budget by March 2020, an increase in government consumption, social transfers and investment may be expected over the first quarter of the year, which will somewhat curb the negative effects of the COVID-19 crisis on domestic economic activity.

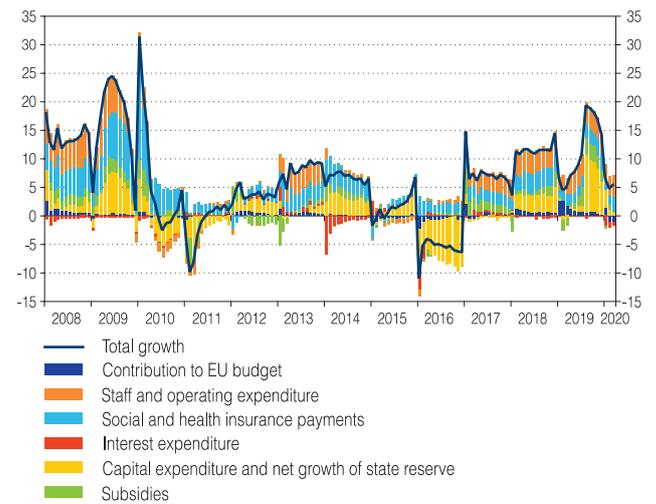
Expectations about key indicators of fiscal developments in the second and third quarters of 2020 will reflect both the effects of automatic stabilisers' operation in the budget and the direct and secondary effects from government discretionary measures (see the research topic Impact of the COVID-19 Crisis on Public Finances). Budget effects of the measures intended to provide the necessary additional funds for the operation of healthcare system and other key systems, such as the internal security under the COVID-19 pandemic, are expected to manifest earliest. These measures are expected to feed through to more substantial rise in government consumption, which, based on the parameters included in the Law on Amendment of State Budget Law for 2020, should be accompanied by partial containment of other not so urgent costs, such as investment expenditure.

In the second and third quarters an increasingly negative impact of declining economic activity on tax and non-tax revenues may be expected along with a significant increase in social payments. At the current juncture, it is very difficult to assess the extent to which adopted discretionary measures could mitigate this negative impact on the revenue side of the budget.

Indirect tax revenue, where there is a time shift between recording an accrual basis and payment of around a month, should report the most significant decrease in the second quarter of 2020 tending to gradually recover thereafter. The shift of acceptable time limits for paying corporate tax by the end of June should somewhat cushion the decline observed in this revenue by end-March. The dynamics of labour income taxes and social security and health insurance contributions will largely follow the expected contraction in labour demand, while the retention of employees despite the reduced companies' turnover will

### Contribution of Major Groups of Expenditure to Total Expenditure Growth, Cumulatively (on an Annual Basis)

(per cent; percentage points)



Notes: In the Consolidated Fiscal Programme reports of January 2016, payroll costs include wage, insurance and other remunerations, while in the reports for past periods, the latter were included in operating expenditure. To prevent data inconsistencies prior to and after January 2016 resulting from the methodological change, staff and operating expenditure are presented aggregately in the chart and separately in the table Key Budget Indicators Performance for 2019 and 2020.

Sources: the MF, BNB calculations.

## Key Budget Indicators Performance for 2019 and 2020

Consolidated Fiscal Programme	2019 January–March <sup>1</sup>		2020 January–March <sup>1</sup>	
	BGN million	per cent <sup>2</sup>	BGN million	per cent <sup>2</sup>
<b>Total revenue and grants</b>	<b>10,858</b>	<b>17.8</b>	<b>10,977</b>	<b>1.1</b>
Tax revenue	8,520	8.8	8,581	0.7
incl. social security and health insurance contributions	2,455	10.8	2,649	7.9
Non-tax revenue	1,776	41.6	1,562	-12.0
Grants	562	312.6	834	48.5
<b>Total expenditure (incl. the contribution to EU budget)</b>	<b>9,051</b>	<b>4.9</b>	<b>9,550</b>	<b>5.5</b>
Staff	2,281	13.4	2,563	12.4
Operating expenditure	910	-3.8	963	5.8
Interest	376	-0.6	320	-15.0
Social expenses, scholarships	4,084	4.4	4,336	6.2
Subsidies	403	-21.2	418	3.8
Provided current and capital transfers abroad	7	-4.8	8	16.9
Capital expenditure and government reserve growth	524	-5.4	569	8.6
incl. capital expenditure	525	-5.2	568	8.2
Contribution to general budget of the European Union	466	51.2	374	-19.8
	BGN million	difference <sup>3</sup> (BGN million)	BGN million	difference <sup>3</sup> (BGN million)
<b>Budget balance, on a cash basis</b>	<b>1,807</b>	<b>1,214</b>	<b>1,427</b>	<b>-380</b>
Tax revenue under the state budget	2019 January–March <sup>4</sup>		2020 January–March <sup>4</sup>	
	BGN million	per cent <sup>2</sup>	BGN million	per cent <sup>2</sup>
<b>Tax revenue</b>	<b>5,813</b>	<b>8.5</b>	<b>5,680</b>	<b>-2.3</b>
Corporate tax	522	-12.1	305	-41.5
Income tax for individuals	917	7.5	998	8.8
Value added tax	2,941	14.8	2,941	0.0
Excise duties	1,277	6.8	1,321	3.5
Customs duties and taxes	59	-7.4	55	-7.4
Insurance premia tax	11	24.2	12	12.0
Other taxes	87	9.0	48	-44.5

Note: The difference between the sum of individual components and total sum is due to rounding.

<sup>1</sup> Based on monthly reports on cash-based performance of the Consolidated Fiscal Programme.

<sup>2</sup> Annual rate of change on the same period of previous year.

<sup>3</sup> The change of the budget balance on the same period of previous year.

<sup>4</sup> Based on monthly reports on cash-based implementation of the state budget.

Source: the MF.

broadly depend on the efficiency of government's measures to support firms financially most affected by COVID-19 containment measures. By mid-May BGN 18.9 million of the total amount of BGN 1.8 billion from the national budget were paid to support businesses and employees under the measure to preserve jobs in Bulgaria through subsidised employment (the so-called 60/40 measure)<sup>66</sup>; the programme for providing interest-free loans to individuals has been launched and the work on programme for portfolio guarantee in support of micro-, small and medium enterprises is to be initiated.

<sup>66</sup> For more details, see the Behaviour of Firms and Competitiveness Section.

# 4. INFLATION

The economic effects from the spread of COVID-19 and the containment measures resulted in inflation in Bulgaria slowing down to 1.3 per cent in April 2020, after three years of mostly an accelerating trend. This acceleration reflected to a large extent the upward price dynamics of food and core HICP components. The slower overall inflation in the first two months of the state of emergency period, announced on 13 March 2020, was mainly due to the negative contribution of energy products, with their downward dynamics determined by the substantial decrease in international oil prices. The slowdown in core inflation also had a restricting effect on the rate of price increases. Concurrently, food inflation remained close to the high levels already reached, driven mainly by internal factors, whereas the effect of the spread of COVID-19 on prices in the group remained limited.

In the second and third quarters of 2020 inflation is expected to decline further. Lower demand and the uncertain economic environment are expected to contribute to core inflation slowing down, while the projected fall in the prices of energy products reflects mainly the market expectations about the developments in international oil prices in euro. However, food inflation may slow down, driven mainly by the groups of meat and cereal products.

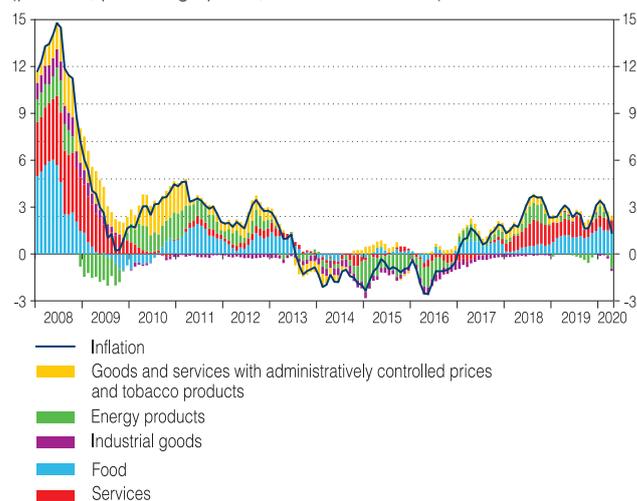
In the first two months of the state of emergency announced on 13 March 2020 annual inflation slowed down on end-2019 to 1.3 per cent by April<sup>67</sup> (3.1 per cent in December 2019), after gradual acceleration in price growth was observed in 2018 and 2019 and in the first two months of 2020. Despite the divergent price developments across groups, the spread of COVID-19 and the containment measures determine to a large extent the deceleration observed in overall inflation.

Lower inflation in March and April was mainly due to the negative contribution of energy products. The COVID-19 containment measures undertaken in many countries had a substantial negative impact on oil demand and international oil prices fell sharply in March and April, this dynamics determining oil prices in Bulgaria. The national state of emergency additionally limited oil demand and in April a 16.3 per cent deflation rate in transport fuel was recorded against the backdrop of a 66 per cent annual decrease in oil prices in euro. Goods and services with administratively controlled prices and tobacco products also contributed to slower annual inflation, the contribution of this group decreasing substantially. Concurrently, the group of food and HICP core components continued to have the largest positive contribution to inflation in March and April, though moderating slightly compared to the end of 2019 and the period before the declaration of a national state of emergency.

<sup>67</sup> The analysis in this section employs NSI data on HICP.

**Annual Inflation and Contribution of Major Commodity and Services Groups to It**

(per cent; percentage points; on an annual basis)



Notes: This structure corresponds to the Eurostat classification; tobacco products and goods and services with administratively controlled prices are presented separately. The index of goods and services with administratively controlled prices is calculated through the elementary aggregates level in the consumer basket.

Sources: the NSI, BNB calculations.

In April 2020 food inflation moderated slightly to 5.8 per cent, but on average for the first quarter of 2020 it remained unchanged compared to the end of 2019. The lower positive contribution of unprocessed food played a key role in the deceleration. At the same time, processed food inflation was 4.0 per cent, from 3.4 per cent in end-2019, with the group of food products not elsewhere classified contributing most. Inflation in this group was mainly driven by ready-to-eat foods available in food shops and supermarkets, reflecting most likely meat price increases due to the spread of African swine fever in Bulgaria.

Annual inflation in the unprocessed food slowed down on end-2019 to 9.1 per cent in April 2020, from 11.8 per cent in December 2019, largely reflecting the lower prices of vegetables, while the group of meat and meat products continued to contribute the most to unprocessed food inflation. Higher pigmeat prices resulted from reduced supply, higher producer prices<sup>68</sup> and higher import prices reflecting the spread of the African swine fever worldwide and in Bulgaria. The negative effects of the spread of COVID-19 on the prices of vegetables imported in Bulgaria by April can be defined as limited<sup>69</sup>.

In early 2020 core inflation (including services and non-energy industrial goods prices) slowed down from the end of 2019 (1.3 per cent in April *vis-à-vis* 1.8 per cent in December 2019) entirely due to the deflation reported in industrial goods (against low positive inflation in 2019). In the first two months since the announcement of the COVID-19 containment measures the growth rate of the prices of core HIPC components remained relatively weak, unlike the one recorded over the last two years. The upward trend in core HIPC components prices over the 2018–2019 period was driven by the increases in services prices in the context of higher private consumption. However, core inflation remained significantly below its historical peak recorded in 2008 just before the global financial and economic crisis.

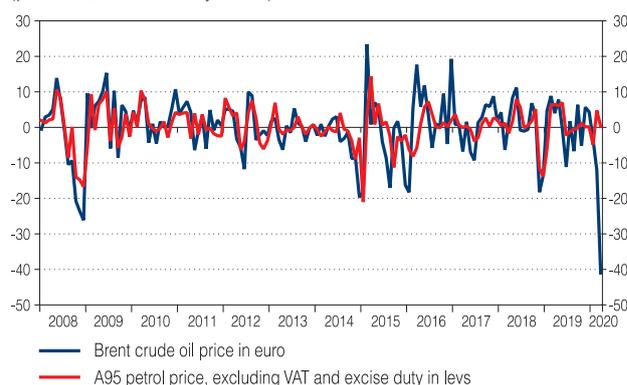
In April inflation in the services group remained unchanged from end-2019, reaching 2.9 per cent. It was mainly driven by the relatively high positive contribution of catering and transport services, likely reflecting the difficulties in col-

<sup>68</sup> NSI data on producer prices and indices of agricultural produce for the fourth quarter of 2019.

<sup>69</sup> The analysis employs Commodity Exchange and Wholesale Markets State Commission Monthly and Weekly Bulletin data on wholesale prices of basic foodstuff, fruit and vegetables.

### Monthly Rate of Change in Brent Crude Oil and A95 Petrol Prices

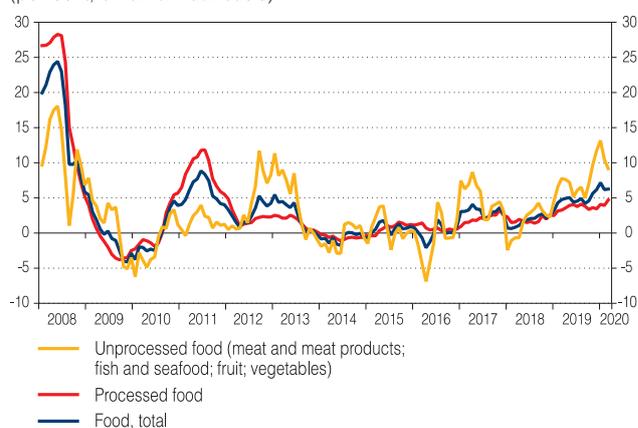
(per cent, on a monthly basis)



Sources: the ECB, the NSI, BNB calculations.

### Rate of Change of Food Price Index

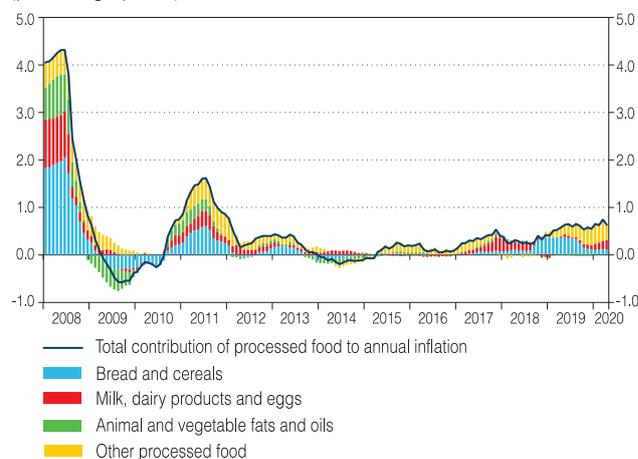
(per cent, on an annual basis)



Sources: the NSI, BNB calculations.

