



ECONOMIC REVIEW

3/2022



BULGARIAN NATIONAL BANK

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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 are also analysed since they directly affect the Bulgarian economy.

The Economic Review, issue 3/2022 was presented to the BNB Governing Council at its 22 November 2022 meeting. It employs statistical data published up to 7 November 2022. Expectations of economic trends in Bulgaria in the short term (until the first quarter of 2023), as described in this issue, are based on the BNB macroeconomic forecast prepared as of 30 September 2022. The estimates and projections published in this issue should not be regarded as advice or recommendation. Exclusively the information user is liable for any consequences thereof.

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ABBREVIATIONS

APP	Asset Purchase Programme
APRC	Annual percentage rate of charge
b.p.	basis points
CEE	Central and Eastern European countries
CFP	Consolidated Fiscal Programme
CNY	Chinese Yuan
CPI	Consumer Price Index
EC	European Commission
ECB	European Central Bank
EIB	European Investment Bank
EONIA	Euro OverNight Index Average
EU	European Union
EURIBOR	Euro Interbank Offered Rate
EWRC	Energy and Water Regulatory Commission
FDI	Foreign Direct Investment
FOB	Free on Board
FOMC	Federal Open Market Committee
GDP	Gross Domestic Product
HICP	Harmonized Index of Consumer Prices
HPI	House Price Index
IBEX	Independent Bulgarian Energy Exchange
IEA	International Energy Agency
IMF	International Monetary Fund
ISM	Institute for Supply Management
LEONIA	LEv OverNight Index Average
LFS	Labour Force Survey
LIBOR	London Interbank Offered Rate
LNG	Liquefied natural gas
M3	broad money
MF	Ministry of Finance
MFIs	Monetary Financial Institutions
mt	metric tons
MMBtu	Metric Million British Thermal Unit
NPISHs	Non-profit institutions serving households
NRRP	National Recovery and Resilience Plan
NSI	National Statistical Institute
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of Petroleum Exporting Countries
PBoC	People's Bank of China
PCE	Personal Consumption Expenditures
PEPP	Pandemic Emergency Purchase Programme
PMI	Purchasing Managers' Index
p.p.	percentage points
PPI	Producer Price Index
PSPP	Public Sector Purchase Programme
SEBRA	System for Electronic Budget Payments
SITC	Standard International Trade Classification
SNA	System of National Accounts
TPI	Transmission Protection Instrument
VAT	Value Added Tax
€STR	Euro Short-Term Rate

SUMMARY

The downward trend in global economic activity persisted in the third quarter and the beginning of the fourth quarter of 2022. The deterioration of the economic situation worldwide continued to be driven by the negative effects of high inflation, and in particular that in energy commodities, and by the stringent containment measures in China. The slowdown in global economic activity led to some decline in annual growth of energy commodity prices, while global inflation stabilised at high levels. Geopolitical uncertainties and limited natural gas supply caused by Russia's invasion of Ukraine continued to have a negative impact on economic activity in the euro area. Taking into account the high inflation in the USA and the euro area, the US Federal Reserve System and the ECB took additional measures to tighten their monetary policies. Between August and early November 2022, both central banks raised their key interest rates twice by 75 basis points or by a total of 150 basis points. The federal funds rate corridor reached 3.75 – 4.00 per cent, while the ECB's interest rates on main refinancing operations, marginal lending facility and deposit facility stood at 2.00, 2.25 and 1.50 per cent, respectively. The two central banks continued to signal that the upward interest rate cycle persist continue over 2023 as well. These developments in the international environment imply a decline in the external demand for Bulgarian goods and services, unfavourable price terms of trade for Bulgaria and a deterioration in financing conditions for both the government and the private sector in the third and fourth quarters of 2022.

During the period January to August 2022, Bulgaria was a net creditor to the rest of the world, with the financial account recording a positive balance of EUR 3.1 billion. The positive financial account balance was formed as a result of a higher accumulation of Bulgarian residents' foreign assets compared to that of liabilities to non-residents. Concurrently, the combined current and capital account recorded a surplus of EUR 1.3 billion in the period under review, against EUR 1.1 billion between January and August 2021. All items of the current account, excluding the trade balance, contributed to the increase in the surplus. Reflecting these circumstances, Bulgaria's gross international reserves accumulated from January to August 2022, according to the balance of payments, decreased by EUR 458,6 million.

An upward trend in annual growth of non-government sector's deposits in the banking system was observed in the first nine months of 2022. This dynamics was driven by the accelerated annual growth of non-financial corporations' deposits, reflecting weakening investment activity of corporations amid heightened uncertainty in the economic environment and increased nominal gross operating surplus in the sector of industry. The removal of the fee for cash above a certain amount in the third quarter of the year, which was applied by large commercial banks, is a factor likely to reverse the downward trend in annual growth of household deposits since the second half of 2022.

Annual growth of credit to the non-government sector accelerated further in the first eight months of 2022, which was stronger in corporate loans. The price increase in commodities and raw materials coupled with the continuing bottlenecks in global supply chains encouraged corporations to seek bank resources required for working capital and accumulation of inventories. The increase in nominal interest rates on corporate loans which began in September and reflects the reversal of interest rate cycle in the euro area, is likely to have contributed to the slowdown in annual growth of corporate loans at the end of the third quarter of the year. Credit growth to households continued its gradual upward trend reflecting still low interest rates and the ongoing acceleration in consumer price inflation, creating prerequisites for higher demand for financial resources for purchases of real estate and durable goods as a store of value.

In the second quarter of 2022, the economic activity in Bulgaria increased by 0.9 per cent quarter on quarter according to seasonally adjusted data, but on an annual basis real GDP growth slowed further to 3.9 per cent. The weaker domestic demand growth and contraction in the positive contribution of

changes in inventories resulted in a lower annual growth of economic activity. Although net exports continued to limit annual real GDP growth, their negative contribution declined over the quarter as a result of the year-on-year acceleration in the growth of exports of goods and services. An increase in economic activity on an annual basis was recorded in all major economic sectors and most significantly in mining and manufacturing sub-sector. Employment rose by 1.3 per cent year on year mainly driven by the increases in the number of employed persons in the services sector. Compensation per employee accelerated significantly, supported by both consumer price increases amid limited labour supply in the country and higher labour demand in the context of increased economic activity.

Economic indicators in the third quarter of 2022 suggest that the growth rate of economic activity on a quarterly basis will be similar to that in the second quarter. Adverse developments in the external environment in terms of global economic growth and tighter global financial conditions are expected to lead to a more significant deterioration in the outlook for the Bulgarian economy in the fourth quarter of 2022 and the first quarter of 2023.

Annual inflation, measured by HICP, continued to accelerate reaching 15.6 per cent in September 2022. Higher prices of energy and agricultural goods in international markets exerted the strongest upward pressure on consumer prices. Euro depreciation against the US dollar was another factor behind higher import prices in the trade with non-EU countries. As regards the internal macroeconomic environment, strong consumer demand and rising unit labour costs continued to push up prices. Based on these developments, on the assumptions about changes in international prices of commodities and their pass-through to administratively regulated prices, inflation is expected to gradually slow down in the fourth quarter of 2022 and the first quarter of 2023. Factors with a pro-inflationary effect are expected to be the projected strong increase in unit labour costs, private consumption growth and the suspension of certain fiscal measures.

1. EXTERNAL ENVIRONMENT

1.1. Current Business Situation

Global Environment

In the second quarter of 2022, global GDP growth slowed to 0.1 per cent on a quarterly basis compared to 0.6 per cent in the first quarter, while the dynamics of global economic indicator (global PMI) points to a further worsening of global economic situation in the third quarter of 2022 and the beginning of the fourth quarter. Both manufacturing and services PMIs recorded a decline in economic activity. A decrease in new orders and lower expectations of future production and activity were observed in both sectors. The trend towards normalisation of supply chains was maintained in the period July – October 2022. Across regions, the deterioration in economic activity is broad-based, affecting both developed and developing market economies. The global downward trend was probably driven by the tightening of central banks' monetary policies, which resulted in worsening of financing conditions.

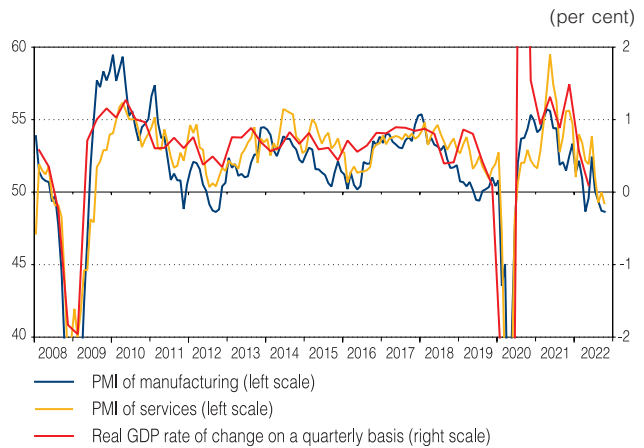
Growth rates of the volumes of global industrial output and global trade were similar on an annual basis between July and August with those recorded in the second quarter of 2022. Most major regions reported a moderate growth in industrial output and foreign trade.

Annual global inflation in the third quarter of 2020 tended to stabilise at high levels. September 2022 data show that global inflation rose to 9.2 per cent on an annual basis compared to 8.8 per cent in June 2022. The slowdown in global inflation growth is likely due to falling oil prices coupled with the effects of monetary policy tightening of major central banks.

International Commodity Prices

Energy commodity prices declined in the third quarter of 2022 compared to the previous quarter, but their prices remained significantly above the levels of the same period of the previous

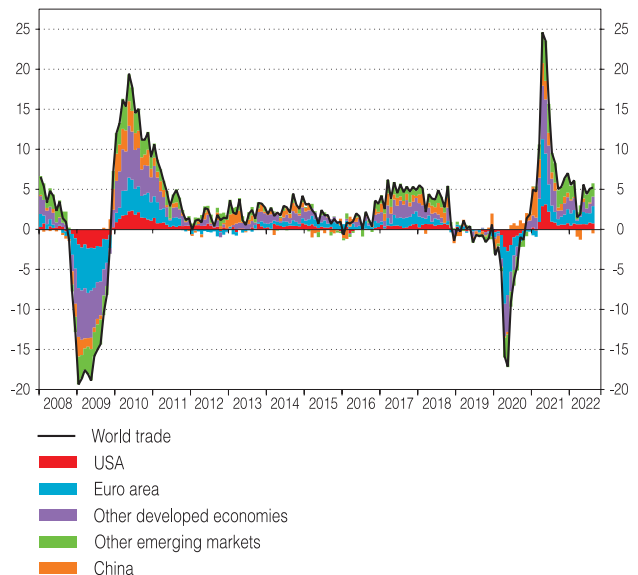
Manufacturing and Services PMIs and Change in World Real GDP



Sources: JP Morgan, the World Bank.

World Trade in Goods

(annual rate of volume change and contribution by region, per cent, percentage points)



Source: CPB Netherlands Bureau for Economic Policy Analysis.

year. The average Brent price over the period reached 99.2¹ dollars *per barrel* (EUR 98.5 *per barrel*), with a significant growth year on year in both US dollars (35.9 per cent) and euro (59.0 per cent). Annual growth in natural gas prices in the third quarter was again most pronounced in the European market (255.4 per cent in US dollars, 316.0 per cent in euro), with a strong increase also in the Japanese market (95.8 per cent in US dollars), while restrictions on liquefied natural gas exerted downward pressure on price rises in the USA.

The slowdown in global economic activity was a key factor behind the oil price decline on a quarterly basis. Concurrently, the ongoing relatively strong global demand for energy commodities from alternative suppliers to Russia limited the decline in oil and natural gas prices.

Since the beginning of October an upward trend in crude oil prices started, reflecting OPEC+² decision to cut production by 2 million barrels *per day*.

An important factor for the natural gas price in the third quarter was the higher demand for liquefied natural gas in Europe, due to the suspension of supplies from Russia and the accelerated filling of gas storage facilities before the winter season in the region. The need to offset the reduced electricity generation from hydropower and nuclear power plants during the period (due to droughts and maintenance difficulties) increased further the demand for natural gas in certain European countries. As a result of these developments, the price of natural gas in August reached its historically highest monthly average of 70.0 USD/MMBtu³ (235.97 EUR/MVh). Price dynamics on commodity exchanges prompted the redirection to Europe of large quantities of liquefied natural gas which are intended for other markets. This development coupled with lower exports of liquefied natural gas from the USA⁴, led to international commodity price hikes. The

¹ Hereinafter referred to as the US dollar.

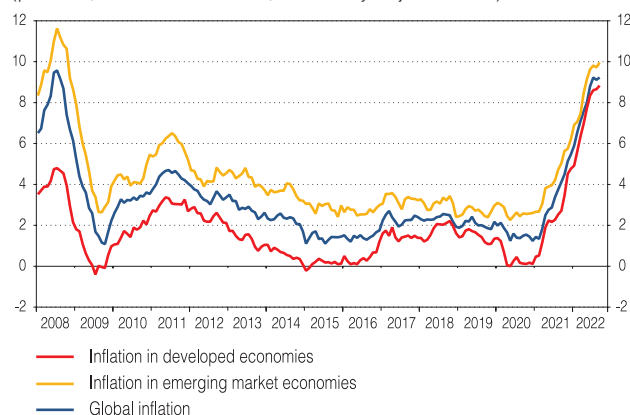
² On 5 October 2022, OPEC+ countries agreed to cut production by 2 million barrels *per day* compared to August 2022 effective from November 2022.

³ Based on World Bank data and Intercontinental Exchange. Natural gas price is reported in US dollars *per* million British thermal unit (MMBtu).

⁴ On 8 June an incident was registered in one of the plants of *Freeport LNG*, which is the second largest exporter of liquefied natural gas in the USA, with a share of 20 per cent of total US exports of LNG.

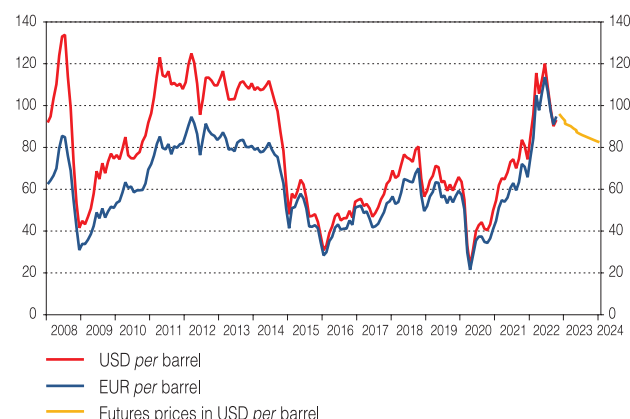
Inflation Measured through CPI

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



Source: the World Bank.

Prices and Futures of Brent Crude Oil



Note: Futures prices are average prices of the first week of November 2022 contracts, USD *per barrel*.

Sources: the World Bank, the ECB, JP Morgan and BNB calculations.

early implementation of the plans for filling gas storage facilities in most of the major European countries and lower consumption resulted in a substantial price fall at the end of the third quarter. In October 2022, natural gas prices (except for the price in Europe) remained close to the average level in the third quarter. In Europe natural gas price continued to fall in October driven by higher than normal seasonal temperatures in the region.

In the third quarter of 2022, the average metal price index declined significantly by 20.1 per cent in US dollars on an annual basis (-6.5 per cent in euro). This decrease reflected lower demand as a result of increasing concerns among market participants about a further deterioration in global activity in the manufacturing and construction sectors. Iron ore and iron scrap made the largest negative contribution to the annual change in metal index. The fall in the price of copper, which is essential for Bulgarian exports, was driven by the significant deterioration in economic activity in China, which is the largest user of the metal.

From July to September 2022, the food price index recorded an annual growth of 12.5 per cent in US dollars and 31.7 per cent in euro, with growth rate slowing from the previous quarter. Most index sub-components continued to increase on an annual basis. The price of wheat, which is essential for Bulgarian food exports, fell by 23.7 per cent in US dollars on a quarterly basis, after Russia and Ukraine each signed an agreement for exports of grain through the Black Sea⁵ with the UN and Turkey. Subsequently to the agreement, a large quantity of Ukrainian wheat was exported at an accelerated rate. Wheat price was further pushed down by the seasonal increase in supply from the current harvest⁶.