### Contribution of Major Sub-groups of Processed Food to Overall Inflation

(percentage points)



Sources: the NSI, BNB calculations.

lecting price observations under a state of emergency. In light of the containment measures against the COVID-19 spread, the supply of some services was seriously constrained (catering, transport services), while that of others was completely absent (recreational and cultural services, package holidays). According to the NSI information, the collection of prices in March and April was hampered, using price imputation methods in accordance with Eurostat methodological recommendations agreed with EU countries to assess missing observations<sup>70</sup>. The continuing trend towards lower telecommunication services prices further limited price increases in this group.

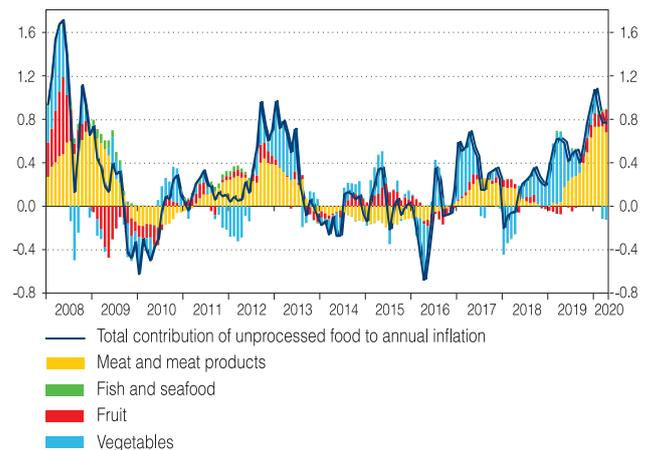
After the deflation observed in non-energy industrial goods since early 2010 was reversed in 2019, price decreases were observed again in the period before the COVID-19 spread in 2020 in Bulgaria. Weaker demand for goods in this group stemming from the uncertain economic environment and limited business activity on commercial premises contributed to further price decreases in the group after the declaration of containment measures in order to halt the spread of COVID-19, with deflation amounted to -0.8 per cent in April (-0.4 per cent in February). Durable goods (excluding motor vehicles) were of key importance for the increased negative contribution of the group to core inflation. In April deflation was recorded in the group of clothing and footwear, with these trends expected to continue over the next months under the influence of weaker consumer demand and closures of commercial properties during the state of emergency.

In April 2020 the growth rate of administratively controlled goods and services prices and tobacco products fell relative to the 2020 period prior to the COVID-19 spread in Bulgaria to 1.4 per cent (2.3 per cent in February). Slowing inflation in this group was driven to a large extent by the lower positive contribution of administratively controlled prices, while the rate of price increases in tobacco products remained close to the one observed before the declaration of a national state of emergency (2.4 per cent in April 2020 against 2.3 per cent in February). The deceleration of inflation in the group was mainly

<sup>70</sup> For details, see NSI [press release](#) of 31 March 2020 on the change in its organisation of work and [press release](#) on the inflation in April.

### Contribution of Major Sub-groups of Unprocessed Food to Overall Inflation

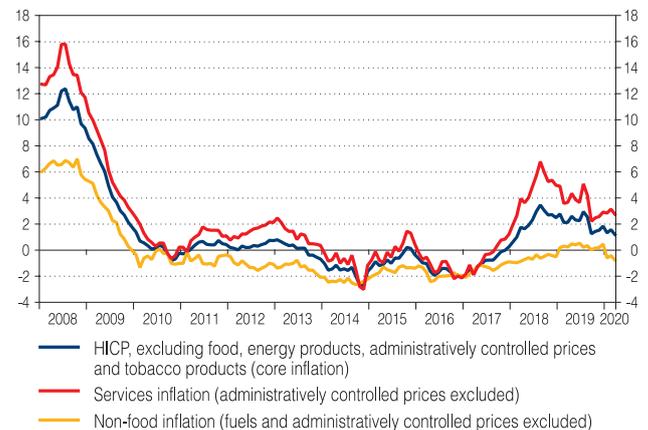
(percentage points)



Sources: the NSI, BNB calculations.

### Core inflation

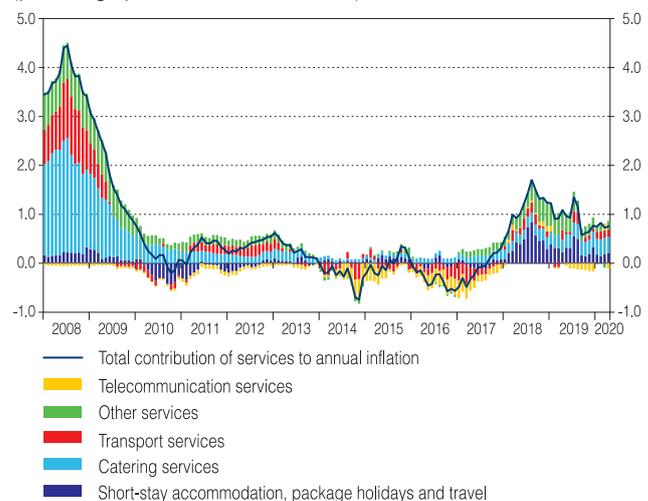
(per cent; on an annual basis)



Sources: the NSI, BNB calculations.

### Contribution of Inflation in Services and Major Services Sub-groups to Overall Inflation

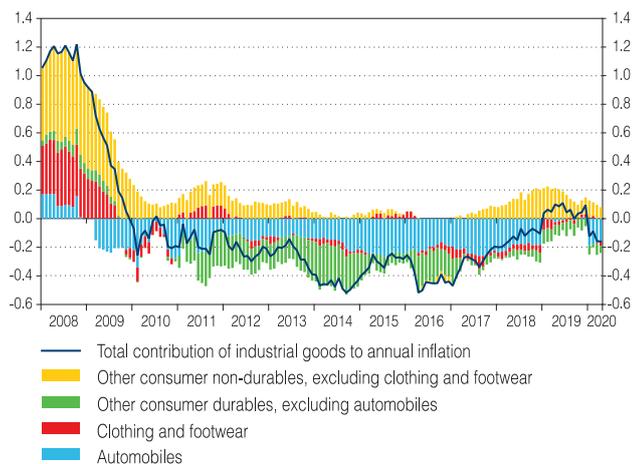
(percentage points; on an annual basis)



Sources: the NSI, BNB calculations.

### Contribution of Inflation in Non-food Goods (Excluding Energy Products) and Major Services Sub-groups to Overall Inflation

(percentage points)



Sources: the NSI, BNB calculations.

driven by the 43 per cent decrease of the price of natural gas in April approved by the Energy and Water Regulatory Commission (EWRC)<sup>71</sup> and the related cuts of 22 per cent in heating prices for the companies, using natural gas as the main energy carrier<sup>72</sup>. Medical and pharmaceutical products retaining their upward inflation dynamics since mid-2019 had a restricting effect on price decreases in this group<sup>73</sup>.

The slowdown in overall inflation observed in the beginning of the year was consistent with producer price dynamics. In early 2020 the annual growth rate of the overall producer price index (PPI) decelerated significantly to 2.6 per cent in March (4.5 per cent in December 2019). The lower growth rate of electricity and heating producer prices<sup>74</sup> and lower growth rate in manufacturing prices largely due to the negative contribution of the production of coke and refined petroleum products sub-sector played a key role for the slowdown. Lower transport fuel consumer prices were in line with these developments. In addition, the end-use classification shows that the growth rate of consumer non-durables prices accelerated since early 2020 (3.6 per cent in March), with the strongest contribution being of the group of processing and

<sup>71</sup> For details, see EWRC [press release](#) of 1 April 2020.

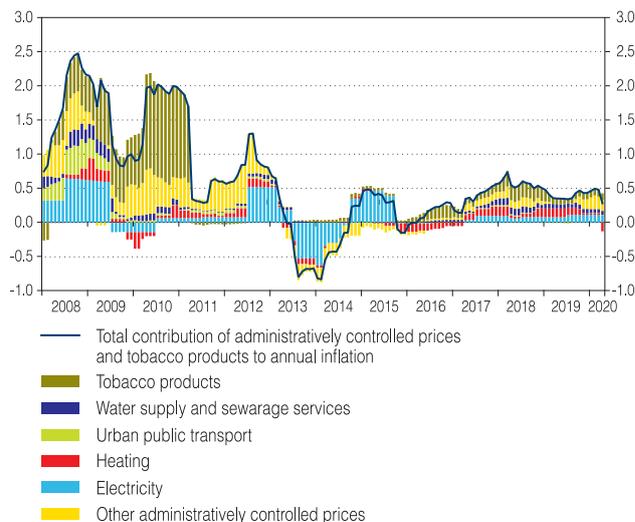
<sup>72</sup> For details, see EWRC [press release](#) of 1 April 2020 on electricity prices and decisions.

<sup>73</sup> From 6 August 2019, amendments to [the Ordinance on Terms, Rules and Procedures for Regulation and Registration of Prices of Medicinal Products](#) entered into force.

<sup>74</sup> It should read the group of production and distribution of electricity, heating, and gaseous fuels.

### Contribution of Tobacco Products and Major Sub-groups of Goods with Administratively Controlled Prices to Overall Inflation

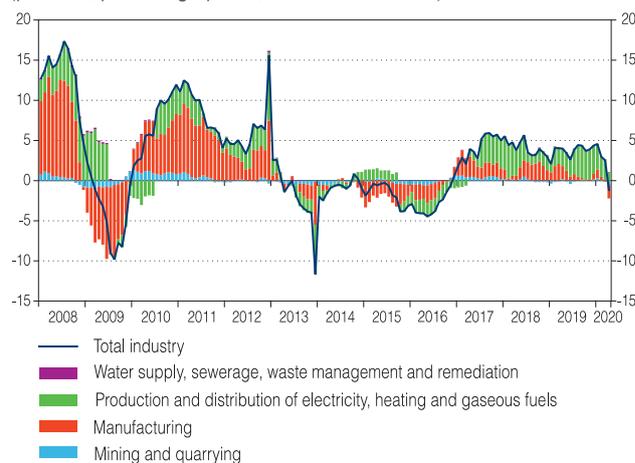
(percentage points; on an annual basis)



Sources: the NSI, BNB calculations.

### Rate of Change in PPI on the Domestic Market and Contribution by Major Sub-sectors

(per cent; percentage points; on an annual basis)



Source: the NSI.

preserving of meat<sup>75</sup> (2.6 percentage points). The acceleration of food inflation due to the spread of African swine fever in Bulgaria<sup>76</sup>, which was observed since the second quarter of 2019, was also consistent with these dynamics.

Price dynamics following the declaration of a national state of emergency matched the results from the NSI's business survey in April, which reflected the negative impact of the spread of COVID-19 on managers' expectations. As regards anticipated selling prices over the following three months, a significant increase in the share of managers expecting price decreases in services, manufacturing and retail trade was observed. This indicates a slight decline in consumer prices over the next months.<sup>77</sup>

The latest available data on house prices refer to 2019 and, hence, the COVID-19 spread period and the establishment of a state of emergency in Bulgaria are not covered by them. Therefore, the data provide information only on the initial market conditions before the onset of the COVID-19 pandemic. In the fourth quarter of 2019 the house price index indicates that prices continued to increase on an annual basis (by 6.2 per cent against 5.5 per cent at the end of 2018). House prices were 13 per cent lower than the maximum values recorded in the third quarter of 2008. Estimates obtained on the basis of a BNB macroeconomic model<sup>78</sup> suggest that in the fourth quarter of 2019 residential property prices in Bulgaria remained slightly above their long-term equilibrium value dependent on fundamental factors, such as the income level, interest rates on housing loans and FDI inflows.

Containment measures against the spread of COVID-19 are expected to have a negative effect on household income in terms of both employment and wages, suggesting possible weaker demand for housing and falling house prices in the second and third quarters of 2020. The very limited activity in the housing market over the

<sup>75</sup> This refers to the sub-group of processing and preserving of meat and production of meat products.

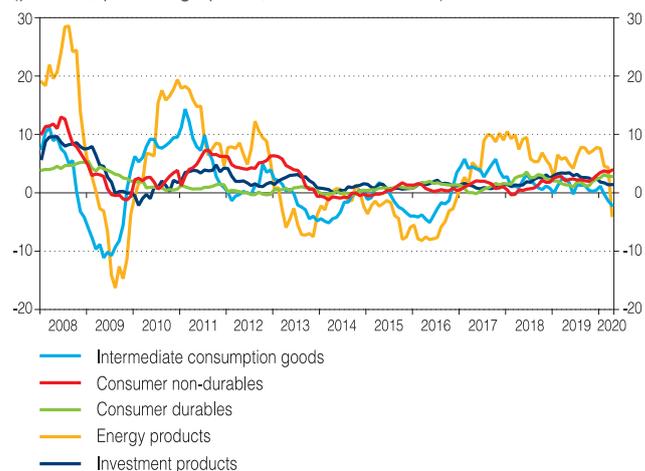
<sup>76</sup> The disease was registered in Bulgaria in July 2019.

<sup>77</sup> Despite the observed fall of the balance of opinions, the NSI business survey results in April 2020 suggest that the share of managers in the sectors of services, manufacturing and retail trade, who expect selling prices to retain their present levels over the following three months, remains much higher than the share of those who expect prices to fall.

<sup>78</sup> Additional information on this model in the research topic Dynamics of House Prices in Bulgaria between 2000 and 2016, Economic Review, issue 1 of 2017.

### Annual Rates of Change in Producer Prices on the Domestic Market by Major Industrial Groupings

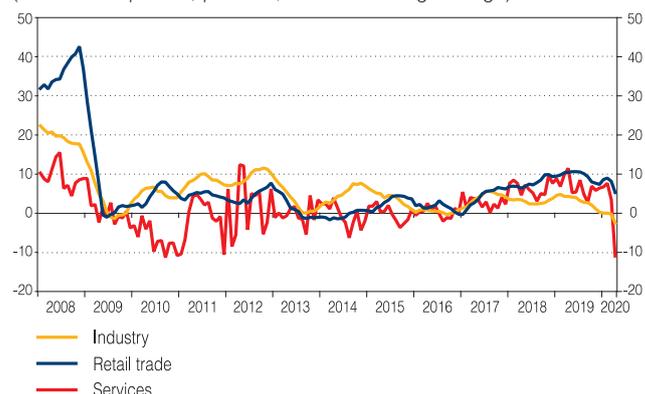
(per cent; percentage points; on an annual basis)



Source: the NSI.

### Expectations of Selling Prices in Industry, Retail Trade and Services in the Next Three Months

(balance of opinions, per cent, 6-month moving average)



Source: the NSI.

### Rate of Change of House Prices

(per cent; on an annual basis)



Source: the NSI.

## Key Indicators of the Housing Market in Bulgaria

(per cent; year-on-year change)

Indicators	2016	2017	2018	2019	2019			
					I	II	III	IV
<b>Price developments</b>								
House Price Index, total	7.0	8.7	6.6	6.0	7.3	5.0	5.6	6.2
New dwellings	6.4	6.7	5.7	8.5	11.9	7.5	5.8	8.7
Existing dwellings	7.3	9.7	7.0	4.8	5.0	3.8	5.5	4.9
Inflation (HICP)	-1.3	1.2	2.6	2.5	2.5	2.8	2.2	2.3
House rentals, paid by tenants (HICP)	0.6	1.0	1.9	3.3	3.1	3.7	3.3	3.0
<b>Lending</b>								
New housing loans	7.4	32.7	14.9	0.0	6.2	9.7	14.8	18.7
Annual percentage rate of charge on new housing loans (per cent, at the end of the period)*	5.4	4.4	3.9	3.5	3.8	3.7	3.6	3.5
Housing loans balances	-15.3	12.6	18.4	-1.4	-0.3	0.2	13.6	14.5
<b>Construction and investment</b>								
Permits issued for the construction of new residential buildings (square meters)	4.8	32.5	39.0	-7.9	26.6	5.4	-5.4	-38.5
Value added in construction (at average annual prices for 2015)	-7.3	4.5	1.4	3.4	-1.9	6.6	3.2	5.3
Constriction Production Index, building construction	-16.1	10.9	2.6	8.4	10.3	7.8	9.7	5.7
Fixed investment; residential buildings**	102.1	19.2	-2.2	1.5	-0.5	0.2	0.2	4.8
Construction cost index for new buildings	0.8	2.5	2.9	0.0	4.7	5.2	4.5	5.8

\* Values indicating the amount of the APRC on housing loans to households are averages weighted by the relevant volumes of new loans for a 12-month period.

\*\* The high annual growth of fixed investment in 2016 is due to repayments under the Energy Efficiency of Multi-family Residential Buildings National Programme.

Sources: the NSI, the BNB, Eurostat.

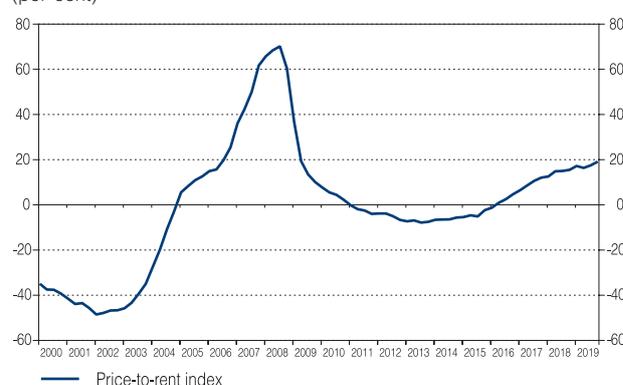
second quarter, reflecting the COVID-19 containment measures, will probably adversely affect the information content of house prices for this period.

We expect that the containment measures will have a negative impact on inflation in the second and third quarters of 2020, with disinflationary effects in terms of subdued demand dominating inflationary effects in terms of supply constraints of some goods and services. Energy products (under the influence of falling international oil prices) will contribute most significantly to downward inflation dynamics. Projected weaker private consumption will determine the slower inflation rate in services and a continuing downward trend in the prices of industrial goods. Additional substantial decreases in the price of natural gas announced by the EWRC (49 per cent in May compared to the price until March<sup>79</sup>) and of heating (24.9 per cent in May compared to that until March<sup>80</sup>) is also anticipated to contribute to the slowdown in overall inflation. We expect that the inflation rate in the food group will moderate, a development that will be particularly pronounced

<sup>79</sup> For details, see EWRC [press release](#) of 1 May 2020.

<sup>80</sup> For details, see EWRC [press release](#) of 1 May 2020 on the change in heating and electricity prices.

### Price-to-Rent Ratio (Percentage Deviation from Long-term Average Value) (per cent)



Sources: the NSI, BNB calculations.

## Rates of Change in Commodities and Services Prices and Their Contribution to Inflation

	Inflation accumulated as of April 2019 (December 2018 = 100)		Inflation accumulated as of April 2020 (December 2019 = 100)		Annual rate of inflation as of April 2020 (December 2018 = 100)	
<b>Inflation (per cent)</b>	<b>1.3</b>		<b>-0.4</b>		<b>1.3</b>	
	inflation rate by group (per cent)	contribution (percentage points)	inflation rate by group (per cent)	contribution (percentage points)	inflation rate by group (per cent)	contribution (percentage points)
<b>Food</b>	<b>3.8</b>	<b>0.9</b>	<b>3.5</b>	<b>0.9</b>	<b>5.8</b>	<b>1.4</b>
Processed food	1.3	0.2	1.9	0.3	4.0	0.6
Unprocessed food	9.0	0.7	6.4	0.6	9.1	0.8
<b>Services</b>	<b>-0.2</b>	<b>0.0</b>	<b>-0.2</b>	<b>0.0</b>	<b>2.9</b>	<b>0.8</b>
Catering	1.5	0.1	1.8	0.1	6.1	0.3
Transport services	-0.5	0.0	2.4	0.1	4.9	0.1
Telecommunication services	-0.9	0.0	-1.4	-0.1	-3.9	-0.2
Other services	-0.5	-0.1	-1.2	-0.1	3.7	0.5
<b>Energy products</b>	<b>3.5</b>	<b>0.3</b>	<b>-13.2</b>	<b>-1.0</b>	<b>-12.7</b>	<b>-0.9</b>
Transport fuels	4.8	0.3	-17.0	-1.0	-16.3	-7.3
<b>Industrial goods</b>	<b>0.7</b>	<b>0.1</b>	<b>-0.5</b>	<b>-0.1</b>	<b>-0.8</b>	<b>-0.2</b>
<b>Goods and services with administratively controlled prices*</b>	<b>0.2</b>	<b>0.0</b>	<b>-0.7</b>	<b>-0.1</b>	<b>1.1</b>	<b>0.2</b>
<b>Tobacco products</b>	<b>0.0</b>	<b>0.0</b>	<b>0.2</b>	<b>0.0</b>	<b>2.4</b>	<b>0.1</b>

\* The index of goods and services with administratively controlled prices is calculated through weighting the relevant elementary aggregates in the consumer basket.

Sources: the NSI, BNB calculations.

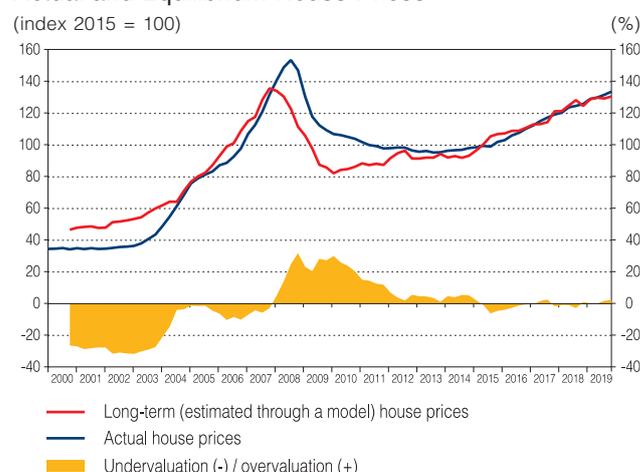
in the meat and meat products group due to a base effect from price increases in this group over the last year. The significant reduction in the price of natural gas, which is the main energy source for a large part of bread producers, will probably also contribute to the lower inflation in bread and bakery products.

There is a significant uncertainty related to consumer price inflation expectations over the projection horizon, stemming from COVID-19 containment measures and the negative effects on the macroeconomic environment caused by them. A key source of uncertainty surrounding expected inflation is the compilation of the HICP due to the difficulties related to the reporting of some consumer prices under a state of emergency and index comparability with previous periods<sup>81</sup>. In April 32 per cent of observations of the overall price index are reported as missing, with most of them affecting restaurants and hotels, and clothing and footwear<sup>82</sup>. This uncertainty is anticipated to be more pronounced at the end of the second quarter of the year and to moderate gradually over the third quarter.

<sup>81</sup> For further information, see footnote 70.

<sup>82</sup> For details, see NSI [press release](#) on the inflation in April 2020.

## Actual and Equilibrium House Prices



Sources: the NSI, BNB calculations.

# RESEARCH TOPICS

## ANALYSIS OF THE FINANCIAL SITUATION OF FIRMS AND HOUSEHOLDS IN THE 2008–2019 PERIOD

The level of indebtedness of firms and households affects directly their financial situation and ability to meet unexpected negative economic shocks such as those resulting from the COVID-19 pandemic, and to continue servicing the accumulated debt. The aim of the present analysis is to examine the trends in indebtedness and the overall financial situation of firms and households in the 2008–2019 period. The analysis of firms is carried out at the total economy level by sector of economic activity and based on microdata for individual firms from the Amadeus database. The analysis of households is focused on the level of the economy as a whole.

The level of firms' indebtedness is examined by means of indicators such as debt to GDP, debt to gross value added (GVA) and debt to gross operating surplus (GOS). The ratio of debt to GDP is the most widely used indicator to measure the level of indebtedness in the economy. In order to take account more precisely of the trends at the sectoral level, it is more appropriate to use indicators such as debt to gross value added or debt to gross operating surplus as they provide clearer view of the debt coverage with value added in the economy or with profit of the specific sector. These indicators provide information on resources available to service the debt.

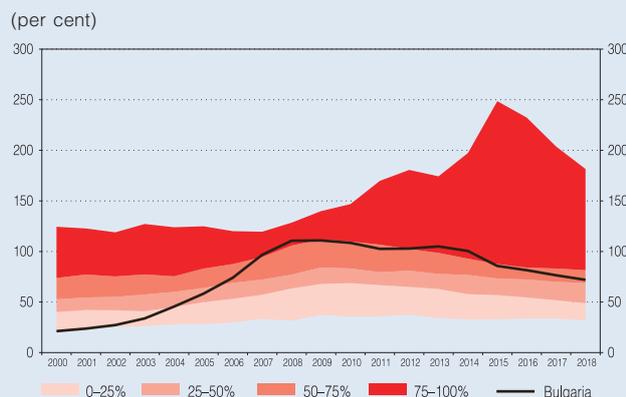
At the aggregate level, the sector of non-financial corporations is characterised by a significantly higher level of indebtedness compared to that of households. However, since 2018 a steady decline in corporate indebtedness has been observed, measured by the debt to GDP ratio, which has approached average EU levels in recent years. The debt to GDP ratio<sup>1</sup> of non-financial corporations stood at 72.0 per cent against 23.0 per cent of households by the end of 2018. At the end of 2008 the values of these indicators were 110.6 per cent and 29.8 per cent, indicating that both sectors improved significantly compared to the period before the global financial and economic crisis of 2008–2009. Non-financial corporations' debt to GDP ratio declined between 2008 and 2018 almost entirely driven by nominal GDP growth, and to a very limited extent by the decrease in firms' debt. Concurrently, households registered higher amount of debt but as a result of nominal GDP growth the indicator improved over the review period.

Other indicators at the aggregate level for non-financial corporations, which are of importance for the assessment of potential risks associated with debt servicing in the context of deteriorated macroeconomic environment and financing conditions, are the maturity structure of the debt and the total interest paid to gross operating surplus to disposable income of firms. It can be inferred from Chart 2 that with respect to these indicators corporations in Bulgaria are in a more favourable position compared to most EU countries. A large share of short-term debt in total debt may result in difficulties in getting new funding in the context of a deteriorated economic environment, and consequently in liquidity shortage. Bulgaria's share of short-term debt in total debt of non-financial corporations is comparatively small, remaining stable in the period 2008–2018, and varying between 15 per cent and 20 per cent. From this perspective, it could be concluded that Bulgarian corporations are relatively less vulnerable to changes in short-term financing conditions.

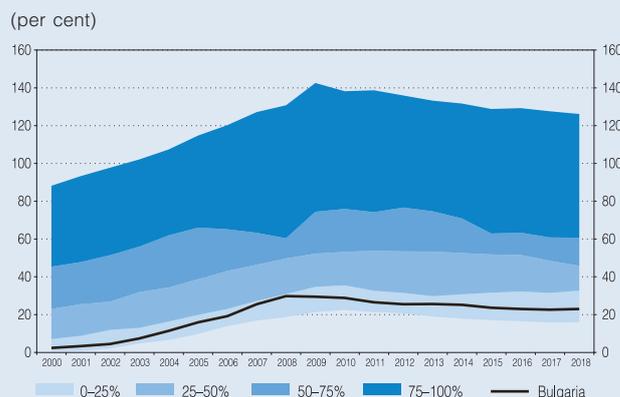
<sup>1</sup> A consolidated debt to GDP indicator is used. Debt includes loans and debt securities based on annual financial account data of non-financial corporations and households and non-profit institutions serving households (NPISHs) available up to 2018.

**Chart 1. Debt-to-GDP Ratio**

*Non-financial Corporations*



*Households and NPISHs*

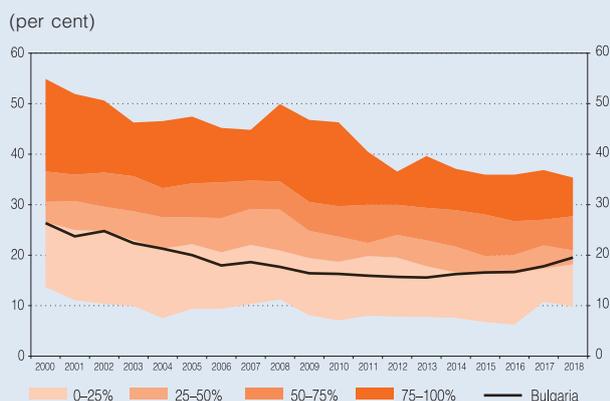


Notes: The chart shows a quartile distribution of the indicator for EU Member States. Each segment contains 25 per cent of the Member States: the one at the lowest end presents the first 25 per cent with the lowest values of the indicator, the second segment presents the next 25 per cent of the countries with higher values of the indicator, and the top 25 segment covers the countries with the highest values of the indicator. The values for Bulgaria are presented with a line.

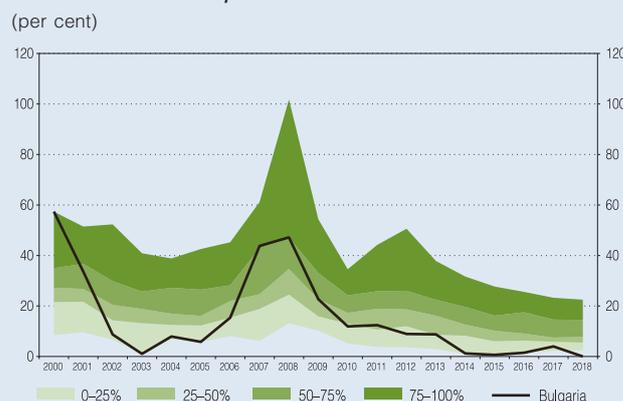
Sources: Eurostat, BNB calculations..

**Chart 2. Other Indicators of Indebtedness of Non-financial Corporations**

*Short-Term Debt to Total Debt*



*Interest Paid to Disposable Income*



Notes: The chart shows a quartile distribution of the indicator for EU Member States. Each segment contains 25 per cent of the Member States: the one at the lowest end presents the first 25 per cent with the lowest values of the indicator, the second segment presents the next 25 per cent of the countries with higher values of the indicator, and the top 25 segment covers the countries with the highest values of the indicator. The values for Bulgaria are presented with a line.

Sources: Eurostat, BNB calculations.