The United States

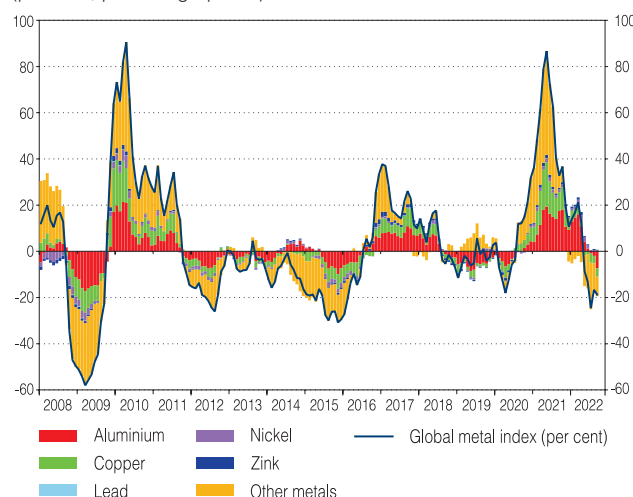
In the third quarter of 2022, the US real GDP posted a growth of 0.6 per cent quarter on quarter from a registered decline in the previous

⁵ The agreement [Initiative on the Safe Transportation of Grain and Foodstuffs from Ukrainian Ports](#), also known as *Black Sea Grain Initiative*, was signed on 22 July 2022 and expires on 19 November 2022.

⁶ For details, see the regular publication of the Food and Agriculture Organization of the United Nations, September 2022. [FPMA Bulletin](#)

Metal Price Indices

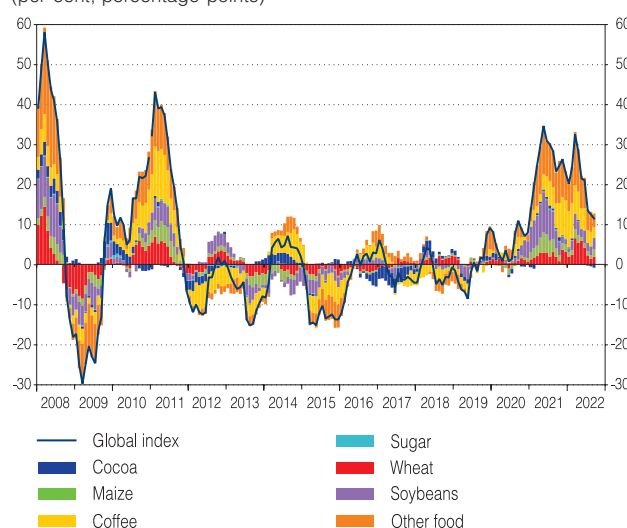
(per cent; percentage points)



Note: Annual rate of change (per cent) and contribution by subcomponent (percentage points) of relevant price indices measured in US dollars. Sources: the ECB and BNB calculations.

Food Price Indices

(per cent; percentage points)



Note: Annual rate of change (per cent) and contribution by sub-component (percentage points) of relevant price indices measured in US dollars. Sources: the ECB and BNB calculations.

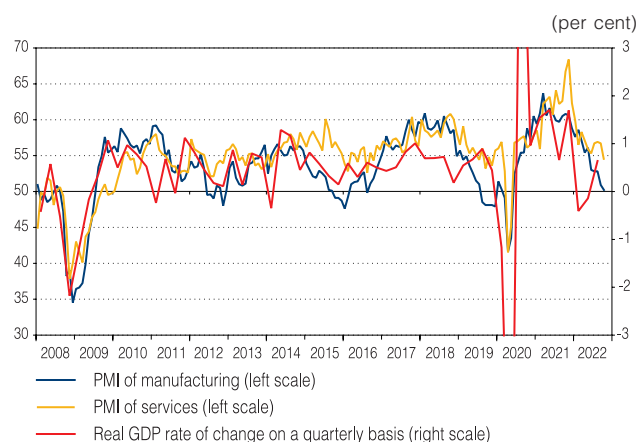
two quarters. The recovery in real GDP growth was mainly driven by higher net exports, lower decline in inventories and recovery of non-residential private investment and government consumption. Household consumption growth decelerated quarter on quarter and housing investment declined strongly.

In the third quarter and the beginning of the fourth quarter of 2022, the leading economic indicators showed a downward trend in economic activity. In October, the ISM Manufacturing PMI fell close to the neutral limit of 50 points, while the relevant indicator for the services sector declined to a lesser extent, remaining above this limit. Consumer confidence indicators showed mostly positive movements in the third quarter of 2022, remaining, however, significantly below their level of the beginning of the year. Overall, data available as of end-October 2022 indicate that real GDP growth will be sustained in the fourth quarter of 2022.

Between July and October 2022, US labour market conditions did not change significantly, remaining favourable. Employment in the non-agricultural sector continued to grow, exceeding in August the pre-COVID-19 crisis level. The ratio of offered new jobs to the number of unemployed remained high from a retrospective point of view, despite the slight decrease in indicator average value to 1.8 in the third quarter, from 1.9 on average in the second quarter. At the end of the third quarter of 2022, the unemployment rate went down to 3.5 per cent, from 3.6 per cent at the end of the previous quarter, but increased in October to 3.7 per cent.

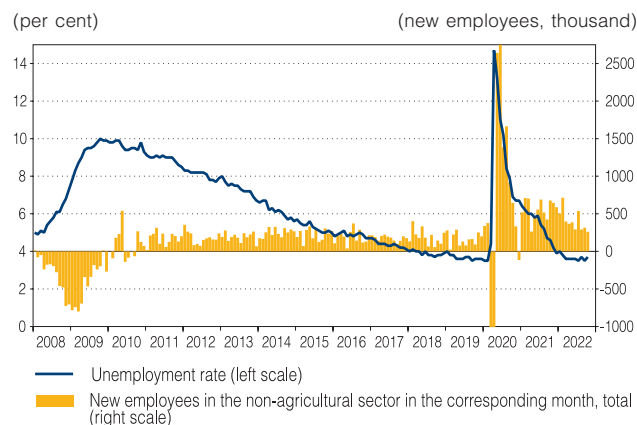
Annual consumer price inflation slowed in the third quarter, continuing, however, to exceed significantly the 2 per cent target level set by the US Federal Reserve System. In September 2022, the annual change of the price index of personal consumption expenditure (PCE) dropped to 6.2 per cent, from 6.6 per cent on average in the second quarter. The decline in inflation was mainly due to the fall in transport fuel prices and, to a lesser extent, to the lower annual inflation in car prices. The annual growth rate of the core PCE price index (excluding food and energy products) accelerated to 5.1 per cent in September, from 5.0 per cent on average in the second quarter. Core inflation growth reflected

Manufacturing and Services PMIs and Change in US Real GDP



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

US Unemployment Rate and a Monthly Change in Number of New Employees in the US Non-agricultural Sector



Source: Bureau of Labour Statistics.

the higher annual inflation in housing, medical services and car maintenance costs.

Between August and November 2022 the Federal Reserve System continued to tighten at accelerated pace its monetary policy in response to the high inflation levels recorded in the US. At its two meetings held in this period the Federal Open Market Committee (FOMC) raised the federal funds rate corridor by a total of 150 basis points, to a range of 3.75-4.00 per cent, with an increase of 75 basis points in September and November. At its November meeting FOMC signalled an impending slowdown in the pace of monetary policy tightening.

In September 2022, the median of FOMC members' individual forecasts about the federal funds rate showed expectations of its increase by additional 50 basis points until the end of 2022, corresponding to a corridor of 4.25-4.50 per cent of the federal funds rate.

China

In the third quarter of 2022, China's real GDP increased by 3.9 per cent on a quarterly basis, from a decline of 2.7 per cent in the second quarter. The recovery of economic activity growth reflected mainly the easing of strict containment measures. Increased government investment expenditure on infrastructure and industrial production was another driver of the economic growth over the period⁷.

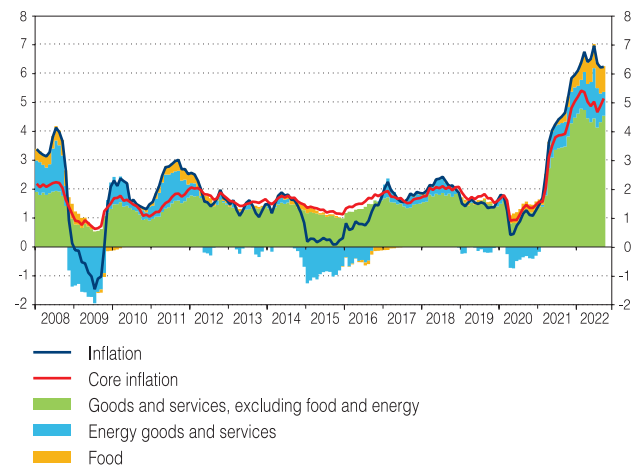
Between July and October 2022, average manufacturing and services PMIs in China declined, probably driven by the stringent containment measures periodically introduced and the significant deterioration in the activity in real estate sector.

Annual inflation in China accelerated in the third quarter, standing at 2.8 per cent by September, from 2.5 per cent in June. Inflation developments continued to be driven mainly by rising food prices. Core inflation in the country fell to 0.6 per cent on an annual basis in September, against 1.0 per cent in June 2022. The decline in core inflation probably reflects the subdued

⁷ At the end of August China's State Council announced a fiscal stimulus package worth CNY 1 trillion (0.8 per cent of GDP), that includes additional expenditure on infrastructure investment and support to manufacturing enterprises involving a four-month tax payment deferral of CNY 440 billion and CNY 32 billion of VAT credit refund.

US Inflation Rate

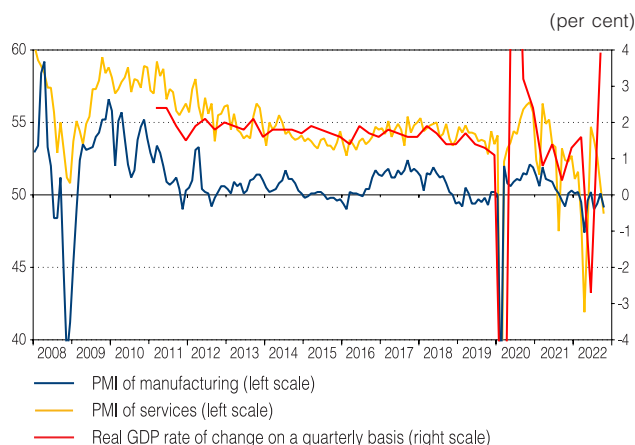
(per cent; percentage points; on an annual basis)



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

Source: Bureau of Economic Analysis.

Manufacturing and Services PMIs and Change in China's Real GDP



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

private consumption as a result of the still ongoing containment measures, albeit less stringent in the country.

Between July and October 2022, the People's Bank of China lowered two of the key interest rates by 10 basis points with the interest rate on the medium-term lending facility with a maturity of one year decreasing to 2.75 per cent and that on seven-day repo agreements to 2.00 per cent respectively.

Euro Area

According to Eurostat preliminary data, euro area real GDP growth declined on a quarterly basis to 0.2 per cent in the third quarter of 2022, from 0.8 per cent in the previous quarter, while in Germany, Bulgaria's largest trading partner, it accelerated to 0.3 per cent compared to 0.1 per cent in the previous quarter.

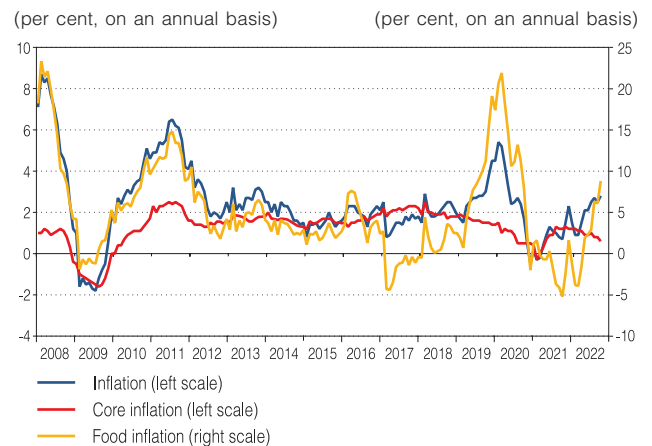
In the third quarter and the beginning of the fourth quarter of 2022, PMI indices in the euro area followed a downward trend, signalling a downturn in economic activity in the region. A decrease was reported in both manufacturing and services sectors' indices. Firms indicate that key factors behind the decline in their economic activity are related to the low volume of new orders, uncertainty in energy expenditure, high inflation and increased expectations of an upcoming economic recession in the euro area. Between July and October 2022, euro area households' confidence indicator also continued to fall, reaching historical lows in September.⁸ Overall, economic indicators data available by the beginning of November 2022 showed a quarterly decline in euro area real GDP in the fourth quarter of 2022.

Labour market conditions in the euro area were still favourable. The unemployment rate remained at 6.7 per cent in the third quarter of 2022, as in the previous quarter, while the employment growth rate was sustained at a relatively high historical level.

Between July and October 2022, euro area annual HICP inflation increased further. According to preliminary data, inflation reached 10.7 per cent year on year in October, from 8.6 per cent in June. Euro area inflation continued to be pushed

⁸ Historical data for this indicator are available since 1985.

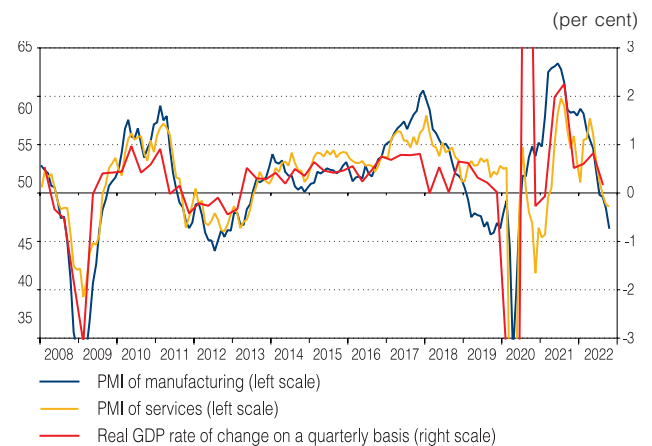
China's Inflation Rate



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

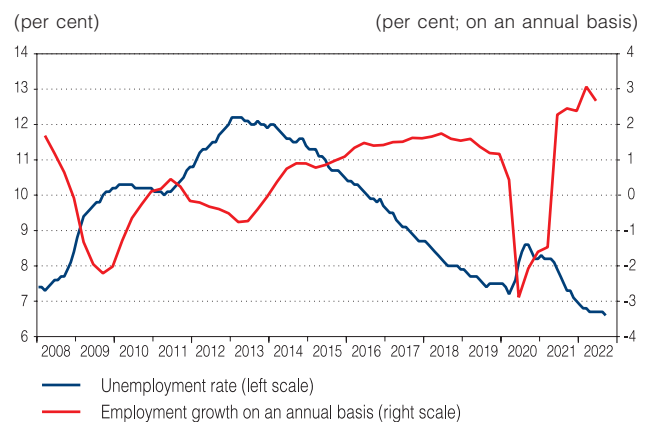
Source: National Bureau of Statistics of China.

Manufacturing and Services PMIs and Change in Euro Area Real GDP



Source: Eurostat.

Euro Area Unemployment Rate and Employment Growth



Source: Eurostat.

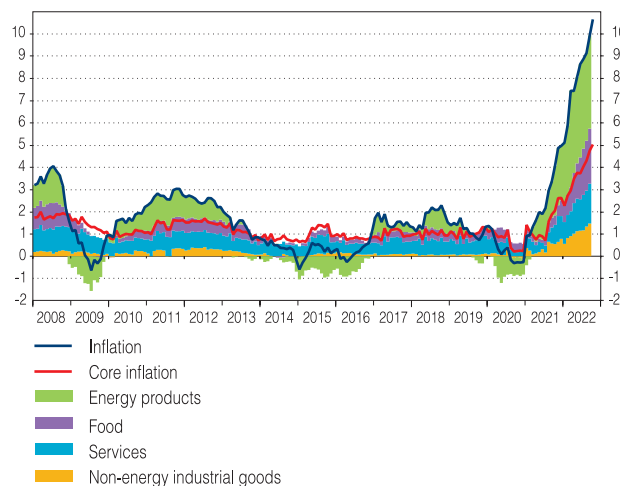
up by increasing international food and energy prices amid sustained high consumer demand, underpinned by the prolonged period of strongly accommodative monetary and fiscal policies. By commodity group, the acceleration of annual inflation in the third quarter compared to the previous quarter was mainly driven by higher prices of processed food, natural gas, electricity, combined transport and, to a lesser extent, by price rises in catering. Higher food prices reflect the continued increase in production costs in the agriculture and food industry due to natural gas and fertiliser price hikes and lower exports of cereals from Ukraine. High natural gas prices in Europe continue to reflect the disrupted supplies from Russia and the difficulties in finding alternative suppliers of the raw material. Core euro area inflation, excluding food and energy products, also accelerated, amounting to 5.0 per cent on an annual basis in October against 3.7 per cent in June.