Another important factor for the assessment of debt sustainability is the burden of debt servicing for non-financial corporations showing the proportion of their income, needed to pay debt interest. This indicator tended to improve steadily in the 2008–2018 period with Bulgarian corporations being among EU corporations with the lowest burden of debt servicing.

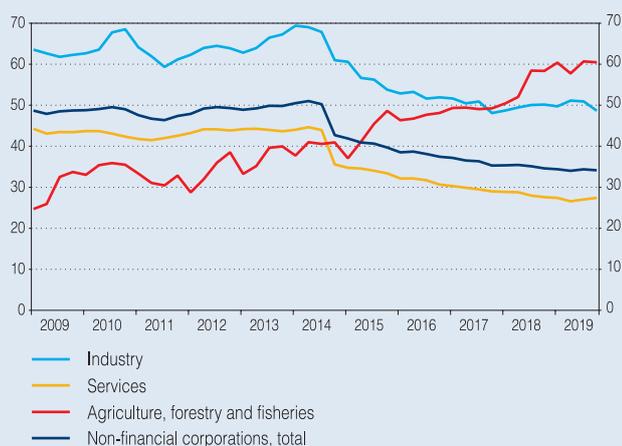
An essential characteristics of firms' indebtedness in Bulgaria is the relatively large share of the external debt in their total debt. Based on BNB monetary statistics, Bulgaria's gross external debt statistics and financial accounts, firms' debt structure may be estimated at the level of the economy as a whole. This estimation shows that the external debt accounts for 50 per cent of firms' total indebtedness, with indebtedness to banks in the country of 36 per cent and inter-company indebtedness of 13.5 per cent<sup>2</sup> as of the end of 2018. The significant share of external debt in firms'

<sup>2</sup> Inter-company indebtedness has been estimated based on annual financial account data for non-financial corporations on a non-consolidated and consolidated basis.

Chart 3. Indicators of Firms' Indebtedness by Sector of Economic Activity

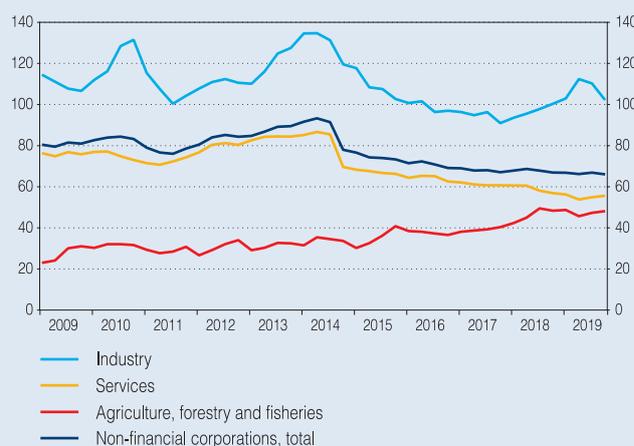
**Credit to Gross Value Added Ratio**

(per cent)



**Credit to Gross Operating Surplus Ratio**

(per cent)



Sources: the NSI, the BNB, BNB calculations.

total debt is due primarily to the large amount of attracted foreign direct investment, especially in the period before the global financial and economic crisis of 2008–2009 as a result of the process of nominal and real convergence, high capital return and favourable macroeconomic environment.

The analysis of the indebtedness of economic sectors presented below, is focused on bank loans due to the availability of loan data by sector.<sup>3</sup> Chart 3 shows indicators of the indebtedness level of non-financial corporations to domestic credit institutions<sup>4</sup>. A higher loan coverage with value added has been registered in the industry and services sector since the beginning of 2015<sup>5</sup>, while in agriculture the trends are opposite. Positive developments in industry are mainly driven by the construction sector, and in services sector essentially by wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities, and professional activities and research; administrative and support service activities. By end-2019 loans to the industrial sector accounted for 49 per cent of the gross value added in this sector, loans to the services sector for 27 per cent, respectively, and those to agriculture for 60 per cent. The relatively low loan to GVA ratio in services can be explained by the high value added of this sector in the economy (see Chart 4). The loan coverage ratio with gross value added in agriculture worsened in the period under review (2009–2019). However, due to the small share of loans to this sector in total loans to non-financial corporations and the low gross value added in this sector, a long-term trend to improving total loan to GVA ratio of firms has been observed since the beginning of 2015, accounting for 34.1 per cent by the end of 2019 (against 48.7 per cent at the end of 2009).

The ability of corporations to service their debt by generating profit from production of goods or provision of services can be assessed by the ratio of loans to gross operating surplus. This ability in the overall economy has significantly improved since the start of 2015 with gross operating surplus covering 151 per cent of firms' debt to banks by the end of 2019. However, trends differ among sectors of economic activity. The services sector contributed most to the overall improvement of this indicator with a significant increase in profit, covering 180 per cent of bank debts by

<sup>3</sup> Data for total gross external debt by sector of economic activity are not available.

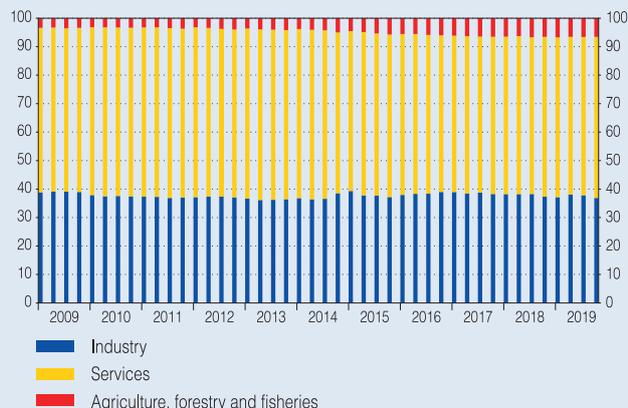
<sup>4</sup> Indicators are based on the Classification of Economic Activities (NACE-2008) with data starting from the first quarter of 2009.

<sup>5</sup> The stronger effect resulting in a decline in indicators at the end of 2014 is due to KTB removal from the monetary statistics in November 2014.

Chart 4. Loans and Gross Value Added of Firms by Sector of Economic Activity

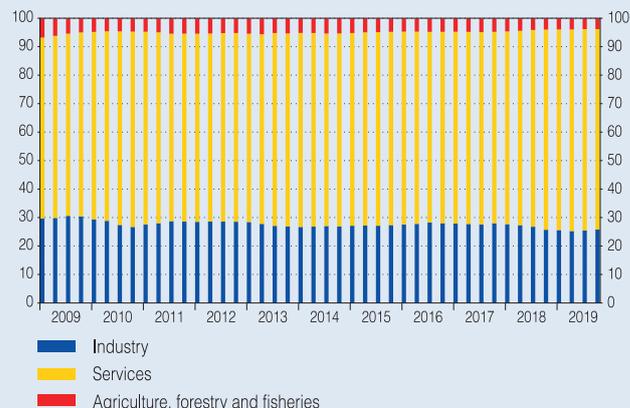
*Share of Loans in the Total Amount of Loans to Non-financial Corporations*

(per cent)



*Share of Value Added in Total Value Added in the Economy*

(per cent)



Sources: the NSI, the BNB, BNB calculations.

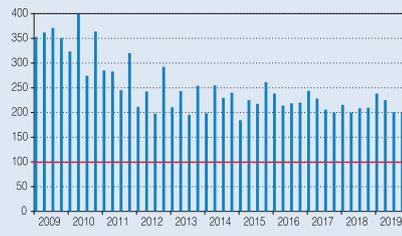
the end of 2019. The credit to gross operating surplus ratio in the industry declined between 2014 and 2017, before reversing this trend in the beginning of 2018 with sector's profits covering 98 per cent of debts to the banking sector at the end of 2019. In the agricultural sector the indicator increased throughout the period under review (2009–2019), but due to the relatively small amount of loans to this sector, the coverage with gross operating surplus was more than two times by the end of the period. The positive trends in the services sector were mainly driven by wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities, and professional activities and research; administrative and support service activities, where the credit to gross operating surplus ratio declined almost twice in the 2014–2019 period. The improvement in wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities sector in particular, is due to the significant growth of profits realised over that period. Despite the positive trends, this sector along with industry (mainly construction) exhibit the highest credit to gross operating surplus ratios at the end of 2019.

The ratio of loans to deposits can be informative of the availability of liquidity buffers in individual sectors of the economy, even when such sectors do not carry out production activities or provide services (see Chart 5). A value of this ratio, which is lower or equal to one, could be an indication that the respective sector is able to pay its credit obligations in full from savings. While for non-financial corporations this indicator has declined steadily since 2015, the trends differ among sectors of economic activity. Sectors that at the end of 2019 had the lowest liquidity buffers with loans to deposits ratio exceeding 100 per cent, were real estate activities (313 per cent), manufacturing (218 per cent), accommodation and food service activities (210 per cent), agriculture, forestry and fisheries (200 per cent), water supply; sewerage, waste management and remediation activities (160 per cent) and wholesale and retail trade; repair of motor vehicles and motorcycles (138 per cent). Conclusions at the sectoral level only permit to give a rough indication of the level of indebtedness and liquidity position of firms due to the heterogeneity of individual firms within the sectors.

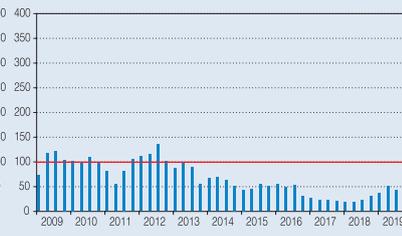
In the light of the containment measures against COVID-19 spread, targeted mainly at the services sector, firms from that sector could be expected to be more severely affected by the pandemic. Considering the high value added generated by the services sector (70.4 per cent of total value added in the economy by 2019-end), significant negative implications for the economic activity in the country could be expected. While the overall financial situation of firms in the services sector tended to improve continuously since the beginning of 2015, several sectors having relatively

**Chart 5. Loans to Deposits Ratio by Sector of Economic Activity**  
(per cent)

*Agriculture, Forestry and Fisheries*



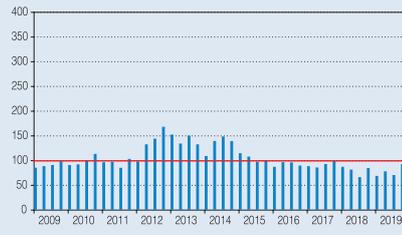
*Mining and Quarrying*



*Manufacturing*



*Production and Distribution of Electricity, Heating and Gaseous Fuels*



*Water Supply, sewerage, Waste Management and Remediation Activities*



*Construction*



*Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles*



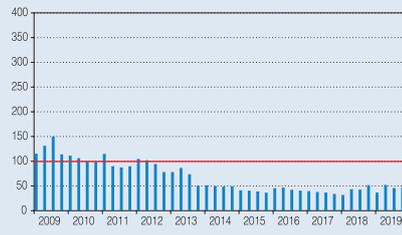
*Transportation and Storage*



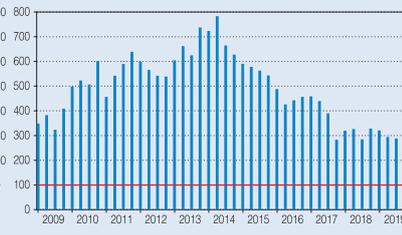
*Accommodation and Food Service Activities*



*Information and Communication, Telecommunications*



*Real Estate Activities*



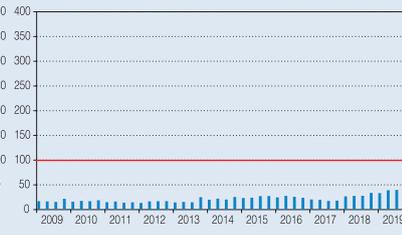
*Professional Activities and Research*



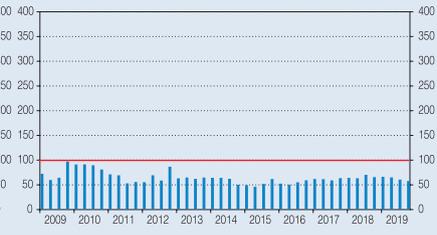
*Administrative and Support Service Activities*



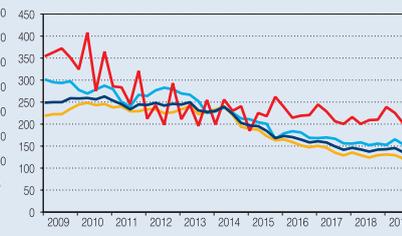
*Education*



*Human Health and Social Work Activities*



*Arts, Entertainment and Recreation*



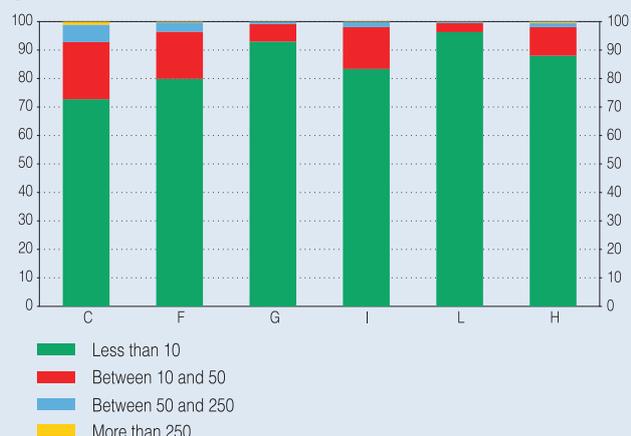
- Industry
- Services
- Agriculture, forestry and fisheries
- Non-financial corporations, total

Sources: the BNB, BNB calculations.

Chart 6. Distribution of Firms by Sector of Economic Activity

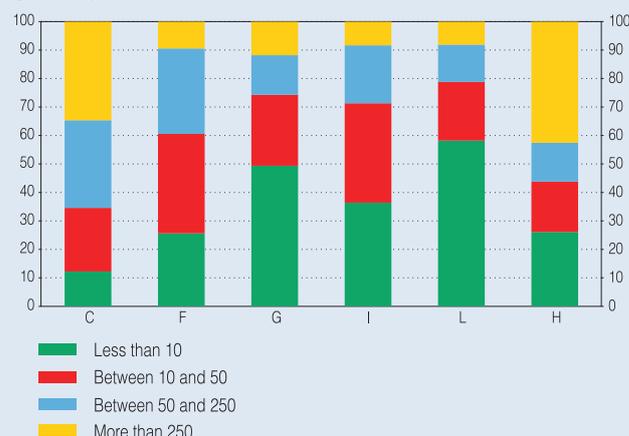
Share of Firms in the Total Number of Firms

(per cent)



Share of Employees in Total Employees in the Sector

(per cent)



Note: Sectors are indicated as follows: Manufacturing (C), Construction (F), Wholesale and retail trade; repair of motor vehicles and motorcycles (G), Accommodation and food service activities (I), Real estate activities (L) and Transportation and storage (H).

Sources: Amadeus database and BNB calculations.

lower liquidity buffers can be identified, where temporary cessation of activities and/or a significant decline in profits may lead to difficulties in repaying debts. Sectoral level analysis suggests that the ability of real estate activities and accommodation and food services activities sectors to cope with the effects of the COVID-19 crisis is the lowest. These conclusions are valid at the sectoral level, however, the negative effects of the crisis will depend on the number of firms in these sectors with relatively high level of indebtedness and low liquidity buffers, and on the share of value added and employment that these firms form.