In order to counter rising inflation, at its July meeting the ECB Governing Council increased the pace of raising key interest rates in the euro area from 50 basis points to 75 basis points at its September and October meeting to 2.00 per cent, 2.25 per cent and 1.50 per cent for interest rates on main refinancing operations, marginal lending facility and deposit facility.

In the period July – October 2022, the upward dynamics in interest rates on the unsecured euro area money market and German government bond yields reflected the ECB interest rate raise and market participants' expectations of further future raise thereof. In October, the average value of the €STR, the overnight euro area's money market rate, increased to 0.66 per cent on average compared to -0.08 per cent and 0.58 per cent in the third and second quarters of 2022, respectively. German government bond yields in the two-year maturity sector increased by 130 basis points, from the end of June 2022 to 1.93 per cent, and in the ten-year maturity sector yields rose by 81 basis points to 2.14 per cent. Higher yields on US and United Kingdom government bonds over the period was another factor behind the depreciation of German government bonds.

Euro Area Inflation Rate

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



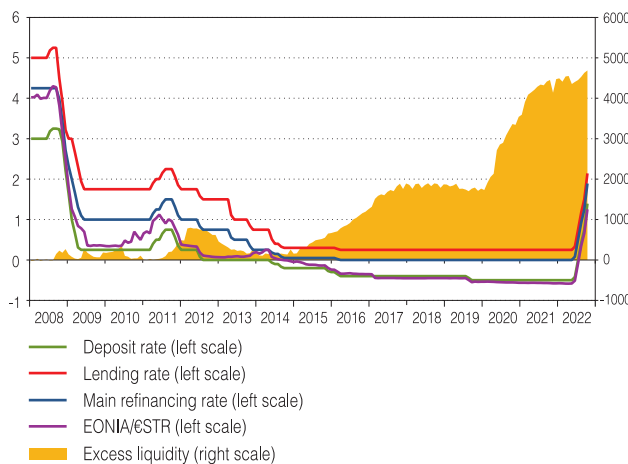
Notes: The inflation is measured by HICP. Core inflation is measured by HICP, excluding energy products, food, alcohol and tobacco products.

Source: Eurostat.

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

(per cent)

(EUR billion)

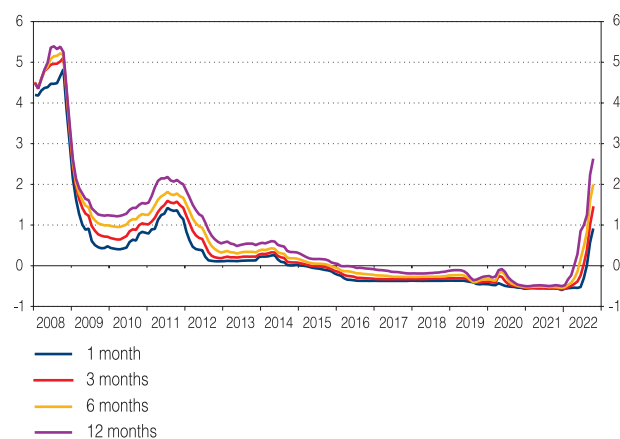


Note: The EONIA/€STR time series is composed of: EONIA between 2008 and 14 March 2017; pre-€STR between 15 March 2017 and 30 September 2019; €STR in the period after 30 September 2019.

Source: the ECB.

EURIBOR

(per cent)



Source: the ECB.

1.2. Impact on the Bulgarian Economy

The slowdown in real GDP growth on a quarterly basis reported in the third quarter in most Bulgaria's major trading partners in the euro area and the continued downward trend in the economic indicators for these countries in the fourth quarter imply a weakening of the external demand for Bulgarian goods and services over this period. Given the high degree of openness in the Bulgarian economy and the large share of exports in GDP, a significant pass-through of the external demand deterioration to Bulgaria's real economic activity may be expected.

Commodity price developments in international markets in the third quarter of 2022 continued to be driven by a number of factors, including the war in Ukraine, persistent bottlenecks in supply chains and expectations of weakening global activity, with energy and food prices in euro declining on a quarterly basis, remaining, however, significantly above their levels of the third quarter of the previous year. The high share of foreign value added in firms' final output and final household consumption expenditure in Bulgaria, along with high energy-intensive economy, imply that import price increases can be passed through relatively quickly to producer and consumer prices. The structure of Bulgaria's foreign trade and economy in combination with the price developments in commodity groups in international markets point to the emergence of unfavourable terms of trade for Bulgaria in the third quarter of 2022.⁹

The increase in key interest rates by the Federal Reserve System and the ECB until the beginning of the fourth quarter of 2022 and signals that the monetary policy tightening cycle will continue, may result in deterioration in financing conditions for the Bulgarian government and private sector. According to the currency board principles, the upward trend in interbank money market rates in the euro area may be expected to be quickly transmitted to the interest rates in Bulgaria, resulting in an increase in lending and deposit rates in the country in the fourth quarter of 2022.

⁹ Unfavourable terms of trade refer to a stronger annual increase in the deflator of imports of goods than that of exports of goods.

2. EXTERNAL FINANCIAL FLOWS

2.1. Balance of Payments and Foreign Trade

Between January and August 2022, Bulgaria's balance of payments data reported a decline in gross international reserves of EUR 458.6 million. Banks that increased their foreign assets in foreign currency and deposits contributed most to this fall. In August 2022, the international reserve coverage of the nominal imports of goods and non-factor services remained at a relatively high level at 7.7 months (9.8 months in December 2021). The excess of international reserves¹⁰ to Bulgaria's short-term external debt remained also high, reaching 4.3 times in August 2022 (5.0 times in December 2021).

Current Account and Capital Account

Between January and August 2022, the current and capital account of the balance of payments recorded a surplus of EUR 1339.5 million, against EUR 1077.4 million for the corresponding period in 2021. The increase in the surplus was driven by all items of the current account, excluding the trade balance, whose deficit rose over the period. Concurrently, the capital account recorded a deficit of EUR 80 million against a surplus of EUR 542.3 million in the period January – August 2021. The transition from surplus to deficit was due to an increase in the funds paid for purchase of greenhouse gas emission allowances and a decline in capital transfers received by the general government sector in the form of investment subsidies.

Trade Balance and Foreign Trade in Goods

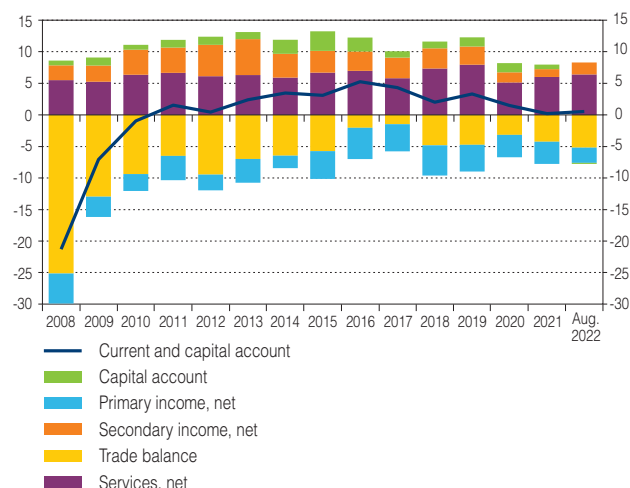
Between January and August 2022, trade balance deficit expanded from the corresponding period of 2021. This largely reflected the stronger year-on-year growth in real imports of goods (11.1 per cent) compared to that in exports (6.5 per cent)¹¹

¹⁰ 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.

¹¹ Non-seasonally adjusted national account GDP data.

Current and Capital Account Flow Dynamics and Contribution by Components

(per cent of GDP)

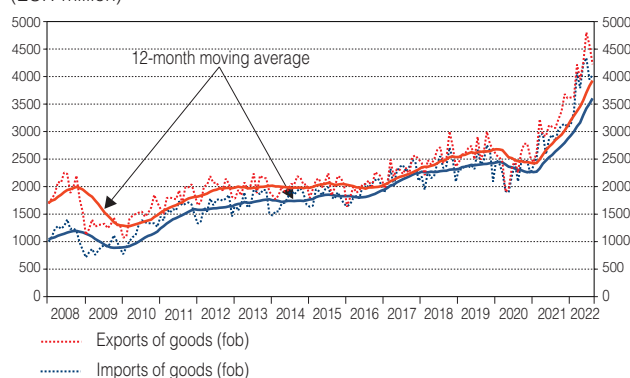


Notes: August 2022 data on the balance of payments current and capital account flows are accumulated for the last 12 months. Nominal GDP data for the last four quarters up to the second quarter of 2022 are used in calculating the GDP ratio for August 2022.

Sources: the BNB, the NSI, BNB calculations.

Nominal Exports and Imports of Goods Dynamics (Balance of Payments Statistics Data)

(EUR million)



Note: Monthly data are used. The last observation is for August 2022.

Source: the BNB.

in the first half of 2022. Concurrently, favourable terms of trade for Bulgaria partly limited the increase in the trade deficit. The upward dynamics of real exports is likely to be related to the significant accumulation of inventories in the economy over the first six months, while the increase in exports over the period was mainly driven by the ongoing growth of external demand for Bulgarian goods and services (despite the adverse effects of the military conflict in Ukraine) and, to a lesser extent, by the favourable commodity composition of exported products¹².

By commodity group, foreign trade data show that exports recorded a nominal growth on an annual basis of 41.8 per cent in the period from January to July. The exports of all commodity groups picked up, with mineral products and fuels¹³, followed by food¹⁴ making the major positive contribution over the period. According to BNB calculations, both real volumes and price components contributed positively to the dynamics of exports of mineral products and fuels¹⁵ and food¹⁶ in the first half of 2022. The increase in the price component in both commodity groups was stronger than that in real volumes, which is probably due to the substantial year-on-year international price hikes of these commodities in euro over the period under review.

Between January and July 2022, nominal imports of goods registered a significant growth of 46.5 per cent on an annual basis. By use¹⁷, the groups of raw materials and of energy resources were the key contributors to this dynamics. According to

¹² A favourable commodity composition refers to the high share in total Bulgarian exports of goods whose global demand is growing at higher rates than those of total global trade over the review period.

¹³ In this Chapter, it should read the mineral products and fuels group under the Combined Nomenclature.

¹⁴ In this chapter, it should read the animal and vegetable products, food, drinks and tobacco group under the Combined Nomenclature.

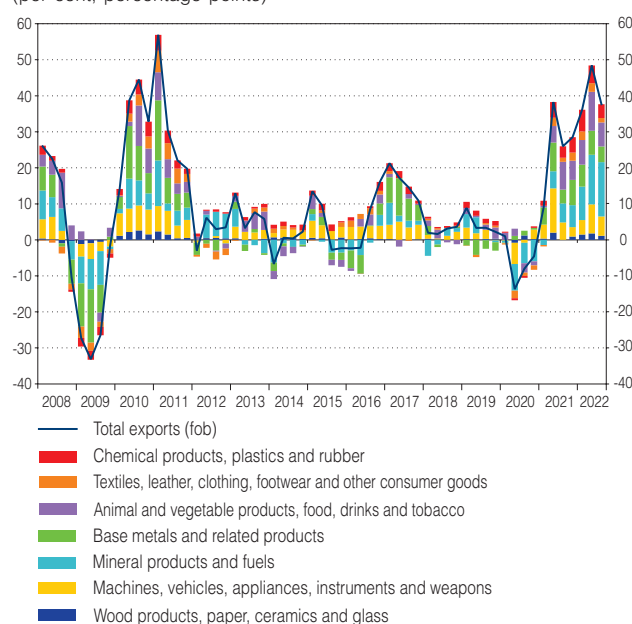
¹⁵ Real volumes of exports of the mineral products and fuels group have been constructed by using NSI data on export prices of the mineral fuels, oils and related products group under the Standard International Trade Classification (SITC) and Eurostat data on nominal values of exports of this commodity group under the SITC available by June 2022.

¹⁶ Real volumes of exports of the animal and vegetable products, food, drinks and tobacco group have been constructed, including the commodity groups under the SITC of food and live animals, soft and alcohol beverages, and tobacco, and animal and vegetable fats, oils and waxes. The analysis employs NSI data on export prices of the relevant commodity groups and Eurostat data on nominal values of exports of the commodity groups under SITC, available by June 2022.

¹⁷ Foreign trade data published by the BNB.

Exports by Commodity Group under the Combined Nomenclature, Contribution to the Overall Rate of Change by Sub-components

(per cent, percentage points)

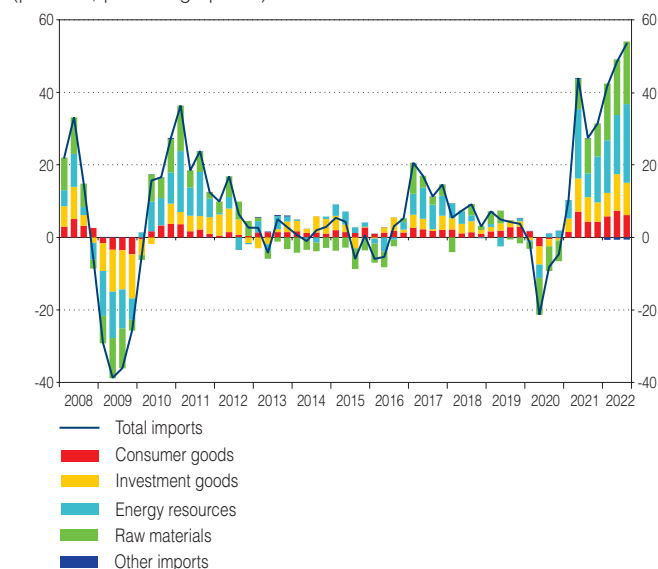


Notes: Quarterly data are used. Data on foreign trade flows for the third quarter of 2022 are for July and have been compared with the respective data for July 2021.

Source: the BNB.

Imports of Commodity Groups by Use, Contribution to the Overall Rate of Change by Sub-components

(per cent, percentage points)



Note: Data on a quarterly basis are used. Data on foreign trade flows for the third quarter of 2022 are for July and have been compared with the respective data for July 2021.

Source: the BNB.

BNB calculations the upward dynamics of imports in both commodity groups in the first half of 2022 was mainly driven by higher import prices and, to a lesser extent, by increased real volumes of imports¹⁸.

Balance on Trade in Services

The higher surplus on the net services item in the period January – August 2022 compared with the same period of 2021 contributed most to the increase in the current account surplus. Non-seasonally adjusted national account GDP data in the first half of 2022 indicate that the improved balance of trade in services is ascribable to the favourable terms of trade for the country, while in real terms the imports of services increased at a higher rate (20.4 per cent) compared to the exports of services (7.1 per cent). Nominal exports of services rose by 26.6 per cent on an annual basis in the period January – August 2022 driven mainly by the exports of services related to travel, transport and telecommunications, computer and information services. NSI data for the first eight months of 2022 indicate that the number of foreign nationals' visits to Bulgaria rose by 51.9 per cent on an annual basis. Concurrently, the imports of services grew year-on-year by 27.7 per cent in nominal terms, reflecting the major contribution of the imports of transport services and services related to travel of residents abroad. NSI data for the first eight months of 2022 indicate that the number of Bulgarian nationals' visits abroad rose by 59.6 per cent on an annual basis.

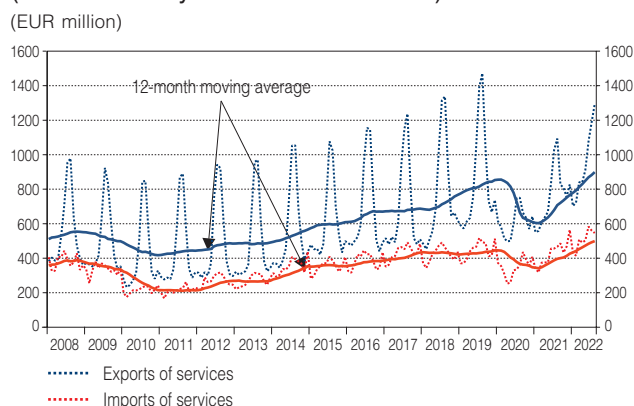
Net Primary Income Account and Net Secondary Income Account

From January to August 2022, net primary income deficit declined on the same period of 2021¹⁹, mainly as a result of lower outflows under equity income sub-item, related to direct investment. As regards the debit under this sub-item, an increase in paid dividend to non-residents on an annual

¹⁸ Real volumes of imports of raw materials have been constructed based on commodity groups data under the SITC of products and manufactured goods classified chiefly by materials, inedible (crude) materials (excluding fuels), chemicals and chemical products. Real volumes of imports of energy resources group have been constructed based on mineral fuels, oils and related products group under the SITC. The estimates employ NSI data on import prices of the relevant commodity groups and Eurostat data on nominal values of imports of the relevant commodity groups under the SITC, available by June 2022.

¹⁹ Preliminary data subject to revision; revisions usually show an increase in outflows to non-residents.

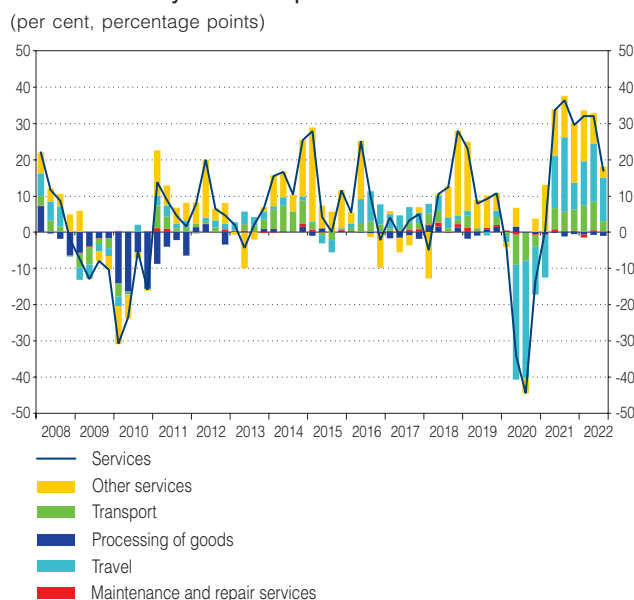
Nominal Exports and Imports of Services Dynamics (Balance of Payments Statistics Data)



Note: Monthly data are used. The last observation is for August 2022.

Source: the BNB.

Annual Change of Exports of Services and Contribution by Sub-components



Note: Quarterly data are used. Data on foreign trade flows for the third quarter of 2022 are for the July – August period and have been compared with the corresponding period of the previous year.

Source: the BNB.

basis was registered, entirely driven by the banking sector²⁰. This was, however, totally offset by lower reinvested profit for the total economy, which is likely due to a weaker financial performance of non-resident corporations compared to the period from January to August 2021, and to payment of dividends to non-residents in the second quarter of the year, the amount of which exceeds the net income of corporations over the review period.

In the first eight months of 2022, net secondary income positive balance rose on an annual basis, reflecting mainly the lower outflows of non-life insurance claims of other sectors²¹ and higher incoming transfers to the general government sector.

Financial Account and International Investment Position

Over the January – August 2022 period, Bulgaria was a net creditor to the rest of the world, with the financial account recording a positive balance to the amount of EUR 3122.8 million. The positive financial account balance was formed as a result of a higher accumulation of Bulgarian residents' foreign assets compared to liabilities to non-residents. The increase in foreign assets was due to banks' asset growth (in the form of foreign currency and deposits)²² and other sectors (split into direct, portfolio and other investment). Liabilities to non-residents increased due to other sectors (primarily in the form of direct investment) and banking sector (in the form of currency and deposits), while general government sector foreign liabilities decreased, mainly attributable to the repayment in March 2022 of Eurobond issue on international capital markets in the amount of EUR 1.25 billion.

Between January and August 2022, the inflow of attracted direct investment in Bulgaria remained broadly unchanged from the previous year amounting to EUR 1552.6 million²³, and total accumulated foreign direct investment stood at 71.4 per cent of GDP at the end of the second

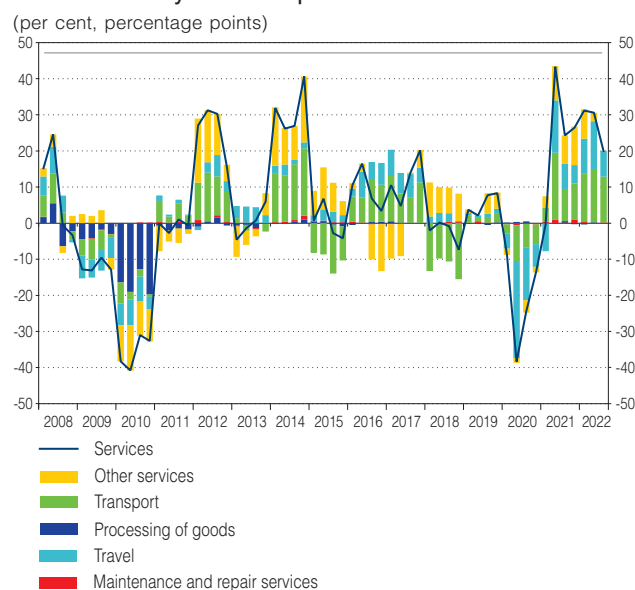
²⁰ On 24 February 2022, the BNB decided to suspend the restriction on distributions of bank profits for 2019 and 2020.

²¹ It should read sectors other than general government, banks and central bank.

²² The measure limiting foreign exposures of banks, which was introduced by the BNB in March 2020 and extended in January 2021, was suspended on 1 April 2022.

²³ Preliminary data subject to revision.

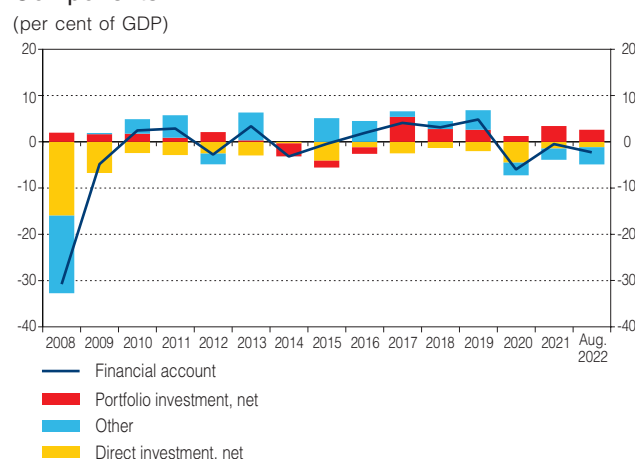
Annual Change of Imports of Services and Contribution by Sub-components



Note: Quarterly data are used. Data on foreign trade flows for the third quarter of 2022 are for the July – August period and have been compared with the corresponding period of the previous year.

Source: the BNB.

Financial Account Flow Dynamics and Contribution by Components



Notes: The *Other* item includes *Other Investments, Net*, and *Financial Derivatives (Other than Reserves) and Employee Stock Options, Net*. August 2022 data on financial account flows are accumulated for the last 12 months. Nominal GDP data for the last four quarters up to the second quarter of 2022 are used in calculating the financial account flows to GDP ratio for August 2022.

Sources: the BNB, the NSI, BNB calculations.

quarter of the year. Over the first eight months of 2022 foreign investment was mostly in the form of acquisition of equity capital in unquoted shares, debt instruments for other sectors and reinvested profits in the banking sector.

As a result of balance of payments developments and changes due to valuation adjustments and price revaluations, as of the end of the second quarter of 2022 the negative value of Bulgaria's international investment position declined to -14.4 per cent of GDP from -17.5 per cent of GDP at the end 2021. This dynamics reflected mainly the rise in Bulgarian residents' foreign assets in foreign currency and deposits and the fall in non-residents' Bulgarian debt securities following the repayment in March of Eurobond issue. Nominal economic activity growth also contributed to the decline in international investment position to GDP ratio.

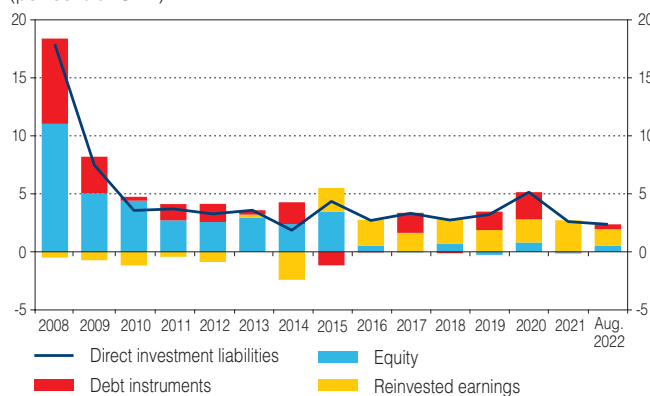
2.2. BNB Gross International Reserves

By the end of September 2022, the market value of Bulgaria's international reserves (including valuation adjustments and price revaluations) was EUR 36.9 billion (BGN 72.3 billion), increasing by EUR 2.4 billion (BGN 4.6 billion) from the end of 2021. The amount of gross international reserves reflects the dynamics of financial flows generated in the process of external and internal economic factors interaction and corresponds to the BNB Issue Department balance sheet liabilities, according to the currency board principles. The growth in Issue Department liabilities by September 2022 compared to the end of 2021 was largely driven by the increase in liabilities to the government and other budget organisations of BGN 2.9 billion and in banknotes and coins in circulation of BGN 1.8 billion.

In June 2022, the BNB international reserves picked up by EUR 3.8 billion on an annual basis, accounting for 43.3 per cent of GDP (45.6 per cent of GDP at the end of June 2021). The growth in the BNB Issue Department liabilities on an annual basis largely reflects the increase in banknotes and coins in circulation, higher liabilities to banks and the increase in the BNB Banking

Direct Investment Liabilities by Type of Investment

(per cent of GDP)

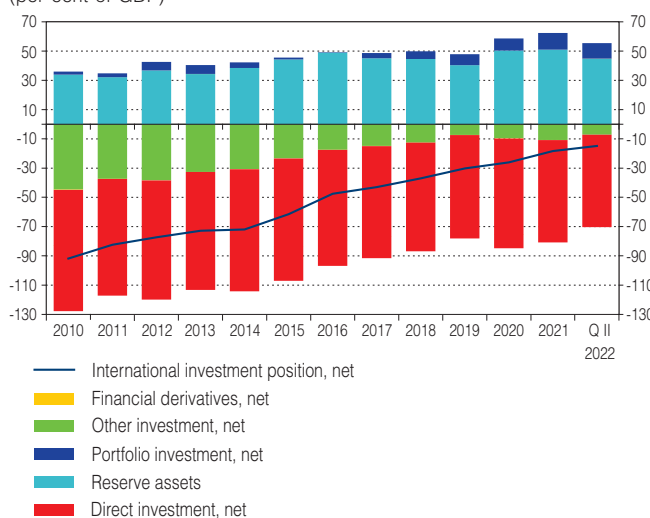


Notes: August 2022 data on direct investment liabilities flows are accumulated for the last 12 months. Nominal GDP data for the last four quarters up to the second quarter of 2022 are used in calculating the direct investment liabilities to GDP ratio for August 2022.

Sources: the BNB, the NSI, BNB calculations.

Bulgaria's International Investment Position

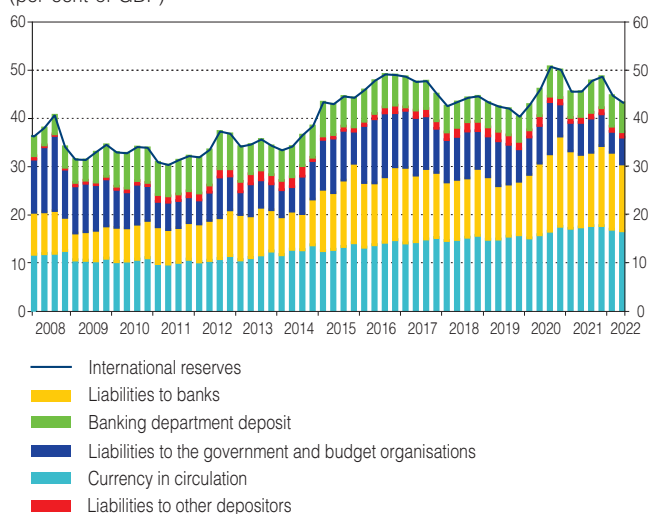
(per cent of GDP)



Sources: the BNB, the NSI, BNB calculations.

Liabilities Structure of the BNB Issue Department Balance Sheet

(per cent of GDP)



Sources: the BNB, the NSI, BNB calculations.

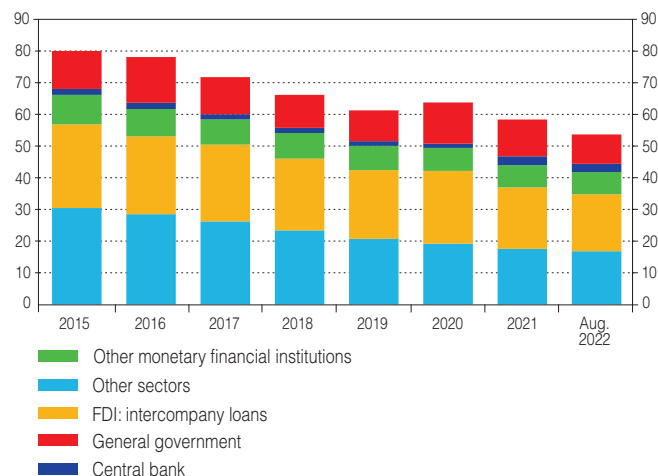
Department deposit mainly as a result of the additional special drawing rights (SDR) allocated to Bulgaria in August 2021 as part of total SDR allocated to IMF member.

2.3. External Debt

In August 2022 Bulgaria's gross external debt amounted to EUR 41.5 billion (53.6 per cent of GDP)²⁴, marking a fall of EUR 6.6 million compared to December 2021 (58.4 per cent of GDP). An increase was observed in all economic sectors except for the general government sector where long-term foreign liabilities reported a drop, following the repayment in March 2022 of Eurobond issue and taking into account the market revaluation of government securities since the beginning of the year. In August 2022 the share of long-term debt in the total gross external debt declined from end-2021 to 81.1 per cent (compared to 83.4 per cent in December 2021).

Gross External Debt

(per cent of GDP)



Note: Nominal GDP data for the last four quarters up to the second quarter of 2022 are used in calculating gross external debt to GDP ratio for August 2022.

Sources: the BNB, the NSI, BNB calculations.

²⁴ Nominal GDP data for the last four quarters up to the second quarter of 2022 are used in calculating gross external debt to GDP ratio for August 2022.

3. MONEY AND CREDIT

3.1. Monetary and Credit Aggregates

Deposits of the Non-government Sector

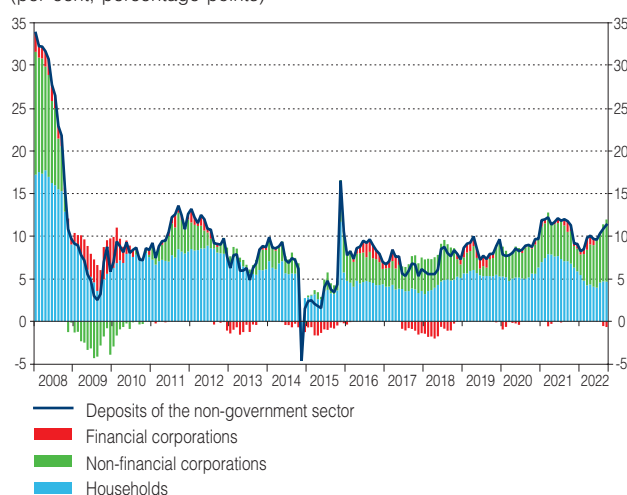
Over the first nine months of 2022 annual growth of non-government sector's deposits²⁵ in the banking system tended to accelerate to 11.3 per cent in September 2022 (9.1 per cent at the end of 2021). This dynamics was driven by the acceleration of annual growth in non-financial corporations' deposits, accounting for 23.1 per cent by end-September 2022 (8.5 per cent in December 2021).

Higher energy prices pushed up the profits of corporations producing and distributing energy products. This further added to the strong increase in the nominal gross operating surplus in the total industry sector²⁶ over the first half-year and to the acceleration in corporate deposit growth. In addition, the increased uncertainty in the economic environment, persistent bottlenecks in supply chains and increases in energy commodities was a factor behind weakening investment activity of corporations, which stimulated maintenance of their free funds in the form of deposits.