A more detailed analysis at the micro level can be informative of the distribution of firms by sector. The analysis below is based on data from the Amadeus database. The data analysed concern 364,797<sup>6</sup> firms operating in the sectors with relatively lower liquidity buffers based on the loans to deposits ratio as shown in Chart 5 (real estate activities, accommodation and food service activities and manufacturing). Several services and manufacturing sub-sectors are additionally examined, which are assumed to be more severely affected by the measures against COVID-19 *i.e.* wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage and construction. For the purposes of the analysis several indicators are calculated, which give an indication of the indebtedness of firms in the sectors under review, their debt coverage with operational profits and the availability of liquidity buffers. In particular, the indicators used in the analysis are as follows:

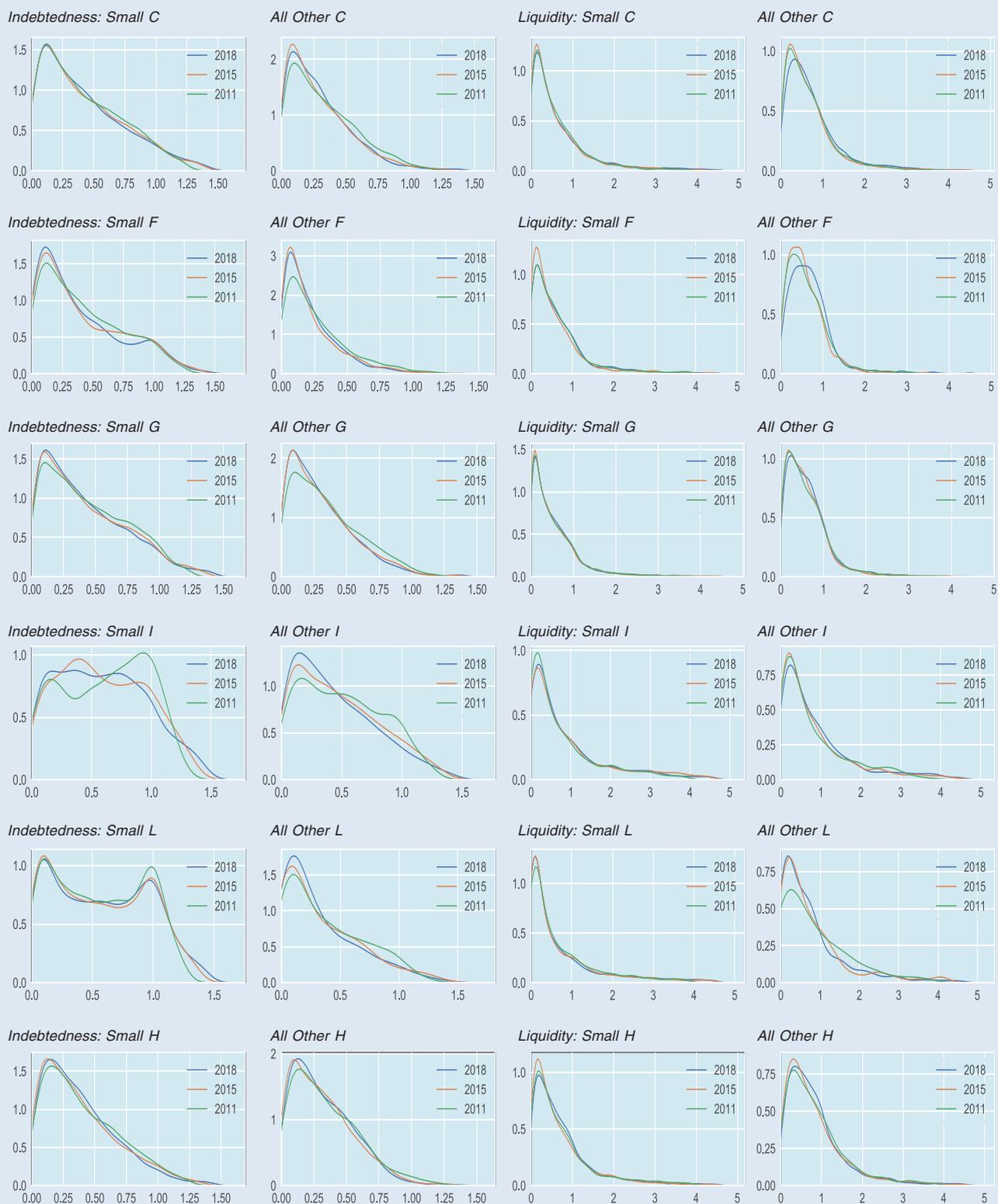
- debt<sup>7</sup> to total assets ratio, which is an indicator of indebtedness
- debt to profits before tax, interest and depreciation ratio, which is an indicator of debt coverage with profit
- short-term liabilities to short-term assets ratio, which is an indicator of total liquidity.

Firms are grouped by sector of activity and by number of employees hired as follows: small firms are those with less than 10 employees, medium firms are those with employees between 11 and 50, large enterprises are those with employees between 51 and 250 and very large enterprises are those with more than 251 employees.

<sup>6</sup> The number of firms varies from year to year depending on both the relevant indicator and data available for it. Firms with negative values of indicators for debt and total assets are excluded from total firms. In addition, firms with outliers are also removed.

<sup>7</sup> The debt is calculated as the sum of long-term liabilities and short-term liabilities to financial corporations.

Chart 7. Density Functions of Distribution of Indicators of Firms' Indebtedness and Liquidity by Sector of Economic Activity



Note: Sectors are indicated as follows: Manufacturing (C), Construction (F), Wholesale and retail trade; repair of motor vehicles and motorcycles (G), Accommodation and food service activities (I), Real estate activities (L) and Transportation and storage (H).

Sources: Amadeus database and BNB calculations.

Chart 7 shows the density distribution functions of the indicators for each of the analysed sectors<sup>8</sup>. In order to better visualise and more clearly distinguish the trends of the development by sector and year, medium, large and very large enterprises are grouped and shown separately from small enterprises which account for about 88 per cent of all firms operating in the six sectors. Three years are represented on each of the charts: 2011, 2015 and 2018<sup>9</sup>.

From the analysis of the debt to total assets ratio of individual firms in the sectors under review, it can be concluded that the distributions are concentrated close to zero in the sectors Manufacturing (C), Construction (F), Wholesale and retail trade; repair of motor vehicles and motorcycles (G), Accommodation and food service activities (I), and Transportation and storage (H). This means that a larger number of firms in these sectors have a relatively lower debt to assets ratio, implying that they are in a comparatively better position and, consequently a small share of all firms in the sector are highly indebted. This applies to both small and medium, and large enterprises in these sectors, where the indicator improved somewhat over the years until 2018. The situation is different in Real estate activities (L) and Accommodation and food service activities (I), where the indicator is also improving over the years. However, even in 2018 the number of firms, which are more heavily indebted in these sectors, is higher than in all other sectors under review. This conclusion is particularly valid for the small firms in these two sectors accounting for 96 per cent and 83 per cent of all operating enterprises in these sectors and employing 58 per cent and 36 per cent of total staff hired in both sectors<sup>10</sup>. Similar conclusions can be drawn from the analysis of the debt to profit ratio (not shown on the chart). Both sectors Real estate activities (L) and Accommodation and food service activities (I) are characterised by a larger number of firms whose profits cover their liabilities to a lower extent, this trend being more pronounced in small firms with less than 10 employees.

The analysis of the short-term liabilities to current assets ratio suggests that small firms are in a relatively better position than medium and large enterprises, with most of them being in a position to cover their outstanding obligations with relatively highly liquid assets. This also applies to small firms in Real estate activities (L) and Accommodation and food service activities (I) identified as comparatively more vulnerable, which mitigates for them at least in the short run the potential negative impacts of pandemic measures. As regards medium and large firms, the sectors that are characterised by the lowest liquidity buffers are Construction (F), Wholesale and retail trade; repair of motor vehicles and motorcycles (G), and Transportation and storage (H), where a certain deterioration in this indicator is observed over the review period.

The analysis of the share of companies of different size in individual sectors shows that some of the sectors are characterised by a concentration of the number of employees in one type of firms. For instance, in both manufacturing and construction the share of employed in large and very large enterprises (65.4 per cent and 39.4 per cent) dominates, while in Real estate activities (L), Wholesale and retail trade; repair of motor vehicles and motorcycles (G), Accommodation and food service activities (I) a significant part of employed are in small firms with less than 10 employees (58.2 per cent, 49.4 per cent and 36.4 per cent respectively). The higher concentration of more heavily indebted small firms despite the ability to cover short-term liabilities with liquid assets in Real estate activities (L) and Accommodation and food service activities (I) increases the vulnerability of these sectors to negative shocks resulting from the COVID-19 crisis.

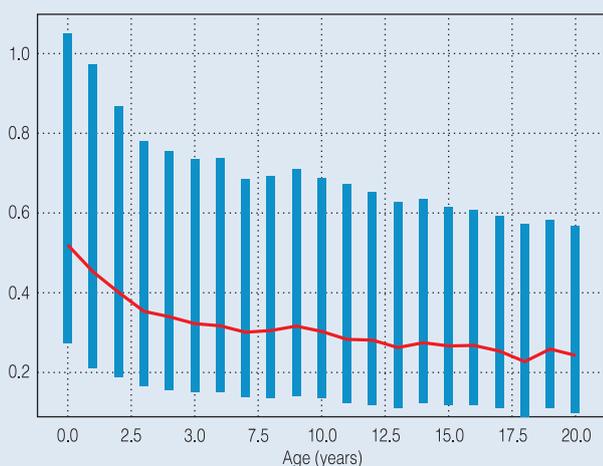
<sup>8</sup> The functions are calculated using a non-parametric econometric approach: Kernel estimators with Gaussian Kernel function and optimal bandwidth based on Scott's rule. The horizontal axis of each chart shows the indicator of indebtedness or liquidity of the sector and the vertical axis shows the density of the distribution, with the area under the curve equal to 1.

<sup>9</sup> There is no 2019 data available for firms in Amadeus database.

<sup>10</sup> Due to lack of sufficient data the share of value added of small firms in total value added in these sectors cannot be calculated.

Chart 8. Interquartile Range of Firms' Indebtedness and Liquidity Indicators by Age of Corporation

*Indebtedness*



*Liquidity*



Note: The indebtedness indicator is measured by the Debt/Total assets ratio, while the liquidity indicator by the Short-Term Liabilities/Current assets ratio. The red line marks the median of firms' age distribution. Data of both charts refer to 2018.

Sources: Amadeus database and BNB calculations.

The level of firms' indebtedness is driven by a large number of factors related both to the financial and institutional environment, in which they operate, and the specific developments at the sectoral and firm level<sup>11</sup>. In sectors for which a significant working capital and fixed assets for the production process are required, a precondition for higher indebtedness of firms operating in these sectors is created. At the firm level, factors behind the higher level of indebtedness are the size and age of the respective enterprise, its profitability, the uncertainty surrounding the access to funding sources *etc.* Chart 8 shows that firms with shorter existence are more heavily indebted and operate with lower liquidity than already-established firms. At the same time, there is a high degree of dispersion among firms displayed in the wide quartiles around the median, which indicates the lack of homogeneity among individual corporations. Higher indebtedness of some firms may indicate that in the context of deteriorated macroeconomic environment they might face difficulties linked to falling profits and more limited ability to service their debt. Concurrently, depending on factors that influence the choice of corporations' financing, it could reflect developments, specific for the sector or the firm (such as the age), and not vulnerability as to the level of indebtedness.

The financial situation of households at the sectoral level is more favourable than that of corporations in the review period. According to the debt to GDP ratio, households in Bulgaria are among the least indebted compared to other EU countries (see Chart 1). In addition, this indicator has tended to improve steadily since 2008, falling from 29.8 per cent in 2008 to 23.0 per cent by end-2018.

Household debt to banks coverage with available savings also tended to rise in the period under review. To a large extent, this trend reflects the significant rise in bank deposits, growing from BGN 22.0 billion at the end of 2008 to reach BGN 55.7 billion at the end of 2019 (153.4 per cent growth). In the same period loans to households grew by 32.1 per cent. The trend in the loans to disposable income ratio is similar. Between 2008 and 2019 households' disposable income rose by 105.3 per cent<sup>12</sup>. Overall, by end-2019 the households sector is characterised by comparatively low indebtedness and ability to service the debt, mostly in the form of banking loans. These conclusions may be drawn based on the aggregated sector data. It should also be taken into account

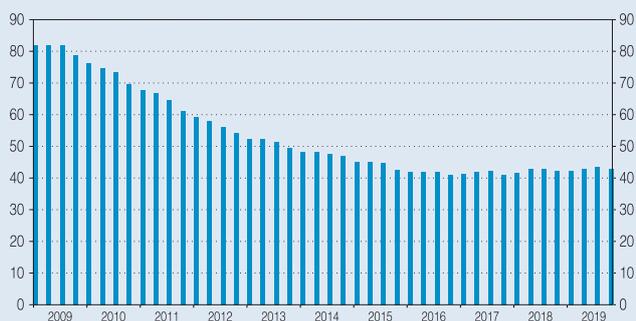
<sup>11</sup> European Central Bank, Corporate Finance and Economic Activity in the Euro Area, Occasional Paper Series No 151, 2013.

<sup>12</sup> The level of nominal disposable income is based on BNB estimates.

Chart 9. Households' Indebtedness Indicators and NPISHs

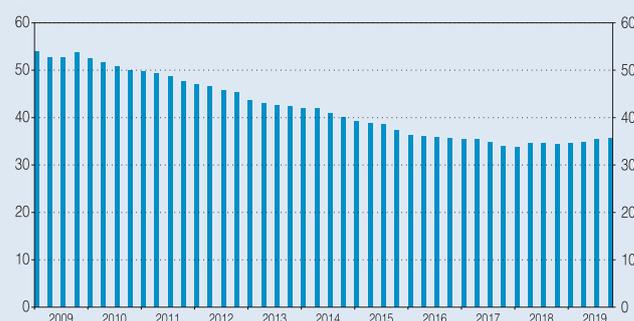
*Loans to Deposits Ratio*

(per cent)



*Loans to Disposable Income Ratio*

(per cent)



Sources: the NSI, the BNB, BNB calculations.

that the level of savings and the level of debt differ among individual economic agents. Persons who save might have loans and *vice versa*. Some economic agents may be more severely affected by the COVID-19 crisis, if they lose their jobs or part of their income, having high debts and low savings.