Following the downward trend in the annual growth rate of household deposits over the first half of 2022 (to 6.0 per cent in June compared to 9.0 per cent at the end of 2021), this trend was discontinued since the beginning of the third

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 in November 2014.

Source: the BNB.

²⁵ Non-government sector's deposits include deposits of households, non-financial corporations and financial corporations. Deposits of households and non-financial corporations (96.4 per cent on average for the last 12 months as of September 2022) comprise the major share of all non-government sector's deposits, and the analysis therefore is focused on these two sectors.

²⁶ In the second quarter of 2022, the significant growth of nominal gross operating surplus in industry (excluding construction) recorded in the fourth quarter of 2021 and the first quarter of 2022 was maintained and reached 116.5 per cent on an annual basis. This may reflect the strong electricity price rises and nominal turnover growth of firms in the energy products sub-sectors (extraction of coal, extraction of oil and natural gas, production of coke and refined petroleum products, and production and distribution of electricity, heat and gas). The Production and distribution of electricity, heating, and gaseous fuels (along with the wholesale and retail trade, repair of motor vehicles and motorcycles sector) contributed most strongly to annual growth of non-financial corporation deposits in June 2022.

quarter and the growth of household deposits started to accelerate to reach 7.3 per cent by end-September. The removal of the fee for cash above a certain amount²⁷ in the third quarter of the year, which was applied by large commercial banks, is a factor with a potentially limiting effect on the observed dynamics.

In the first nine months of 2022, the broad monetary aggregate M3 continued to grow at comparatively high rates, accounting for 11.8 per cent on an annual basis in September (10.7 per cent at the end of 2021). Persistently low nominal interest rates on deposits continued to stimulate households and firms to keep their available funds into overnight deposits, which remained the main contributor to the growth of broad money. Over the review period non-MFI money contributed less to M3 growth, while the contribution of deposits with an agreed maturity of up to two years continued to be negative. In the first nine months of the year, both corporations and households continued to save mostly in national currency. Concurrently, from the end of the first quarter the non-financial corporations reported also a stronger increase in deposits in foreign currency (mainly in euro), with annual growth of corporate deposits in foreign currency reaching 25.0 per cent by September.

Reserve Money

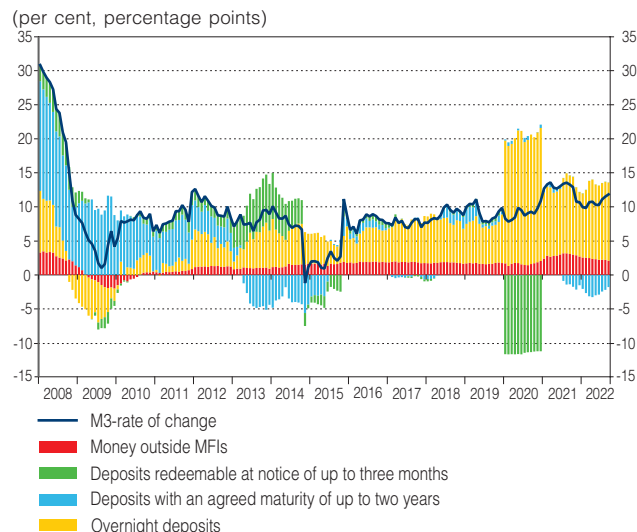
At the end of the third quarter of 2022, reserve money grew by 12.9 per cent on an annual basis (9.1 per cent in December 2021), with both currency in circulation and banks' reserves contributing to it.

In the first nine months of 2022, the dynamics of banks' deposit with the BNB reflected mainly the change in banks' excess reserves. The removal of the macroprudential measure limiting foreign exposures of banks as of 1 April 2022²⁸ and the negative interest rate applicable until the end of July 2022 on banks' excess reserves with the BNB had

²⁷ As of 1 August 2022 the major commercial banks in Bulgaria have removed the fee for cash availability above a certain amount.

²⁸ The measure was introduced in March 2020 as part of the BNB package of anti-crisis measures in the context of the COVID-19 pandemic and repealed by the BNB Governing Council's resolution of 23 February 2022, with effect from 1 April 2022.

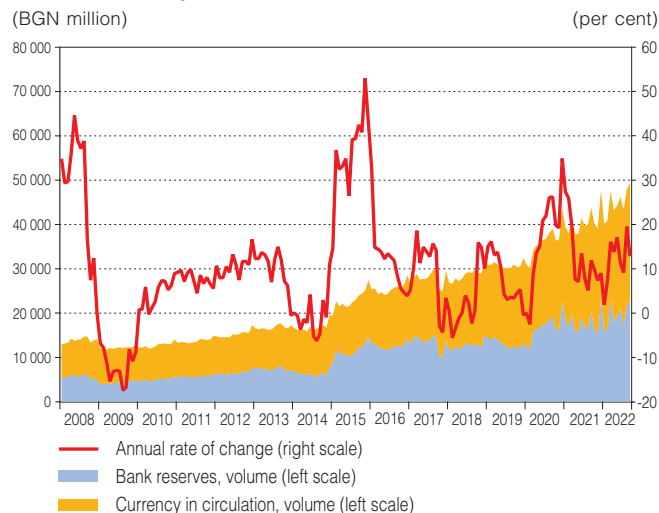
Annual Rate of Change in M3 and Contribution by Components



Notes: In view of the analysis of the banking products and in line with the methodological requirements, transferable savings deposits have been reclassified from the Deposits redeemable at notice of up to three months indicator to the Overnight deposits of the household sector indicator with the January 2020 data.

Source: the BNB.

Reserve Money



Source: the BNB.

an effect on the reduction of excess reserves²⁹ between April and July 2022. As a result of the increase in the ECB deposit facility rate to 0 per cent³⁰ and the equalisation of the deposit facility rate and interest rate on banks' excess reserves with the BNB as of the end of July 2022, banks' excess reserves showed an upward trend in August 2022. The new ECB deposit facility interest rise in September³¹ created an incentive for commercial banks to lower their excess reserves from the middle of the third quarter. In September 2022, excess funds over the required minimum of reserve assets under Ordinance No 21 was 35.4 per cent of minimum required reserves on an average daily basis, from 52.2 per cent in December 2021.³²

In the first nine months of 2022 minimum required reserves continued growing under the influence of the rising deposit base. As of September the effective implicit rate of minimum required reserves³³ remained broadly unchanged at 9.38 per cent compared with December 2021. Commercial banks' deposits with the BNB comprised 8.16 percentage points in minimum reserve requirements and the remaining 1.22 percentage points were in the form of recognised cash balances.

In the first nine months of 2022 annual growth of currency in circulation, which tended to slow down since the third quarter of 2021, reached 12.3 per cent in September 2022 (16.3 per cent in December 2021). This dynamics continued to

²⁹ In line with the approved methodological changes, effective as of 4 October 2017, the BNB applies on bank excess reserves whichever is lower between 0 per cent and ECB deposit facility rate reduced by 20 basis points.

³⁰ By a decision of the Governing Council of the ECB, effective from 27 July 2022, the interest rate on the ECB deposit facility was increased to 0.00 per cent (previous value: -0.50 per cent). As a result the interest rate banks' excess reserves with the BNB was 0.00 per cent (previous value: -0.70 per cent).

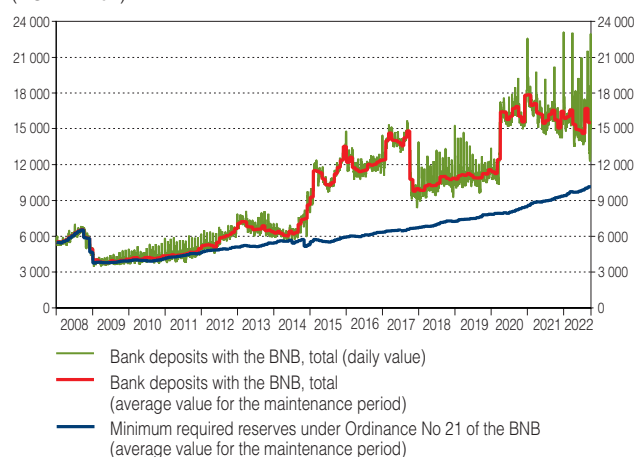
³¹ As from 14 September 2022 the ECB deposit facility rate was raised to 0.75 per cent. If the interest rate on the ECB deposit facility is positive, the interest rate on banks' excess reserves with the BNB is 0.00 per cent.

³² The amendments to Ordinance No 21 of the BNB on the Minimum Required Reserves Maintained with the Bulgarian National Bank, effective from 4 June 2021 changed the definition of banks' excess reserves. According to the new definition, excess reserves shall be the excess of the holdings in reserve assets over the required amount of minimum required reserves.

³³ Under Article 3 of BNB Ordinance No 21, the rate of minimum required reserves of 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.

Bank Deposits with the BNB

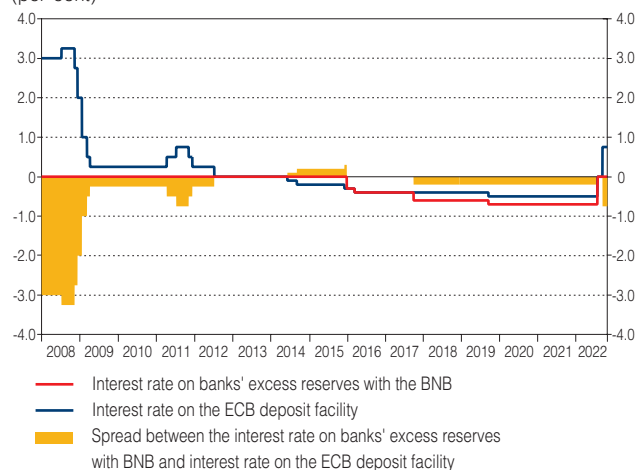
(BGN million)



Source: the BNB.

Deposit Facility Rate of ECB and Interest Rate on Banks' Excess Reserves with the BNB

(per cent)

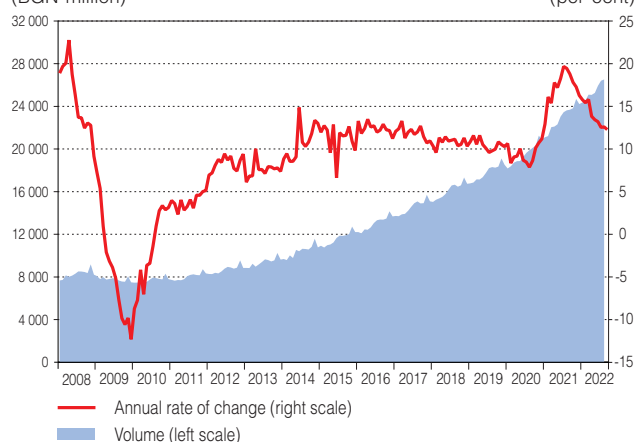


Sources: the BNB, the ECB.

Currency in Circulation

(BGN million)

(per cent)



Source: the BNB.

reflect mainly the effect of the high base of early 2021, while the acceleration in inflation results in progressively rising demand for money in circulation for transaction purposes.

Reserve currency (euro) trading with the BNB is the main lev liquidity management instrument of banks under currency board arrangements. In the first nine months of 2022 BNB sales (net) to banks amounted to EUR 1.2 billion.

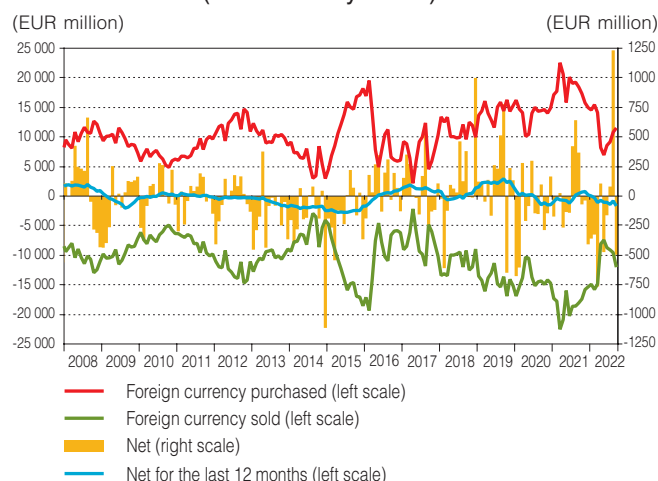
Credit to the Non-government Sector

In the first eight months of 2022 the prior year's trend towards an accelerated annual growth of credit to non-government sector³⁴ was sustained, reaching 13.4 per cent in August 2022 (8.3 per cent at the end of 2021). Lending growth accelerated in both the non-financial corporations and household sectors, with a stronger acceleration recorded in corporate credit. The upward trend was reversed by the end of the third quarter and annual credit growth moderated to 13.1 per cent by September 2022. This dynamics was entirely driven by the slowdown in non-financial corporations' credit growth, while in household sector a slight acceleration was observed at the end of the third quarter.

In the first eight months of 2022 annual growth of credit to non-financial corporations accelerated considerably, reaching 12.1 per cent in August (4.6 per cent in December 2021). This dynamics was almost entirely driven by growth in overdrafts, which came to 26.0 per cent in August 2022 year on year (5.6 per cent in December 2021), while loans, excluding overdrafts, accelerated considerably less. The strong price increase in commodities and raw materials coupled with the bottlenecks in supply chains and higher uncertainty in the economic environment encouraged corporations to seek bank resources required for working capital and accumulation of inventories. In addition, historically low nominal lending rates, which are negative in real terms in the context of accelerat-

³⁴ Loans comprised the bulk of banks' claims on the non-government sector, with an average share of 97.1 per cent over the last 12 months by September 2022. Therefore, the analysis is focused on these loans. In addition to loans, claims include also repurchase agreements, securities other than shares, and shares and other equity instruments. Loans to the non-government sector, in turn, include loans to households, loans to non-financial corporations and to financial corporations. The share of loans to households and non-financial corporations in total loans to the non-government sector averaged 93.0 per cent over the last 12 months by September 2022, and therefore, developments in these two sectors are considered.

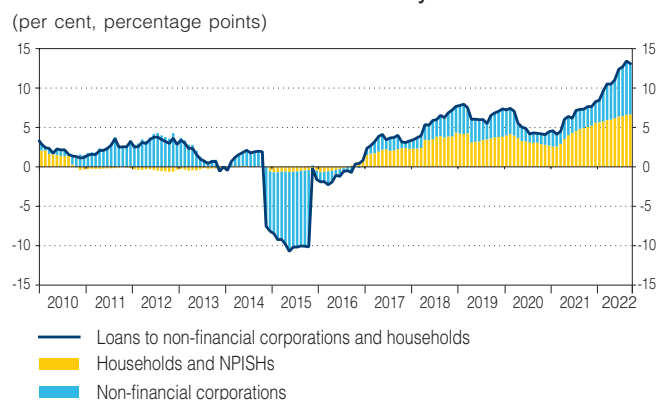
Foreign Currency Purchases and Sales between the BNB and Banks (on a Monthly Basis)



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.

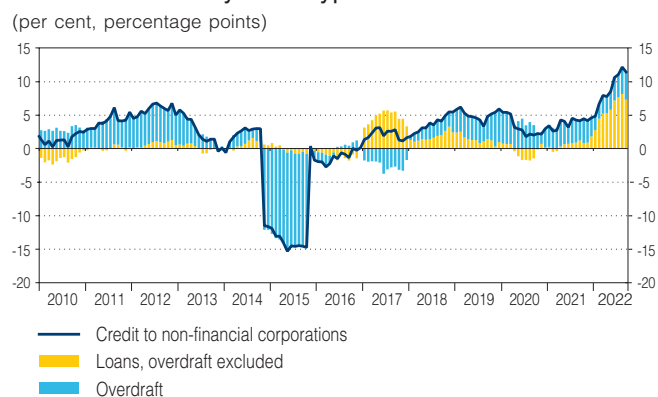
Source: the BNB.

Annual Growth of Credit to Non-financial Corporations and Households and Contribution by Sector



Source: the BNB.

Annual Growth of Credit to Non-financial Corporations and Contribution by Loan Type



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 in November 2014.

Source: the BNB.

ing inflation created an additional incentive for enhanced demand for credit. By end-September 2022, annual growth of credit to non-financial corporations moderated to 11.4 per cent, reflecting the slowdown in overdrafts. The increase in interest rates on new corporate loans which began in September and reflects the reversal of interest rate cycle globally and in particular in the euro area, is probably among major factors behind the lower growth of corporate loans.

In September the volumes of newly extended³⁵ corporate loans decreased³⁶ by BGN 450 million compared to August, with those of newly extended loans in euro declining most. This reduction may partly reflect seasonal factors, but is likely also due to the rises in interest rates on loans to corporations. As of September 2022, loans in national currency comprised 59.4 per cent of total new corporate loans, while euro-denominated loans occupied 39.9 per cent and dollar-denominated loans 0.7 per cent.³⁷

In the first nine months of 2022 annual credit growth to households continued to accelerate gradually to 15.3 per cent in September (13.4 per cent by December 2021). Both housing and consumer loans contributed to these developments. At the end of the third quarter, annual growth of housing loans was 18.0 per cent (16.5 per cent at the end of 2021), while consumer loans accelerated to 13.9 per cent by September (12.2 per cent in December 2021). Still low interest rates and continued acceleration in consumer price inflation are likely to continue stimulating the demand for financial resources by households to purchase real estate and durable goods as a store of value.

Volumes in newly extended consumer and housing loans fell somewhat³⁸ in September compared to the previous month, likely reflecting seasonal factors.

³⁵ The terms 'new' and 'newly extended' are hereinafter referred to as the statistical category 'new business'.

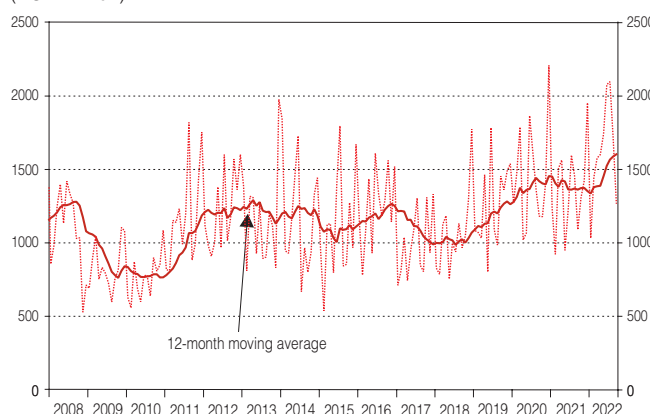
³⁶ Based on monthly data.

³⁷ The share of loans in national currency, euro and US dollars for the last 12 months as of September 2022.

³⁸ Based on monthly data.

New Loans to Non-financial Corporations (Monthly Volumes)

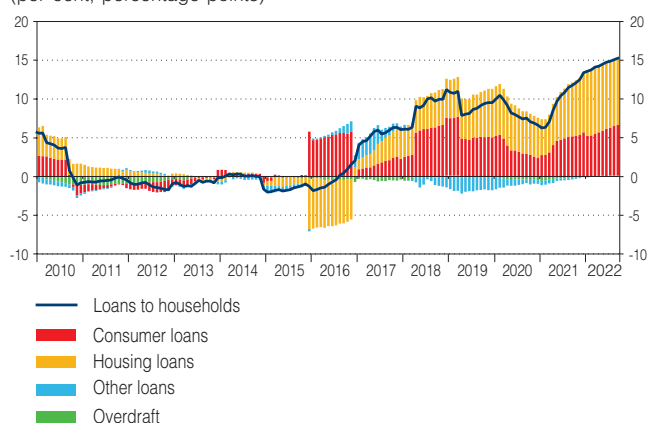
(BGN million)



Source: the BNB.

Annual Growth of Household Credit and Contribution by Loan Type

(per cent, percentage points)

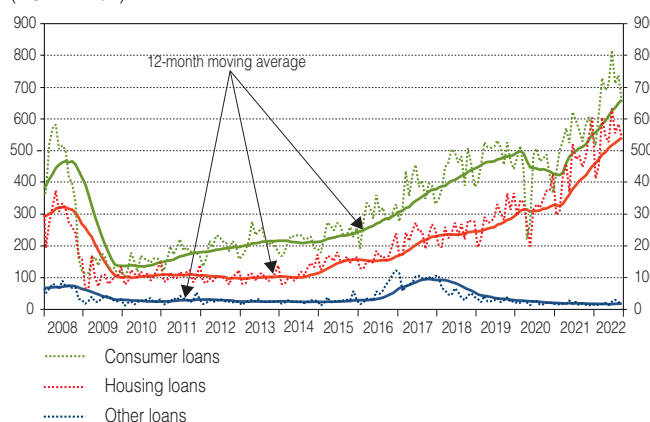


Note: Based on additional information received from reporting units, a revision of household loans was carried out according to their purpose of use in the period December 2015 – August 2019.

Source: the BNB.

New Loans to Households (Monthly Volumes)

(BGN million)



Source: the BNB.

Bank Lending Survey

In the second quarter of 2022, summarised weighted results of the BNB bank lending survey³⁹ suggest tightening of bank standards⁴⁰ in extending corporate and housing loans, as compared to the January – March period. As regards corporate loans, a slight tightening of standards was observed in small and medium-sized enterprises, while standards for large corporations remained unchanged. Tightened lending policy (credit standards and conditions⁴¹) for both corporations and households over the quarter reflected banks' lower risk appetite and increased risk assessments. The overall macroeconomic environment, the borrower solvency assessment and the business climate in industrial sectors with a high share in credit portfolio were essential for the risk assessment. Concurrently, the competition and high liquidity in the banking sector, as well as significant volumes and low costs of attracted funds continued to exert a strong pressure for easing bank credit policies.

Over the second quarter of 2022, banks reported a continuing increase in demand for corporate and household loans, with corporate loans recording the most significant growth. The necessity of financial resources for working capital and accumulation of inventories was considered by banks to be the main factor behind stronger demand for corporate loans over the quarter. The increased demand for consumer loans was mostly driven by the necessity of financial resources for purchasing durable goods and goods intended for current consumption and the desire to finance consumer expenditure by loans secured by real estate. The surge in demand for housing loans over the quarter was mainly driven by households' needs of funds for purchasing first and especially additional residence, low interest rates, and the overall state of the macroeconomic environment.

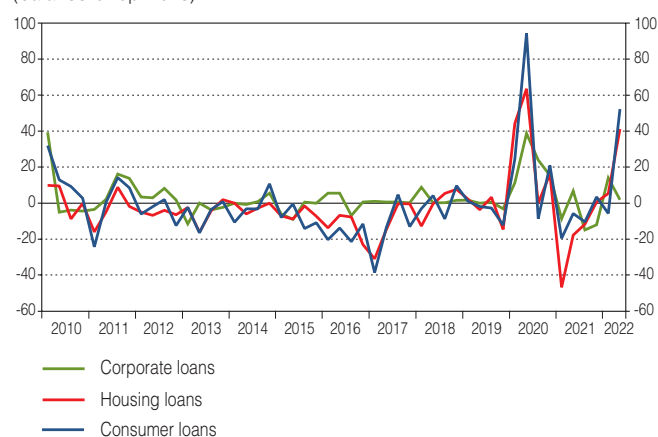
³⁹ Bank Lending Survey in Bulgaria is carried out by the BNB on a quarterly basis. Summarised results of the survey are presented through weighting bank responses by their market share in the relevant credit segment.

⁴⁰ 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.

⁴¹ Credit conditions typically involve the reference interest rate surcharge, the loan amount, conditions for its utilisation and other conditions, fees and commissions, collateral or guarantees to be provided by a borrower.

Changes in Credit Standards

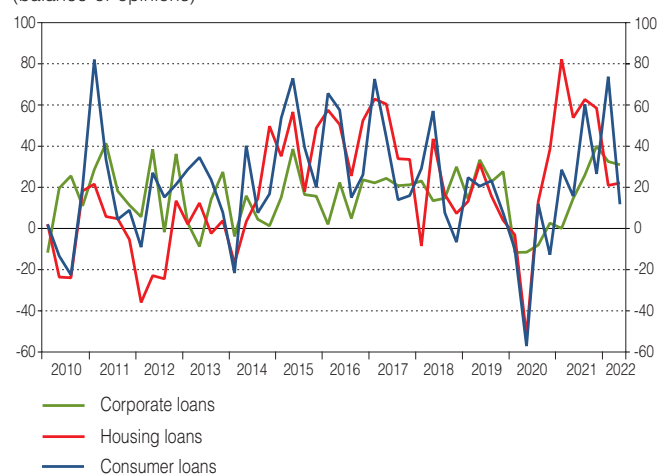
(balance of opinions)



Source: the BNB.

Changes in Credit Demand

(balance of opinions)



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. Data presented in the chart show the change from the previous quarter.

Source: the BNB.

3.2. Interest Rates

Interbank Money Market Interest Rates

The upward trend observed since the beginning of the second quarter of 2022 in trading volumes in the interbank lev money market strengthened over the third quarter of the year. Overnight unsecured lending transactions in levs concluded between July and September 2022 amounted to BGN 2331 million (BGN 1334 million for the April – June 2022 period), with the largest volume of transactions concluded in September (BGN 1932 million). A possible factor behind the higher activity on the interbank money market is the decrease in banks' excess reserves with the BNB at the end of the third quarter.

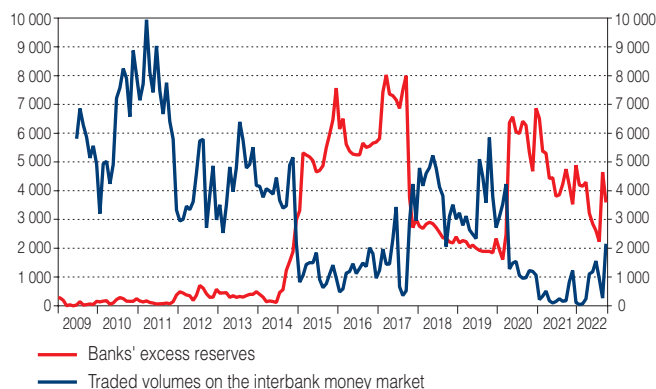
The increase in the key ECB interest rates at the end of July and their further increase in September led to a rise in interest rates on overnight unsecured lending transactions in levs. As a result, the LEONIA Plus monthly value in September rose turning positive at 0.49 per cent (compared to -0.64 per cent in June 2022), and its spread with €STR amounted to 13 basis points (-5 basis points in June 2022).

Interest Rates on Deposits

In the third quarter of 2022, the downward trend in average weighted interest rate on new time deposits of non-financial corporations and households observed until mid-year was halted. It started to rise in July to reach 0.63 per cent in September 2022 (0.02 per cent in December 2021 and -0.13 per cent in June 2022). The ECB's increase in key interest rates in the euro area and the decrease in excess liquidity in the banking sector were probably the major factors behind this dynamics. In the non-financial corporations sector, the average weighted interest rate reached 0.91 per cent by September 2022 mainly driven by increasing interest rate on new time deposits of corporations in US dollars. Interest rates on corporate deposits denominated in levs and euro also rose, turning positive in August and reaching 0.04 and 0.19 per cent by September. In the household sector, the average weighted interest rate on new time deposits exhibited an upward dynamics since mid-year, but the increase was less pronounced, reaching 0.26 per cent in September 2022 (0.09

Banks' Excess Reserves and Traded Volumes on the Interbank Money Market

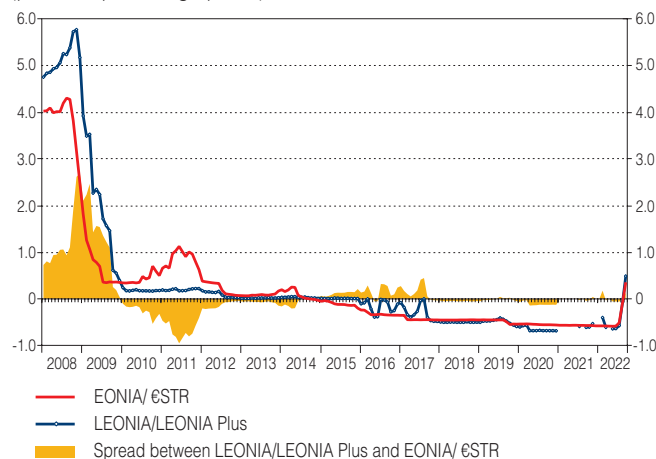
(BGN million)



Source: the BNB.

Interbank Money Market Rates (Average Monthly Value) on Overnight Deposits

(per cent, percentage points)



Notes: The EONIA/€STR series is composed of: EONIA between 2008 and 14 March 2017; pre-€STR between 15 March 2017 and 30 September 2019; €STR in the period after 30 September 2019.

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.

per cent in December 2021 and 0.12 per cent in June 2022).

Interest Rates on Loans

In the first eight months of 2022, interest rates on new loans to corporations and households followed a broadly downward trend, with the significant volume and still low cost of attracted funds, competition and high liquidity in the banking sector contributing further to it.

At the same time, at the end of the third quarter of the year interest rates on loans to non-financial corporations increased significantly compared to August 2022 by 22 basis points to 2.71 per cent in lev-denominated loans, by 108 basis points to 3.20 per cent in euro-denominated loans and by 374 basis points to 4.64 per cent in US dollar-denominated loans⁴². The observed dynamics might reflect the rise in interest rates in the euro area, which spill relatively quickly over interbank money market rates and new lending rates due to currency board arrangements in Bulgaria.

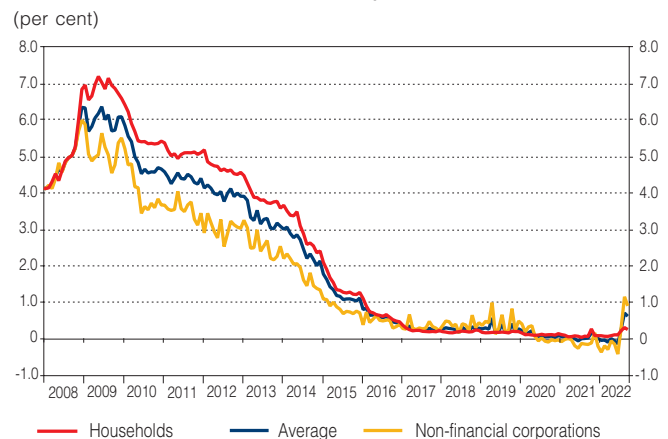
In the household sector, an increase in annual percentage rate of charge (APRC) on new consumer loans was observed since the beginning of the third quarter (by 72 basis points from June 2022 to 8.70 per cent in September), with higher interest rates contributing most to this effect. Concurrently, the APRC on housing loans tended to decline further in the third quarter, amounting to 2.70 per cent in late September (2.80 per cent in June 2022).

Government Securities Yields

By the end of the third quarter of 2022 yields on Bulgarian Eurobonds issued and traded on international capital markets recorded a significant increase compared to the end of June 2022. Similar dynamics was also seen in the yields of German government bonds and other euro area countries, which was mainly shaped by the ECB interest rise. The reference yield curve of Bulgarian government bonds showed that the increase was most pronounced in bonds in the maturity sectors from 6 months and 1 year by 166 and 156 basis points, respectively. As of 31 October 2022 the reference yield curve in Bulgaria remained close to its third quarter's values. By the end of Sep-

⁴² Indicated values of interest rates on loans to non-financial corporations and households are on a monthly basis.

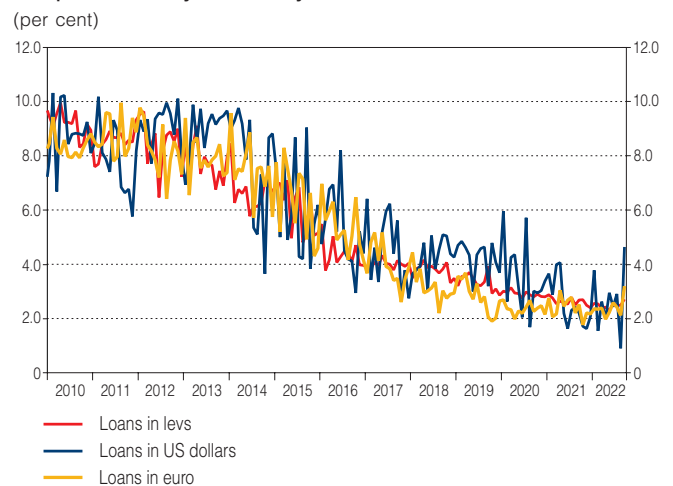
Interest Rates on New Time Deposits



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 deposits.