The positive trends related to the reduction in the level of indebtedness both in the household and non-financial corporations sectors over the 2008–2019 period suggest a better initial situation in both sectors before the COVID-19 pandemic compared to their situation before global financial and economic crisis of 2008–2009. The higher liquidity buffers in the form of savings in the banking system contribute to a more stable financial situation and enhance the resilience against the negative economic impacts of the COVID-19 crisis. Another factor, which mitigates the potential risks associated with firms' debt servicing in the context of deteriorated economic environment, is the retention of comparatively low share of short-term debt in firms' total debt. There is a heterogeneity among individual firms and households in the level of indebtedness and the level of savings, hence conclusions for the whole sectors of firms and households only permit to give a rough indication of the level of debt and the availability of savings in the economy. By sector of economic activity, comparatively greater vulnerability of corporations may be identified in the services sector, in particular in Real estate activities, Accommodation and food service activities, which exhibit a higher level of indebtedness and lower liquidity buffers. Micro level analysis shows that small firms in these two sectors are more heavily indebted. These firms employ 58 per cent of total staff hired in Real estate activities and 36 per cent of total staff hired in Accommodation and food service activities. Higher indebtedness may be seen as an indicator of possible difficulties these firms could experience in the context of deteriorated macroeconomic environment and of possible constraint in terms of ability to service their debt.

# MAIN TRANSMISSION CHANNELS OF THE COVID-19 PANDEMIC TO ECONOMIC ACTIVITY IN BULGARIA

The spread of the coronavirus (COVID-19) across the world has required measures of unprecedented magnitude and stringency to be taken by many countries, including Bulgaria, to contain the pandemic. The introduced extraordinary measures aimed at protecting public health through social distancing. Global containment measures led to temporary closures of commercial premises and public establishments, disruption of business activities in a number of enterprises, travel restrictions, heightened uncertainty, a deterioration of economic sentiments and a fall in prices of commodities and most financial assets. In Bulgaria, the first case of COVID-19 can be traced back to 8 March 2020. On 13 March the National Assembly decided to introduce a state of emergency followed by a series of measures and actions to contain the spread of the virus. On 13 May the state of emergency was lifted, giving rise to a stepwise easing of measures and a gradual recovery of economic activity in most enterprises affected by the measures.

COVID-19 pandemic effects and containment measures create simultaneous negative shocks to both aggregate demand and aggregate supply. Measurement of these shocks, including their size, duration and profile, may differ strongly across countries, even if the pandemic develops similarly<sup>1</sup> in them. These differences arise mainly from the initial conditions in each economy prior to the COVID-19 crisis, such as the level of indebtedness of the public and private sectors and the availability of fiscal buffers, as well as certain structural factors related to the degree of integration in GVCs and the size of the tourist sector. The purpose of this analysis is to present country-specific channels through which containment measures will impact the economic activity in Bulgaria. The analysis focuses on developments in main GDP components by element of expenditure. Given the global nature and specific characteristics of the economic shock caused by the spread of COVID-19, we expect all major components of domestic demand and net exports to be affected negatively.

## Household Consumption

The containment measures introduced to deal with the spread of COVID-19 are expected to have a strong negative effect on final consumption expenditure of households. On the one hand, this will be driven by the nature of introduced measures which are aimed at restricting social interaction and the mobility of people, limiting possibilities for consumption of certain categories of goods and services. These measures affect directly catering and accommodation services, entertainment and cultural activities, as well as transport services, which comprise in total around 22.2 per cent of household final consumption expenditure and 14 per cent of GDP (see Table 1).

Worsening labour market conditions and increased uncertainty will further affect negatively private consumption dynamics. Declines in economic activity and labour productivity are likely to force enterprises to optimise labour costs by reducing working hours, lay-offs and/or wage cuts thereby decreasing consumption capacities of households and increasing the uncertainty about their financial position. NSI data on the structure of household budgets for 2019 suggest that remuneration and self-employment income represents around 63 per cent of total income (see Chart 1). As a result, it can be expected that households will decrease their final consumption expenditure due to reduced consumption possibilities. In addition, the enhanced uncertainty in the economy is the reason for households to be cautious and postpone planned purchases, even if they face no financial

<sup>1</sup> With respect to indicators, such as number of COVID-19 cases/deaths *per* one million people, duration and stringency of imposed containment measures.

difficulties (especially regarding durable goods) which will further limit the size of final consumption expenditure and is likely to decrease demand for loans. Possible tightening of credit standards by banks is another factor that is likely to adversely affect consumer demand.

The effect of deteriorating macroeconomic environment on private consumption will largely depend on duration and stringency of the containment measures, the efficiency of government measures to support household income and the speed at which firms are able to resume business activity after lifting of containment measures.

### Private Investment

Decreased external demand for Bulgarian goods and services, shrinking consumption of households, the uncertainty about the size and duration of containment measures, worsening financial position of firms in the sectors most severely hit by the lockdown and potential liquidity constraints are the main factors which are expected to hinder economic activity and force part of corporations to postpone their investment projects.<sup>2</sup> Consumers will also react to negative economic developments by postponing purchases of houses, durable goods and refurbishments. In the context of an enhanced uncertainty, a possible decline in credit supply by banks, especially long-term loans and investment loans, appears to be another channel through which the investment activity in Bulgaria can be affected.

Despite the announced intention of the government to continue implementing already launched investment projects, total gross fixed capital formation for the economy is expected to decline due to the deterioration in domestic economic conditions. This will reflect the high share of households and corporations in total investment in Bulgaria (around 81 per cent). In

<sup>2</sup> Studies for Bulgaria show that in addition to the uncertainty, expectations of external demand for Bulgarian goods and services, the financial position of firms and financing conditions also weigh significantly on investment decisions of corporations. For more details, see: Ivanov, E., N. Ivanova, D. Kasabov and K. Karagyozova, 2018, 'Determinants of Investment in Bulgaria', BNB Discussion Paper series, DP/110/2018.

**Table 1. Composition of Household Expenditure by Consumption Purpose**

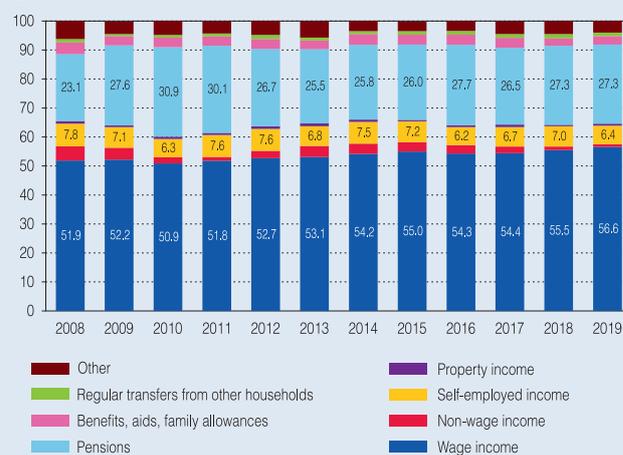
	Share of total expenditure	Share of GDP
Food and non-alcoholic beverages	19.1	12.0
Clothing and footwear	3.2	2.0
Housing, water, electricity, gas and other fuels	19.9	12.6
Furnishing, household equipment and routine household maintenance	5.1	3.2
Healthcare	6.3	4.0
Transport	13.3	8.4
Purchase of personal transport equipment	1.7	1.1
Operation of personal transport equipment	7.4	4.7
Transport services	4.2	2.6
Communications	4.8	3.0
Entertainment and arts	7.8	4.9
Education	1.2	0.8
Restaurants and hotels	7.0	4.4
Catering services	4.5	2.8
Short-stay accommodation services	2.5	1.6
Miscellaneous goods and services	7.1	4.5
<b>Final consumption expenditure</b>	<b>100.0</b>	<b>63.1</b>

Note: Data refer to 2018.

Source: Eurostat, BNB calculations.

**Chart 1. Structure of Total Household Income**

(per cent)



Source: Eurostat, BNB calculations.

terms of asset type, almost 14.5 per cent of investments is related to purchases of houses whose demand is tightly linked to the financial position and expectations of households about the development of the labour market. With regard to the sectoral breakdown of gross fixed capital formation, the sectors which have been directly affected by the coronavirus crisis (transport, hotels and restaurants, arts, entertainment and recreation activities) form nearly 9.5 per cent of total investment in the economy, which represents around 2.0 per cent of GDP in 2018 (see Table 2).

### Government Consumption and Fixed Capital Investment

Additional funds approved by the government to support the healthcare system and other key systems, such as the internal security, in the context of a pandemic are expected to affect positively government consumption through higher wages, healthcare and operating expenditure. Public investment is subject to a high degree of uncertainty. Restrictions imposed on some businesses in relation to the state of emergency declared by the National Assembly on 13 March 2020 are unlikely to have a strong dampening effect on the progress of running investment projects of the government. At the same time, the Law amending the State Budget Law of the Republic of Bulgaria for 2020 imposes a prohibition on new expenditure commitments which could postpone in time the launch of new investment projects. This restriction could reduce government's investment activity towards the end of the current and the beginning of the next year.

### Exports and Imports of Goods and Services

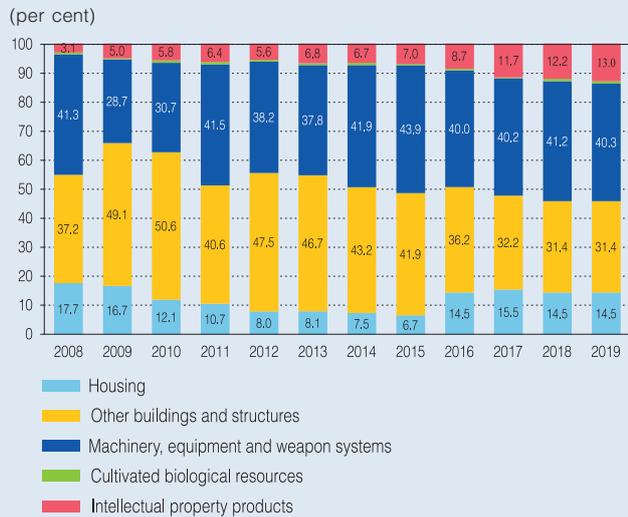
The Bulgarian economy is characterised by a high degree of openness (in 2019 foreign trade represents 123.7 per cent of GDP) and integration in global value chains and, therefore, subdued external demand for Bulgarian goods and services as a result of the COVID-19 pandemic will have a strong negative effect on Bulgarian exports. According to the geographic structure, around 65 per cent of total nominal exports of goods and services is directed towards EU countries, as the euro area whose economies were most affected by the pandemic occupied a share of around 45 per cent of Bulgarian exports (see Chart 5). Based on data obtained from OECD international input-output tables, Bulgarian exports<sup>3</sup> can broadly be divided into two groups according to their final destination. The first group consists of goods and services consumed directly in the country to which they are exported, and their demand is affected mainly by the disposable income and the propensi-

**Chart 2. Relative Shares of Private and Government Sectors in Fixed Capital Investment**



Source: the NSI, BNB calculations.

**Chart 3. Investment Structure by Type of Assets**



Source: Eurostat, BNB calculations.

<sup>3</sup> This refers to the total amount of gross exports of goods and services which include both Bulgarian and foreign (imported) value added.

**Table 2. Investment Structure by Economic Sector**

(share of total investment, per cent)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Agriculture, forestry and fisheries</b>	4.2	3.0	4.3	6.3	6.0	6.0	7.2	7.4	5.7	6.5	6.7
<b>Industry</b>	47.1	45.8	41.3	42.1	47.5	47.7	43.3	53.1	49.9	41.7	39.8
Industry (construction excluded)	31.1	26.8	26.9	30.7	36.5	36.6	33.0	41.7	33.1	28.1	25.6
Construction	16.0	19.0	14.4	11.4	11.0	11.1	10.3	11.4	16.8	13.6	14.2
<b>Services</b>	66.5	67.7	76.1	70.3	60.4	60.2	68.4	67.7	76.3	76.2	80.0
Wholesale and retail trade, transport, accommodation and food service activities	13.6	12.8	16.2	14.2	11.5	11.5	13.7	17.9	21.3	18.2	19.7
Information and communication	5.0	4.1	5.8	5.8	4.9	5.0	2.1	-1.2	3.3	6.2	5.6
Financial and insurance activities	0.8	1.4	1.3	2.0	1.8	1.8	1.6	0.1	1.1	1.4	1.3
Real estate activities	8.6	9.6	6.3	8.4	7.7	7.6	2.9	1.4	2.5	7.1	7.6
Professional and scientific activities; administrative and support service activities	3.5	4.4	3.3	5.0	3.6	3.7	6.4	7.3	5.6	7.5	6.0
Public administration; education; healthcare and social work activities	16.6	18.4	20.2	15.7	15.5	15.4	21.7	11.2	8.9	10.2	12.0
Arts, entertainment and recreation activities; repair of household goods; other activities	0.7	0.5	1.3	0.5	1.3	1.3	1.1	2.8	1.6	1.2	1.3
<b>Gross fixed capital formation</b>	<b>100.0</b>										

(per cent of GDP)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Agriculture, forestry and fisheries</b>	1.4	0.8	1.0	1.3	1.3	1.3	1.5	1.5	1.0	1.2	1.3
<b>Industry</b>	15.5	12.7	9.2	8.8	10.1	10.1	9.2	11.1	9.2	7.7	7.5
Industry (construction excluded)	10.3	7.5	6.0	6.4	7.8	7.8	7.0	8.7	6.1	5.2	4.8
Construction	5.3	5.3	3.2	2.4	2.3	2.4	2.2	2.4	3.1	2.5	2.7
<b>Services</b>	9.5	7.5	7.7	6.4	4.9	4.9	6.5	9.1	9.4	7.2	8.0
Wholesale and retail trade, transport, accommodation and food service activities	4.5	3.5	3.6	3.0	2.5	2.4	2.9	3.7	3.9	3.3	3.7
Information and communication	1.7	1.1	1.3	1.2	1.0	1.1	0.4	-0.2	0.6	1.1	1.1
Financial and insurance activities	0.3	0.4	0.3	0.4	0.4	0.4	0.3	0.0	0.2	0.3	0.2
Real estate activities	2.8	2.7	1.4	1.8	1.6	1.6	0.6	0.3	0.5	1.3	1.4
Professional and scientific activities; administrative and support service activities	1.1	1.2	0.7	1.0	0.8	0.8	1.4	1.5	1.0	1.4	1.1
Public administration; education; healthcare and social work activities	5.5	5.1	4.5	3.3	3.3	3.3	4.6	2.3	1.7	1.9	2.3
Arts, entertainment and recreation activities; repair of household goods; other activities	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.5	0.2	0.2	0.1
<b>Gross fixed capital formation</b>	<b>33.0</b>	<b>27.8</b>	<b>22.3</b>	<b>21.0</b>	<b>21.2</b>	<b>21.3</b>	<b>21.1</b>	<b>20.9</b>	<b>18.5</b>	<b>18.4</b>	<b>18.8</b>

Source: Eurostat, BNB calculations

ty to consume of households and corporations in these countries. For Bulgaria, the share of exports intended for final consumption is around 42 per cent of total exports, with Germany, Romania, Turkey and Greece being the most important trading partners in this category. The second group includes goods and services intended for use as inputs in further stages of the production process. Demand for these goods and services depends crucially on the functioning and integrity of GVCs during the pandemic. Bulgaria is among the countries with the highest degree of integration into GVCs within the EU (see Chart 4), with the latest available data for 2015 suggesting that 58 per cent of gross exports is in the form of intermediate goods. This structure of exports is a prerequisite for a contraction in industrial production and exports during the pandemic, even though containment measures in Bulgaria have not explicitly imposed a country-wide closure of manufacturing facilities. In addition, exporting firms could be facing difficulties regarding the import of inputs that are used in their production processes due to the disrupted cross-border trade flows. Given that Bulgaria is one of the EU countries with the largest import content of exports, this could further constrain the

**Table 3. Import Content of Final Demand Components (by Country of Origin)**

Import content of:	Share
– household consumption	0.424
imports from the EU	0.280
imports from third countries	0.143
– government consumption	0.154
imports from the EU	0.097
imports from third countries	0.058
– gross fixed capital formation	0.548
imports from the EU	0.369
imports from third countries	0.178
– exports	0.382
imports from the EU	0.195
imports from third countries	0.187

Note: Data refer to 2014.