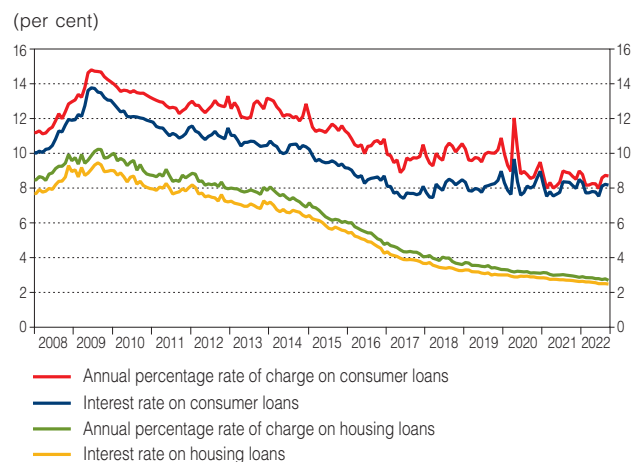
Source: the BNB.

Interest Rates on New Loans to Non-financial Corporations by Currency



Source: the BNB.

Interest Rates and APRC on New Household Loans



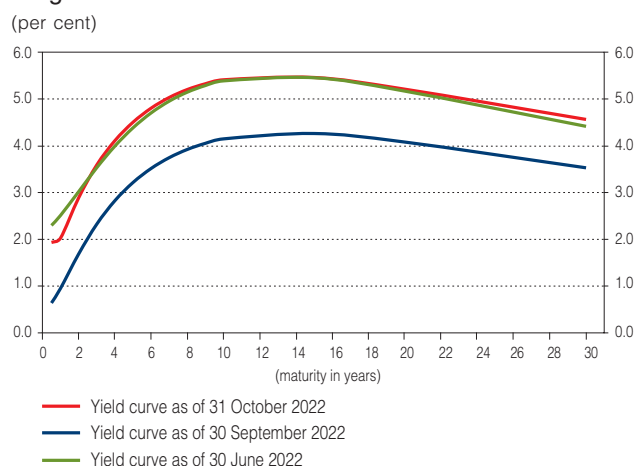
Note: The difference between the APRC and the relevant interest rates reflects the approximate per cent of all non-interest service charges on loans (including fees and commissions).

Source: the BNB.

tember 2022 the yields of Bulgarian and German government bonds widened in almost all government bonds compared to the end of June 2022, with the widening being most pronounced for the bonds maturing in 2050 (by 46 basis points). Factors that are expected to affect the expansion of the spread are the continuous political uncertainty in the country, as well as Bulgaria's geographic proximity to the military conflict in Ukraine.

In October 2022 long-term interest rate for assessing Bulgaria's degree of convergence remained unchanged at 1.85 per cent (1.77 per cent in June 2022) compared to July, August and September 2022. The maintenance of the long-term interest rate can be explained by the lack of transactions with Bulgarian benchmark bonds on the secondary government securities market during these months.⁴³ The lack of government securities issues on the primary market with a similar to 10-year residual maturity over the same period had an additional effect. In the third quarter, the spread *vis-à-vis* German long-term interest rate decreased by 8 basis points on average compared with the second quarter of 2022, coming to 55 basis points.

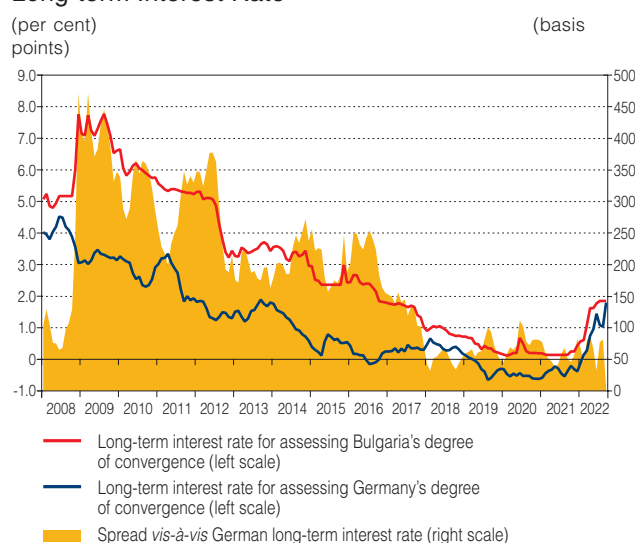
Bulgarian Government Bond Yield Curve



Notes: The reference yield curve of Bulgarian government bonds is constructed on the basis of an extended version of the Nelson–Siegel–Svensson model (1994). The chart employs daily yield data on Bulgarian government securities issued and traded in international capital markets, published in the MF Central Government Debt and Guarantees Monthly Bulletin.

Sources: the MF, BNB calculations.

Long-term Interest Rate for Assessing Bulgaria's Degree of Convergence and Spread *vis-à-vis* German Long-term Interest Rate



Sources: the BNB, the ECB.

⁴³ Daily data show that the long-term interest rate remained unchanged from 14 June 2022 to 31 October 2022 at 1.85 per cent. For calculating the long-term interest rate for assessing the degree of convergence, see methodological notes on the BNB website.

4. ECONOMIC ACTIVITY

4.1. Current Economic Environment

Gross Domestic Product

Based on NSI seasonally adjusted data, in the second quarter of 2022 real GDP increased by 0.9 per cent compared to the previous quarter.⁴⁴ According to the non-seasonally adjusted data, economic activity growth continued to slow down on an annual basis reaching 3.9 per cent (compared to 4.4 per cent in the previous quarter). By final consumption expenditure component, the economic activity slowdown was driven by the lower domestic demand growth and the contraction in the positive contribution of changes in inventories.

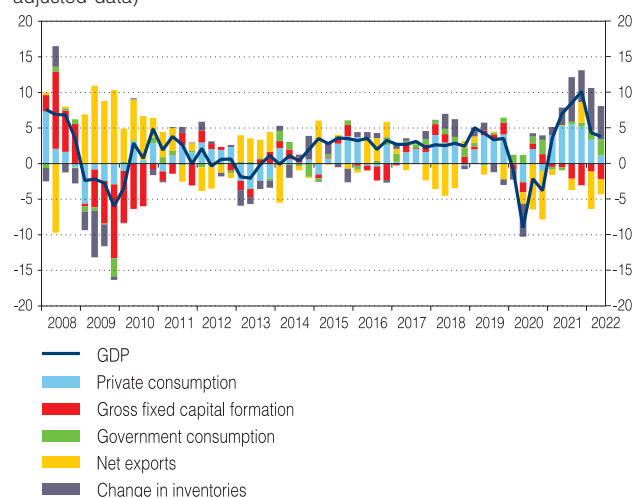
Between April and June 2022 the trend towards an accumulation of raw materials, commodities and finished products in the economy observed since the beginning of 2021 continued. Problems in global supply chains, the war in Ukraine, and economic agents' expectations of a further increase in the prices of imported raw materials and finished products are among the main factors that can explain the observed trend. As a result of these developments, changes in inventories retained their substantial positive contribution to the annual real GDP growth (4.6 percentage points in the second quarter of 2022).

Real household consumption grew by 2.1 per cent on an annual basis in the second quarter of 2022 (up from 5.5 per cent in the previous quarter) amid strong growth in nominal labour income which outpaced consumer price growth rate. Other factors supporting private consumption growth were higher net fiscal transfers to households, as well as employment growth and credit activity. Concurrently, the factors limiting household consumption expenditure in the second quarter of 2022 were the reported deterioration in the consumer confidence indicator and

⁴⁴ Revised gross domestic product data were published on 19 October 2022. For more information, see the highlights 'Revisions to GDP data', BNB Economic Review 3/2022.

Contribution to GDP Growth by Final Use Component in Real Terms (Quarterly Data)

(per cent; percentage points; on an annual basis; non-seasonally adjusted data)



Sources: the NSI, BNB calculations.

the rise in the savings rate⁴⁵, which most likely reflected the increased economic uncertainty and worsening household expectations about their financial position for the next 12 months.

On an annual basis, government consumption growth at constant prices accelerated substantially and came to 11.6 per cent (from 6.6 per cent in the previous quarter). This was mainly driven by higher government spending on intermediate consumption and wages in the public sector. These developments reflected the entry into force of the 2022 State Budget Law, adopted by the National Assembly on 25 February 2022.⁴⁶

Over the second quarter of 2022, investment in fixed capital fell to 11.0 per cent on an annual basis compared to a decrease of 7.4 per cent in the previous quarter. According to the BNB estimates⁴⁷, the decline in total investment was due to both private and public sector. Factors limiting investment activity were the continued comparatively high economic uncertainty, the reported shortage of some raw materials coupled with the significant increase in their prices, as well as the delay in the implementation of publicly funded major infrastructure projects.

Net exports had negative contribution to the annual growth of real GDP in the second quarter of 2022, driven by the higher rise in imports of goods and services than that of exports. As regards exports, there was an acceleration in its annual growth in real terms, driven by both the goods and services components. The change in imports on an annual basis was in line with the growth in final demand, as well as with the increased inventories in the economy.⁴⁸

⁴⁵ The household savings rate data series is calculated on the basis of the NSI household budget survey data, subsequently seasonally adjusted by the BNB.

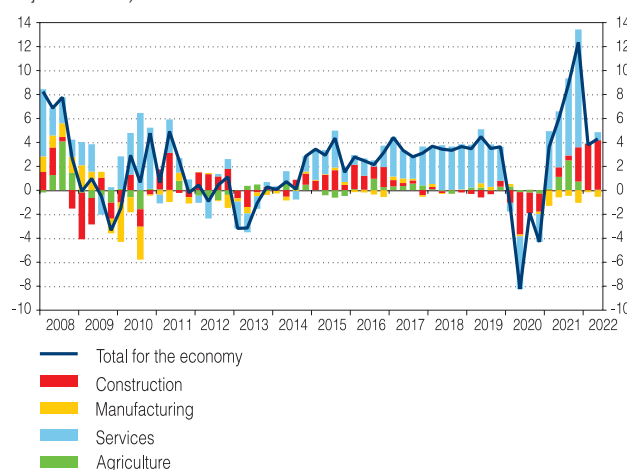
⁴⁶ The Law on Amendment of the Law on the State Budget of the Republic of Bulgaria for 2022 was adopted on 30 June 2022, with higher expenditure on wages in the public sector suggesting a continued increase in government consumption on a quarterly and annual basis in the third quarter of 2022.

⁴⁷ The NSI does not provide official data on the breakdown of total investments into private and public. The series on private investment is constructed by the BNB as a difference between total investment and the estimated amount of public investment on an accrual basis in real terms. Public investment estimates are based on information from quarterly non-financial accounts of the general government sector, published by the NSI.

⁴⁸ For more details, see the Balance of Payments and External Trade Section in Chapter 2 – External Financial Flows.

Gross Value Added Rate of Change in Real Terms and Contribution by Sector

(per cent; percentage points; on an annual basis; non-seasonally adjusted data)



Sources: the NSI, BNB calculations.

In the second quarter of 2022 gross value added in Bulgaria increased by 1.1 per cent from the previous quarter according to seasonally adjusted data. Based on non-seasonally adjusted data year-on-year growth was 4.3 per cent. Gross value added in industry went up by 14.0 per cent on an annual basis, driven by the manufacturing sub-sector and was in line with the increased exports of goods and higher domestic demand. Concurrently, the downward trend in the year-on-year value added in the construction sub-sector observed since the second quarter of 2020 continued. Annual value added in the services sector grew by 0.9 per cent in the second quarter of 2022 with all sub-sectors contributing to this effect except real estate operations, while the general government, education, human health and social work activities sub-sector had the most significant positive contribution.

Cyclical Position of the Bulgarian Economy

According to BNB estimates, the cyclical position of the economy in the second quarter of 2022 was characterised by a positive output gap given the significant increase in economic activity in 2021 and the first half of 2022. This suggests that some of the output factors in the economy were employed above their potential level, which is in line with the upward pressure on the prices in the product and factor markets, and primarily in the labour market.

The cyclical position of the economic indicators was divergent in the third quarter of 2022.⁴⁹ The indicators tracking firms' current production activity on the basis of reported data (the industrial production index, services production index and retail turnover index) were positioned above their long-term average and tended to improve further. Concurrently, over the third quarter of 2022 the indicators reflecting economic agents' sentiment (consumer confidence and business climate) were positioned below their long-term average, reporting a decline on a quarterly basis as a result mainly of the worsened corporate and household expectations about the economic situation in Bulgaria. According to the change in the indicator calculated by the BNB, in the third

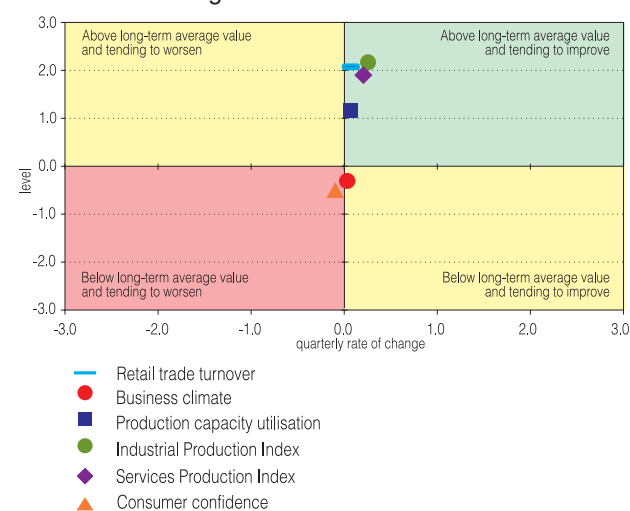
⁴⁹ Part of the economic indicators are available up to August 2022 (the industrial production index, services production index and retail turnover index). Business climate, consumer confidence and capacity utilisation data are available for the entire third quarter of 2022.

Deviation of Economic Activity from Potential Output
(per cent, output gap)



Notes: Results are obtained through the application of a multivariate model with unobserved components presented in the research topic on [Methods for Estimating the Cyclical Position of the Economy](#), Economic Review, 1/2019. The output gap is the deviation of the current level of economic activity from potential output measured as a percentage of potential output. Sources: the NSI, BNB calculations.

Cyclical Position of the Economy in the Third Quarter of 2022 According to Selected Economic Indicators

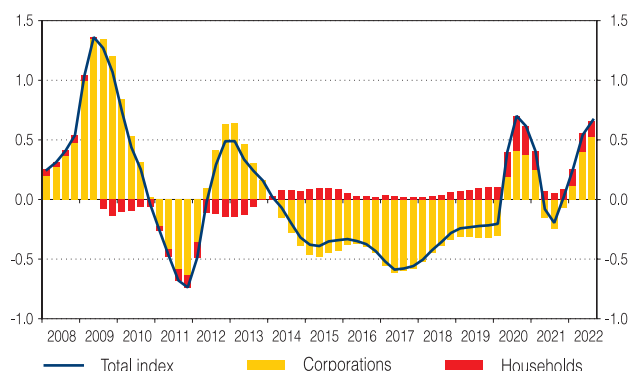


Notes: The chart compares the level (the vertical axis) and the quarterly change (the horizontal axis) of selected economic indicators. Each series is standardised a priori; and then transformed using the HP filter (with a parameter $\lambda = 100$) in order to eliminate short-term fluctuations. Data are averaged for available months in the third quarter of 2022. Standardisation of statistical series in order to improve their comparability is a reason for constructed indicators to change within the range of -1 to 1, and they are characterised by a historical average value of 0 and a standard deviation of 1. The four chart grids allow to distinguish the positions of the relevant economic indicators in individual phases of the business cycle. For example, if a given indicator is in the upper right grid, it means that it is characterised by a positive deviation from its long-term average value and continues to increase on a quarterly basis.

Sources: the NSI, BNB calculations.

Indicator of Differences in Economic Agents' Assessments about the Expectations of Economic Development in the Short Term

(deviation from long-term average value)



Notes: Higher values of this indicator should be interpreted as an increase in differences of economic agents' assessments. Positive/negative values of the total index show that differences in assessments are above/below their long-term 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: the EC, BNB calculations.

quarter of 2022, the differences in firms' assessments of their current economic situation and their expectations of economic developments in the short term increased.