Source: the OECD.

activity of exporting firms. BNB estimates show that production of 100 units of exports requires 38 units of imported inputs (see Table 3).

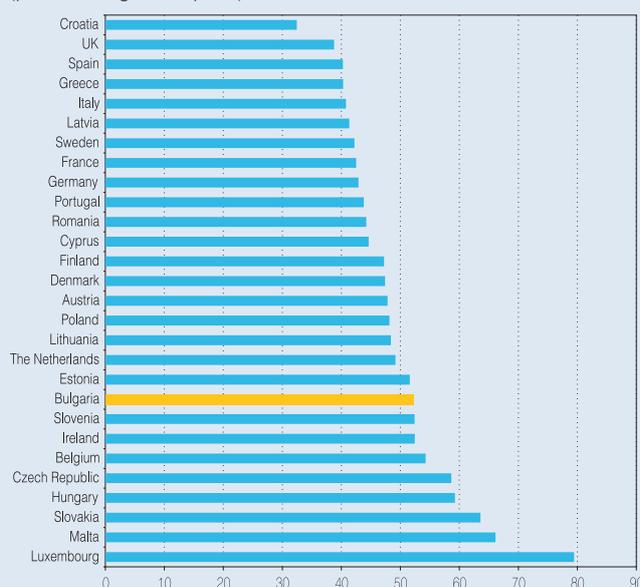
Regarding exports of goods, the major impact of the COVID-19 crisis will be in terms of the contraction in external demand. Nonetheless, export restrictions on some medical products appear to be another supply-side factor likely to affect negatively goods exports.<sup>4</sup> As regards exports of services, in addition to external demand, substantial negative effects can stem from supply-side factors such as the COVID-19-related restrictions on travel and accommodation activities that were imposed in Bulgaria during the state of emergency. These restrictions affect directly and to the largest extent travel services and passenger transport which comprise around 46 per cent of nominal services exports, or 7.2 per cent of GDP in 2019<sup>5</sup> (see Chart 7). The highest share of foreign visits to Bulgaria is attributed to holiday and recreation trips (47 per cent of all visits) which suggests that the export of these services is highly dependent on the epidemiological situation in Bulgaria, conditions under which organised visits could be made and the financial position and restrictions to households in our major trading partners.

<sup>4</sup> World Bank data as of 2 April 2020 show that the value of Bulgarian exports subject to such restrictions amounts to USD 20.8 million (around 0.06 per cent of total goods exports in 2018, which is the last available year for Bulgaria in the database).

<sup>5</sup> According to NSI data on visits of foreign citizens to Bulgaria for 2019, Romania (17.2 per cent), Turkey (13.0 per cent) and Greece (10.2 per cent) occupied the largest shares in total foreign visits.

**Chart 4. Participation of EU Countries in Global Value Chains**

(per cent of gross exports)



Note: The analysis employs data for 2015. Participation in GVCs measures the share of imported (foreign) value added incorporated in a country's exports (backward participation) and domestic value added of the country incorporated in the exports of the other countries as a share of total exports of this country (forward participation).

Source: the OECD.

**Table 4. Trade Flows (Goods and Services) by Sector**

(share of GDP, per cent)

Economic sector	Exports	Imports
<b>Agriculture</b>	<b>3.8</b>	<b>1.3</b>
<b>Industry</b>	<b>31.8</b>	<b>39.1</b>
Mining and quarrying	1.5	7.1
Manufacturing	28.6	31.5
Production and distribution of electricity and gas, water supply, sewerage, waste management and remediation activities	1.3	0.4
Construction	0.4	0.1
<b>Services</b>	<b>19.5</b>	<b>16.0</b>
Wholesale and retail trade, transport, accommodation and food service activities; hotels and restaurants	12.2	10.9
Information and communication services	2.5	0.9
Financial and insurance activities	0.8	2.1
Real estate activities	0.3	0.1
Other business services	2.8	1.7
Public administration; education; healthcare and social work activities	0.8	0.3

Note: Data refer to 2015.

Source: the OECD, BNB calculations.

Goods and services imports at both current and constant prices are also expected to be negatively impacted by the COVID-19 crisis, with the extent of this impact being dependent on the structure of imports and the dynamics of final demand components.

In terms of the structure, containment measures have a direct negative impact on the import of services related to travel and passenger transport which comprise 34 per cent of total services imports or 3.2 per cent of GDP in 2019 (see Chart 7)<sup>6</sup>.

The magnitude of the demand-side effects on Bulgarian imports of goods and services will be determined by the size of the import content of final demand components. BNB estimates on Bulgaria's economy suggest that fixed capital invest-

**Chart 5. Geographical Breakdown of Goods and Services Exports and Extent of COVID-19 Impact**



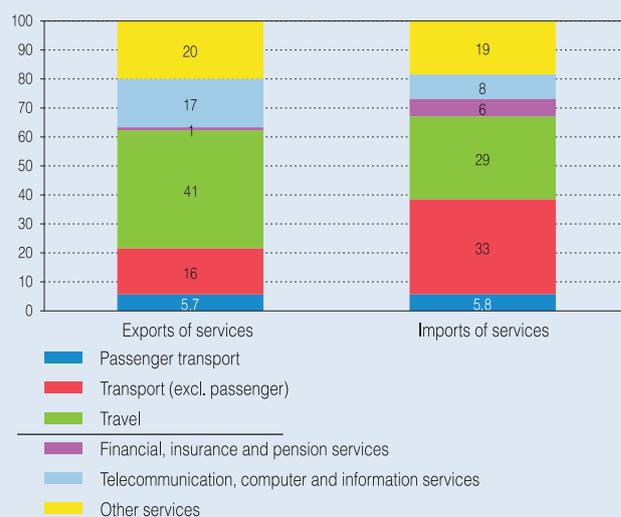
Note: Data used in the geographical breakdown of gross goods and services exports are based on OECD data for 2015. OECD data of 4 May 2020 about the number of infected people.  
Source: the BNB, the OECD, the WHO.

**Chart 6. Structure of Nominal Exports and Imports of Goods, 2019**



Source: the BNB.

**Chart 7. Structure of Nominal Exports and Imports of Services, 2019**



Sources: the BNB, Eurostat.

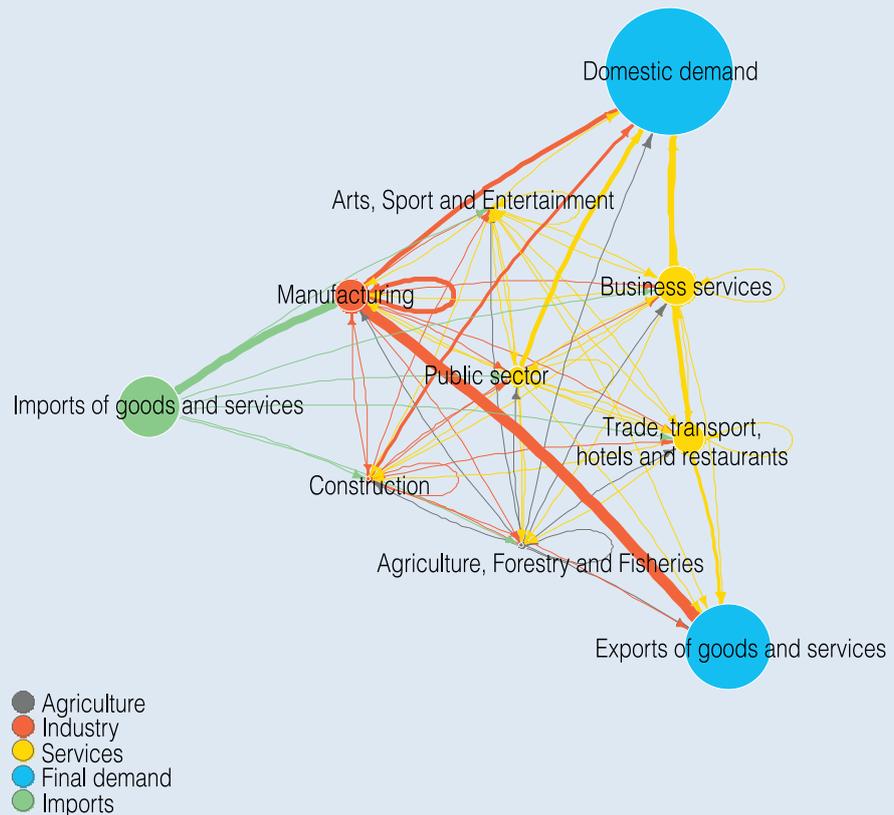
<sup>6</sup> NSI data show that in terms of destination visits of Bulgarian citizens to Turkey occupied the largest share at 23.1 per cent, followed by those to Greece at 20.9 per cent, while in terms of purpose visits are dominated by those other than tourist and business.

ment has the largest import component in domestic demand, with 100 units of investment containing 55 units of imports (see Table 3). Private consumption is also marked by a high import content. As regards the net effect of the COVID-19 pandemic on Bulgarian trade flows, we expect a deterioration in the balance of trade in goods and services and consequently on domestic economic activity. This will be driven by both the export oriented nature of the industrial sector in the country (see Chart 8 and Table 4) and the fact that Bulgaria is a net exporter of tourist services.

### Interlinkages between Main Economic Sectors

Transmission channels of the COVID-19 crisis to the Bulgarian economy depend largely on the internal epidemiological situation, the duration and stringency of containment measures and the efficiency of the measures initiated to support firms and households. Although containment measures affect directly the operation of firms only in some services sub-sectors, negative economic effects are likely to propagate in all economic sectors in line with the worsening of the overall macroeconomic environment and interlinkages between economic agents (see Chart 8). BNB estimates of cross-sector interconnectedness show, for example, that a decline by one unit in sector accommodation and food service activities results on average in a 0.25 units decline in demand for goods and services produced by the other economic sectors, with sectors related to trade, transport, business services and entertainment being most severely affected. It should be noted that estimates based on

Chart 8. Network Chart of Interlinkages between Main Economic Sectors in Bulgaria



Note: This chart presents a topological layout of the input-output tables for Bulgaria in 2015. Circularly arranged edges/nodes in the centre of the chart represent the main sectors of the economy. They are coloured in yellow, red and grey according to the type of the sector (services, industry and agriculture) to which they belong. The size of the nodes is proportionate to the value added created by the relevant sector. Blue nodes of the chart are the final destinations of the goods and services produced in Bulgaria, while the green node represents imported foreign value added which is used as an input in the manufacture of final goods and services. Arrows between nodes designate the direction of the movement of goods and services, with their width being proportionate to the value of cash flows.

Source: the OECD, BNB calculations.

input-output tables assume that the structure of the economy remains unchanged and, therefore, they do not account for potential restructuring of businesses toward producing high demand goods during a pandemic (for example, medical products).

Although the COVID-19 crisis leads to deterioration of short-term GDP growth prospects, it is difficult at this stage to assess long-term effects on the growth of potential output of the economy. The long-term effects will be driven by a possible constant change in the behaviour of economic agents, the ability of a timely and effective change in firms' organisation of work processes and the balance of government measures between short-term support of employment and incomes and continuation of undergoing long-term infrastructure projects.

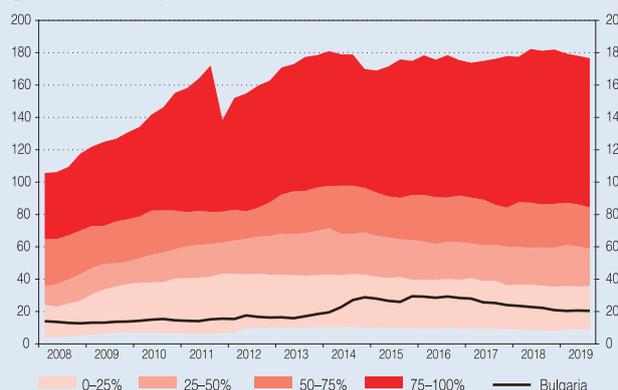
# IMPACT OF THE COVID-19 CRISIS ON PUBLIC FINANCES

As a consequence of the COVID-19 crisis, a significant deterioration in the budget balance may be expected resulting from the operation of automatic stabilisers and the extra discretionary government expenditure implemented after the introduction of state of emergency on 13 March 2020. Potential adverse effect on public finances could materialise in terms of a possible increase in government interest expenses under the scenario of a more lasting upward trend in Bulgarian government securities yield, stemming from increased volatility of financial markets and investor flight to so-called safe securities issued by countries with the highest credit rating. Such a result could arise from the need to issue a new debt for maturing government debt refinancing, budget deficit financing or fiscal buffer build-up. Given the favourable initial conditions on public finances in Bulgaria, including interest rates on government debt reaching historical lows in March 2020, prevailing share of government debt at fixed interest rate and maturity over 1 year, and low level of government debt and net financial obligations (see Chart 1), this channel would have a limited negative impact on Bulgaria's fiscal position.

**Chart 1. Initial Conditions on Public Indebtedness, Liquid Financial Assets and Long-term Government Securities Yields**

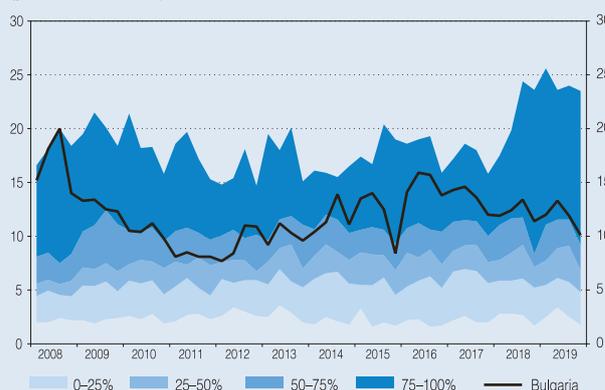
**General Government Consolidated Debt: Quartile Chart Based on EU Countries Data**

(per cent of GDP)



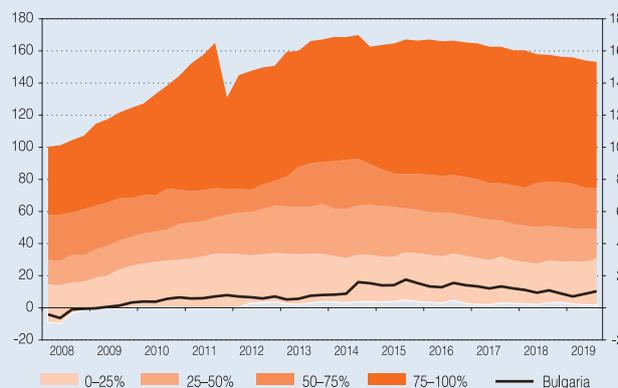
**General Government Liquid Assets<sup>1</sup>: Quartile Chart Based on EU Countries Data**

(per cent of GDP)



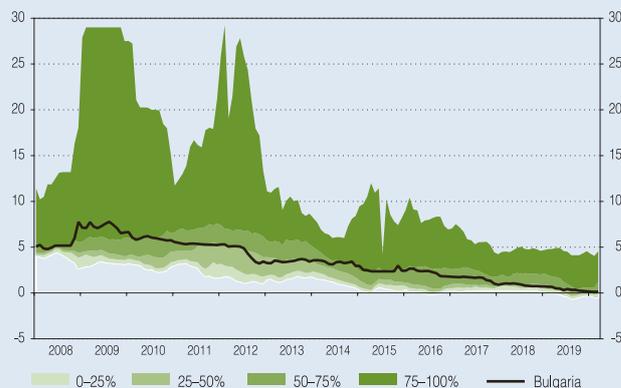
**General Government Net Debt<sup>2</sup>: Quartile Chart Based on EU Countries Data**

(per cent of GDP)



**Ten-Year Government Securities Yield: Quartile Chart Based on EU Countries Data**

(per cent)



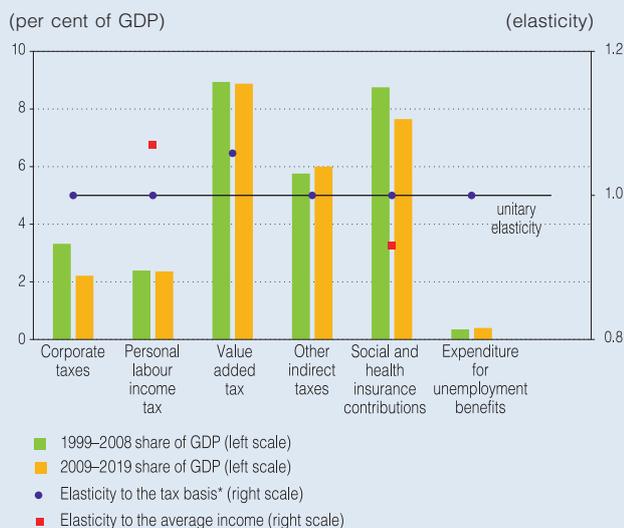
1 Liquid assets of the general government sector include cash and cash on deposits.

2 Net debt is defined as the excess of consolidated debt over the liquid assets of the general government sector.

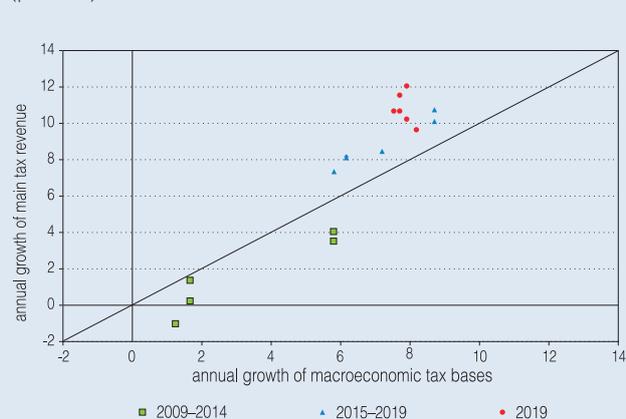
Source: Eurostat, the MF, the BNB.

Chart 2. Starting Conditions on Tax Revenue Sensitivity to Changes in the Macro-Financial Environment

*Cyclical Budget Components' Elasticities  
(According to the OECD Report of 2014)  
and Their Relative Share in GDP*



*Average Annual Growth of Tax Revenue  
Compared to Their Respective Tax Bases Growth  
(per cent)*



\* For personal income tax and social and health insurance contributions elasticities correspond to the number of employed persons.

Source: Eurostat, the OECD, BNB calculations.

Data available by mid-May 2020 indicate that negative budget effects related to automatic stabilisers will be most strongly pronounced. These implications reflect the simultaneous decrease in tax revenues and increase in unemployment benefits and other social transfers due to the deterioration of macroeconomic environment caused by the pandemic. The size of these effects depends both on the duration and depth of the COVID-19 crisis and economic agents' behaviour under the state of emergency and emergency epidemic situation in Bulgaria. Government discretionary measures will also affect the operation of automatic stabilisers, with a possible mitigation of the effects on unemployment rate and unemployment benefit expenditures to a certain degree depending on the coverage of subsidised employment scheme.

The projected fall in employment, income, household consumption, investments and deterioration of firms' and self-employed financial situation will have a negative impact on budget revenue. Reflecting the subdued economic activity, revenue from all categories of taxes is expected to decline depending on current elasticity of each tax revenue with respect to applicable tax bases. The last available estimation of long-term tax revenue elasticities in Bulgaria in 2014<sup>1</sup> suggests that elasticities of direct and indirect taxes are close to one, and below one only in terms of the change in social insurance contributions to average labour income growth. Concurrently, in 2019 and five years earlier the tax revenue growth exceeds that of their respective tax bases, which indicates an improvement in tax collection in addition to the positive budget effects of certain income and social security policies (see Chart 2)<sup>2</sup>. EC regular report estimates<sup>3</sup> show that the gap between theoretical VAT receipts and VAT receipts actually collected (the VAT gap) contracted from 25 per cent in 2009 to 13 per cent in 2018, improving by 9 percentage points only in the 2014–2018 period. Despite this positive trend, within a short horizon tax revenue collection is likely to deteriorate as in 2009

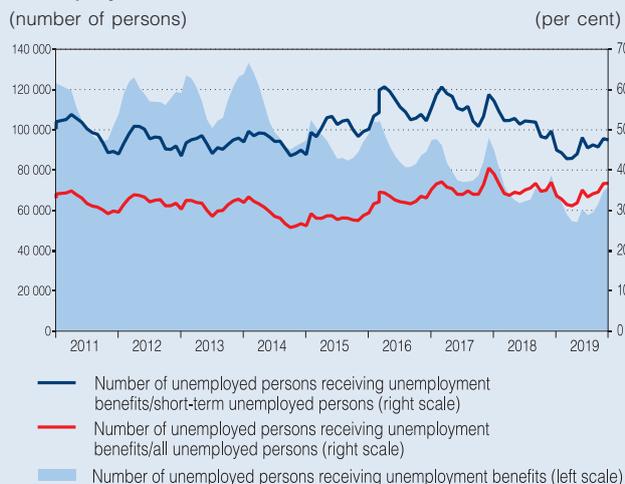
<sup>1</sup> See Price, R. W., T.-T. Dang, and Y. Guillemette (2014): New Tax and Expenditure Elasticity Estimates for EU Budget Surveillance, OECD Economics Department Working Papers 1174.

<sup>2</sup> The changes include pension contribution rises in 2017 and 2018, and gradual increases in minimum wage, minimum insurable income and maximum insurance threshold in 2019.

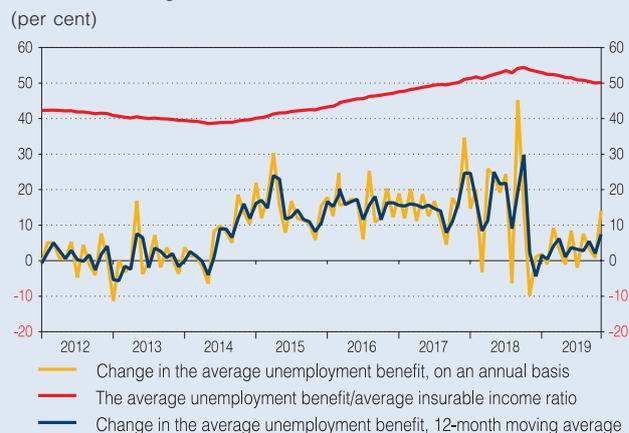
<sup>3</sup> See European Commission (DG TAXUD) (2013): 2013 Report: Study to quantify and analyse the VAT Gap in the EU-27 Member States, September 2013 and European Commission (DG TAXUD) (2019): Study and Reports on the VAT Gap in the EU-28 Member States: 2019 Final Report, September 2019.

Chart 3. Basic Parameters Determining Budget Expenditure for Unemployment Benefits

*Number of Unemployed Entitled to Receive Unemployment Benefits*



*Average Unemployment Benefit and Average Insurable Income in Bulgaria*



Source: the NSI, Employment Agency, BNB calculations.

when revenue shortfalls accompanied the fall in economic activity. Another factor that could be influencing the stronger decline in indirect taxes is the significant drop in oil prices observed in the first months of the year.

A significant part of non-tax revenue will be adversely affected due to the expected severe downturn in public services as a result of COVID-19 containment measures, rental and dividend income, which the State and local authorities collect<sup>4</sup>. The crisis caused by the COVID-19 pandemic is most likely to have a negative impact on funds absorbed by beneficiaries outside non-government sector due to their limited ability to provide necessary co-financing.

On the expenditure side of the budget, the main effects will impact social payments. Restrictive measures imposed by most of the economic activities in Bulgaria coupled with weakening external demand lead to a contraction in labour demand, with the quarantine imposed on individuals limiting labour supply. Such a negative impact on the labour market should be reflected mainly in the implications on budget expenditure for unemployment benefits; however, other social payments, including disability benefits and pension benefits upon a possible early retirement, may be expected to grow. The growth in budget expenditure for unemployment benefits depends on the scope of insured persons in the Unemployment Fund and the average amount of unemployment benefits. On average, 62.9 thousand persons have received unemployment benefits for 2019, comprising 45.7 per cent of short-term unemployed and 33.9 per cent of all unemployed. Over the recent years the average unemployment benefit related to average insurable income posted an increase, with the ratio coming to 58.3 per cent on average for 2019 (see Chart 3)<sup>5</sup>.

Under a no policy change scenario, adverse effects of containment measures to halt the spread of COVID-19 on the budget would be limited to the operation of automatic stabilisers. A number of discretionary measures were taken aiming at mitigating the economic impact of COVID-19 meas-

<sup>4</sup> In the Convergence Programme of the Republic of Bulgaria (2020–2023) the effect of discretionary policies to remit or reduce rents payable on state-owned and municipal properties and that of revenue forgone from tourist tax and various fees is estimated at BGN 100 million (0.1 per cent of GDP).

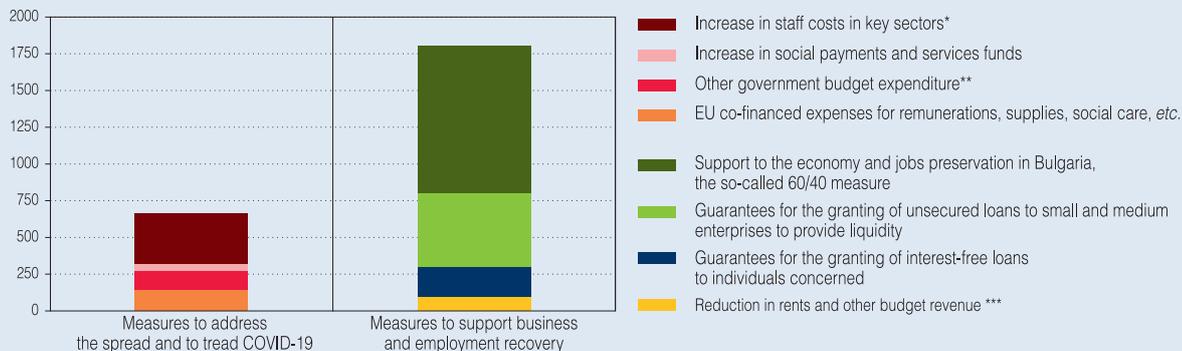
<sup>5</sup> The daily cash benefit for unemployment is 60 per cent of average insurable income for which contributions have been paid during the 24 months prior to suspension of social insurance. The amount of benefit must be at least the minimum amount and not larger than the maximum daily amount set out each year by the State Social Security Budget Law (BGN 9.0 and BGN 74.3 for 2019 respectively).

ures. The first part of these measures, which are expected to be in the total amount of BGN 0.7 billion, is intended to provide the necessary additional funds for the operation of healthcare and other key public services in the context of COVID-19 pandemic. The second part of measures, totalling BGN 1.8 billion, is aimed at supporting households and firms financially most affected by COVID-19 containment measures. Chart 4 summarises the adopted discretionary measures on these two strands based on the information in the Convergence Programme of the Republic of Bulgaria (2020–2023). The vast majority of the expenses on the first strand are additional remuneration costs in healthcare and internal security. Most of the expenditure on the first strand are planned to be financed by the limitation of other government budget expenditure or by unused EU funds. Therefore, these measures should have a limited negative impact on the budget balance. It is more difficult to assess the effect of these measures on Bulgaria's economic activity as far as they replace other national budget expenditure and programmes supported by EU funds. By mid-May there is still uncertainty about the size of the measures which will be implemented in case of extended period of epidemic situation. If the measures are prolonged, the size of these expenses would be higher and probably would lead to a further deterioration in the budget balance.

The second strand of measures is intended to support firms and households affected by COVID-19 containment measures. Among them, the measure to preserve jobs in Bulgaria through subsidised employment (the so-called 60/40 measure) is expected to be of the highest amount of BGN 1.0 billion. The efficiency of this measure determines and influences to a larger extent the operation of the automatic stabilisers in the budget related to unemployment benefits paid. Another instrument aimed to boost businesses and employees are the loans to firms and individuals guaranteed by the Bulgarian Development Bank for which BGN 0.7 billion are projected in the form of expanded capital of the state-owned bank<sup>6</sup>. In implementing the second strand of measures, there is also uncertainty surrounding the expected negative effect on budget and their efficiency for smoothing the pandemic effects on economic activity. The uncertainty stems from the unknown duration of the COVID-19 crisis, on the one hand, effective from the coverage and timely implementation of the various programmes, on the other.

**Chart 4. Measures to Address the Impact of COVID-19**

(BGN million)



Note: The chart shows only the measures finally approved by the government by 28 April 2020. EU co-financed measures for short-term schemes for employment and supporting liquidity in small and medium enterprises by different financial instruments are not included in the total amount of BGN 0.7 billion. Additional financial instruments that would be financed by the European Investment Fund and other programmes under which the beneficiary is the Fund Manager of Financial Instruments in Bulgaria are not included.

\* including financial resources necessary for front-line workforce in fighting the spread of the virus: healthcare professionals and employees in the public order, security and defence sectors.

\*\* including expenditure for disease prevention and containment measures, replenishment of the state reserve, distance learning etc.

\*\*\*including effects from lower rents for the use of state-owned or municipal property, decreases in tourist tax revenue, real estate tax, usage fees for markets and auctions, technical services and kindergarten fees.

Source: Convergence Programme of the Republic of Bulgaria (2020–2023).

<sup>6</sup> Funds allocated to capital increases of the Bulgarian Development Bank are likely to be recorded as a financial transaction according to the methodology for cash-based accounting and the EASA 2010 methodology for accrual-based accounting. These funds will likely not affect the budget balance on a cash and accrual basis.

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