Expected Economic Activity

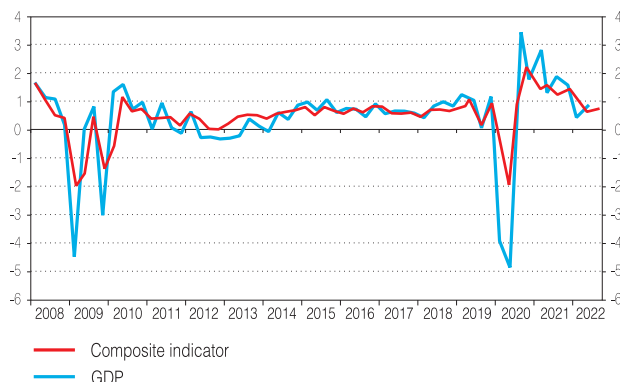
Quarterly growth of the composite economic indicator⁵⁰ of economic activity in Bulgaria constructed by the BNB increased slightly in the third quarter of 2022 which underpinned a similar dynamics observed in real GDP over the same period. Higher quarterly growth in the composite indicator was mainly driven by the increase in real retail turnover, industrial turnover, and industry and services production indices. At the same time, the upward dynamics of the composite indicator was curbed by the decline in the global PMI. Adverse developments in the external environment in terms of global economic growth and tighter global financial conditions are expected to lead to a more significant deterioration in the outlook for the economic activity in Bulgaria in the fourth quarter of 2022 and the first quarter of 2023.⁵¹

⁵⁰ Some of the data used for the indicator are available until August 2022: industrial production; construction and services indices; and retail trade turnover. Data available as of September 2022 are: unemployment rate; producer price index in industry; new loans to corporations and households; global PMI, business climate and consumer confidence indicators.

⁵¹ For further details, see the BNB [Macroeconomic Forecast](#), September 2022.

Composite Economic Indicator of Economic Activity

(per cent, on a quarterly basis)



Notes: This indicator is constructed on the basis of a dynamic factor model whose purpose is to derive the total component in dynamics of various indicators with a monthly frequency. Dynamics of the composite indicator may be used as a guidance for the change in real GDP of Bulgaria. Selected indicators of the model include: production indices in industry, construction and services; retail trade turnover indices; unemployment rate; indicators of the business climate and consumer confidence; producer price index in industry; new loans to corporations and households; global PMI.

Sources: the NSI, Employment Agency, BNB calculations.

Revision of GDP Data

In line with its release calendar, the NSI published on 19 October 2022 revised annual and quarterly data on Bulgaria's gross domestic product (GDP) and its components by final consumption expenditure component, production approach and income approach.

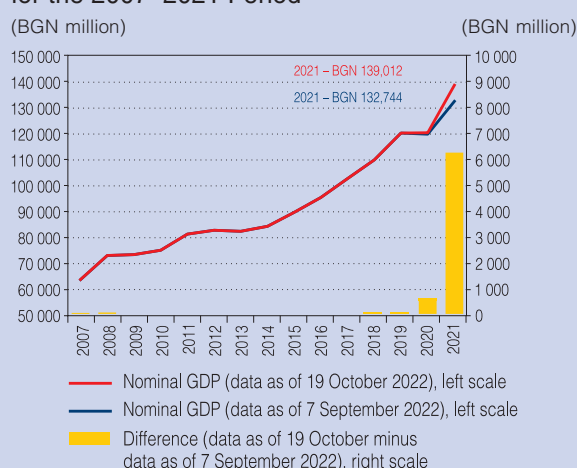
GDP revision according to non-seasonally adjusted data covers the period after the fourth quarter of 2007 and is marked by its substantial size against the backdrop of past revisions. The largest adjustments were made for the period from 2020 to the first half of 2022, with a particularly large scale in 2021 amounting to BGN 6268.0 million (4.7 per cent of unrevised GDP). Quarterly seasonally adjusted GDP data have been revised for the whole period after the first quarter of 1995, which is determined by the statistical methodology used by the NSI for seasonal adjustment. This analysis aims to present GDP data revisions, focusing on the changes in the structure according to the expenditure approach for its calculation and the production approach.

According to the methodology of the national accounts system, there are two main types of data revisions. The first type of revisions are regular, characterised by the availability of new or updated statistical information based on statistical surveys or administrative sources (enterprise accounts, tax information, balance of payments, etc.). The second type of revisions is related to a change in the methodology used and calculation procedures for specific statistical indicators. The change in the statistical GDP series, made on 19 October by the NSI, involves mainly the first type of revisions and reflects new, more comprehensive incoming information, according to the NSI.¹

Non-seasonally adjusted data

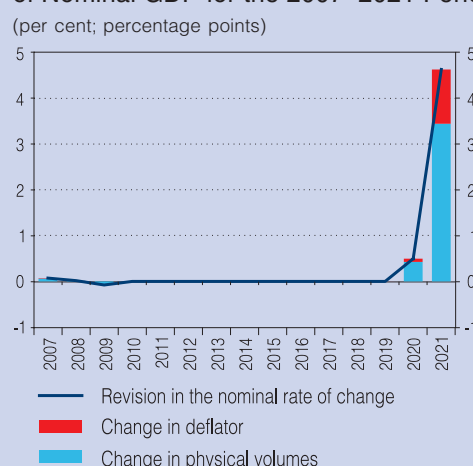
GDP at current prices has been revised positively for individual years since 2007 (see Chart 1). For 2007 and 2008, the annual amount of GDP was increased by BGN 39.6 million and BGN 56.7 million, respectively. Minor revisions were made for 2018 and 2019, with nominal GDP being increased by BGN 0.2 million and BGN 0.8 million, respectively. The most significant revisions were made for 2020 and 2021, amounting to BGN 602.3 million and BGN 6268.0 million, respectively, and covering the majority of GDP components under the different approaches for its calculation. As a result, GDP in 2021 came to BGN 139,012 million at current prices compared to the estimate of BGN 132,744 million before the data revision. The increased nominal value of the indicator is due to a stronger rise in physical volumes and, to

Chart 1. Revisions in GDP at Current Prices for the 2007–2021 Period



Sources: the NSI, own calculations.

Chart 2. Revisions in the Rate of Change of Nominal GDP for the 2007–2021 Period



Sources: the NSI, own calculations.

¹ For further information, see the NSI [press release](#) of 21 October 2022.

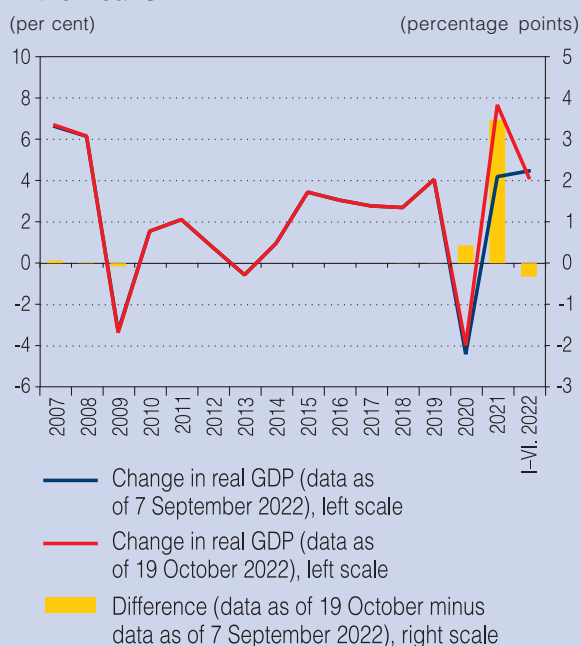
a lesser extent, an upward revision of the price component (deflator) of GDP (see Chart 2). For the first half of 2022, GDP at current prices was also revised upwards by BGN 1226 million (from BGN 71,769 million to BGN 72,995 million), which is mainly the result of a change in its real component.

Revisions in the levels of GDP at constant prices lead to changes in the annual rate of change of real GDP, but they were relatively small in 2007, 2008 and 2009 and by components of final demand reflected private consumption (see Chart 3). The evolution of economic activity was substantially revised positively for 2020 and 2021, with the published new historical time series showing cumulative real GDP growth of 3.4 per cent over the 2020–2021 period, compared to a decline of 0.4 per cent, according to data published as of 7 September 2022. According to revised data, the decrease in real GDP of Bulgaria amounted to -4.0 per cent in 2020, while previous NSI estimates (dated 7 September) showed a decrease of 4.4 per cent. Real GDP growth in 2021 was revised by 3.5 percentage points to 7.6 per cent (compared to 4.2 per cent growth, according to the old data), which is historically the highest economic growth of Bulgaria with time series available since the beginning of 1995.

By **final consumption expenditure components**, most of the revision of the real rate of change in GDP for 2020 is due to net exports, whose negative contribution to the dynamics of economic activity was reduced from -4.44 percentage points to -4.01 percentage points. This reflects a slower decline in services exports over 2020, according to revised (-27.3 per cent) compared to unrevised (-33.8 per cent) data. At the same time, the revision of goods and services imports partially compensates that of exports, as new data show that in 2020 they decreased to a lesser extent (-4.3 per cent) compared to the previous estimates (-5.4 per cent), mainly due to the dynamics of services imports. Revisions of the contributions of private consumption and changes in inventories were of a similar size but in a different direction (by 0.1 and -0.1 percentage points, respectively), thus neutralising their overall effect on real GDP changes.

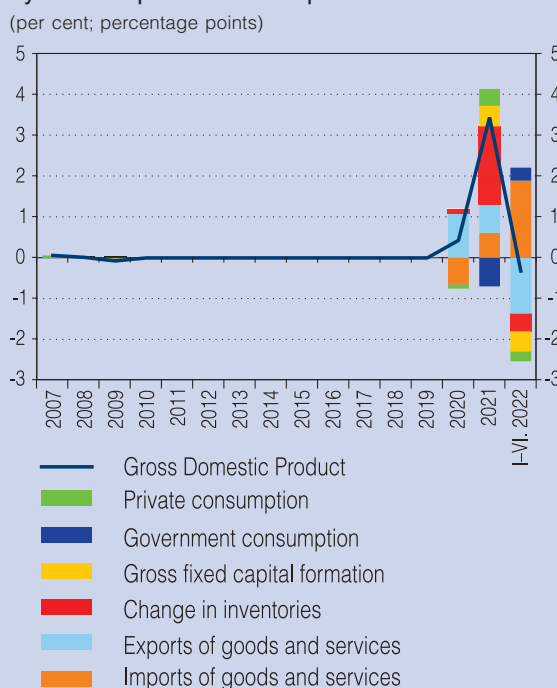
The significant revision towards higher economic growth for 2021 reflects significant changes in all major sub-components of GDP. Reflecting these revisions, changes were made in the interpretation of the factors determining the recovery of economic activity in 2021 after the negative shock from the initial spread of the COVID-19 pandemic. Data published on 19 October 2022 show that firms in Bulgaria maintained higher inventories of commodities,

Chart 3. Revisions in the Annual Rate of Change in the Real GDP



Sources: the NSI, own calculations.

Chart 4. Revisions in the Change in Real GDP by Final Expenditure Components



Sources: the NSI, own calculations.

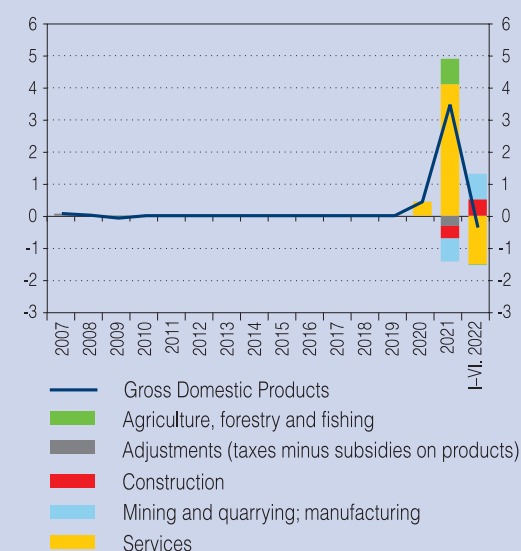
raw materials and finished products in all four quarters of 2021 compared to unrevised data, and the scale of the revision was particularly large for the third quarter. As a result, the contribution of changes in inventories to real GDP growth in 2021 was increased from 1.9 to 3.8 percentage points. The positive contribution of domestic demand in 2021 rose slightly with the revision of 19 October (from 3.4 to 3.6 percentage points), driven by stronger growth in private consumption and a weaker decline in fixed capital investment. At the same time, growth in government consumption for 2021 was revised downwards. According to the published new data, economic activity in 2021 was also supported by the dynamics of net exports, with the contribution of this component to real GDP growth amounting to 0.2 percentage points compared to -1.1 percentage points according to unrevised data. This is due to a revision towards stronger growth in exports of goods and services in combination with a lower increase in imports.

According to the new data, real GDP grew by 4.1 per cent year on year over the first half of 2022, from 4.5 per cent before the revision, reflecting the base effect of the strongly increased GDP estimate in the first half of 2021. By final expenditure component, the downward revision in real GDP growth reflects revisions towards lower growth in private consumption and changes in inventories, as well as a stronger annual decline in fixed capital investment. At the same time, the negative contribution of net exports decreased, and government consumption growth was revised positively.

According to **the production method**, the revision of value added in 2020 shows less pronounced negative effects of COVID-19 on economic activity in the services sector. In particular, the real value added in services went down by 2.6 per cent compared to a decline of 3.3 per cent according to unrevised data. In addition, the services sector in 2021 was still characterised by more positive changes compared to the estimates of 7 September 2022, with value added growth being revised from 2.6 to 9.3 per cent. Agriculture is another sector with a substantial positive revision in real value added growth in 2021 (from 6.1 to 28.8 per cent). At the same time, rates of change in adjustments and value added in industry were revised towards lower growth in 2021. Economic activity dynamics in industry over 2021 was driven by lower value added growth in manufacturing (from 9.4 to 5.4 per cent) in combination with a stronger decline in construction value added (from 7.8 to 17.1 per cent).

Chart 5. Revisions in the Change in Real GDP by Production Approach

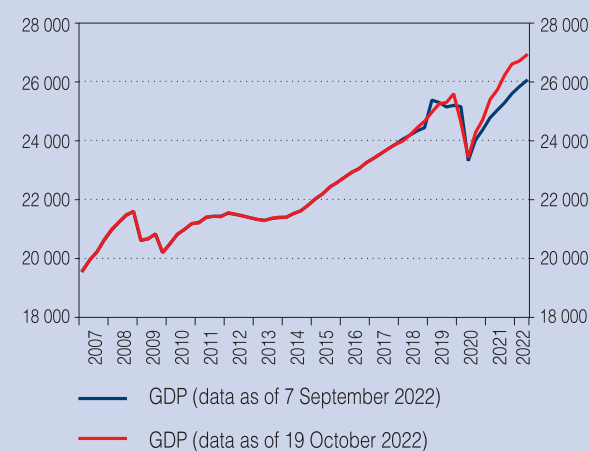
(per cent; percentage points)



Sources: the NSI, own calculations.

Chart 6. Quarterly GDP at Constant Prices, Seasonally Adjusted Data

(BGN million; 2015 prices)



Note: Quarterly data are used. The last observation is for the second quarter of 2022.

Sources: the NSI, own calculations.

Seasonally adjusted data

On 19 October 2022 the NSI published also quarterly seasonally adjusted data on GDP and its components (at current and constant prices). Differences are observed between revised and unrevised seasonally adjusted time series in terms of both their level (due to differences in the levels of non-seasonally adjusted time series), and their dynamics over time. Differences in quarter-on-quarter rates of change are most significant in the period from the first quarter of 2018 to the second quarter of 2022.

According to the revised seasonally adjusted data, immediately before the COVID-19 pandemic, economic activity in Bulgaria has followed a steady upward trend, while unrevised data have shown some decrease in the level of real GDP at the end of 2019 compared to the beginning of the same year. For 2020, new data show that the spread of the COVID-19 in Bulgaria and abroad, as well as containment measures in place since 8 March 2020 contributed to a decline in economic activity on a quarterly basis in two consecutive quarters: down 3.8 per cent in the first quarter and 4.8 per cent in the second quarter of 2020, respectively. These developments were followed by a partial recovery on a quarterly basis of seasonally adjusted real GDP in the third quarter of 2020 (growth of 3.6 per cent). Seasonally adjusted real GDP recovered to the pre-pandemic level in the second quarter of 2021. This economic activity picture differs significantly from the dynamics of unrevised time series, which was marked by a very slight decrease in real GDP over the first quarter of 2020 (down by 0.2 per cent) and a strong quarterly decline in the second quarter (down by 7.3 per cent). At the same time, unrevised data showed a trend towards a more gradual subsequent recovery in economic activity, and pre-pandemic levels were reached in the third quarter of 2021.

Table 1.
Rate of Change of GDP at Constant Prices According to the Revised and Preliminary Annual Data after 2007 (Non-seasonally Adjusted Data)

Annual rate of change	Data as of 19 October 2022															
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	I–VI 2022
GDP at constant prices	6.7	6.1	-3.3	1.5	2.1	0.8	-0.6	1.0	3.4	3.0	2.8	2.7	4.0	-4.0	7.6	4.1
Private consumption	11.5	3.5	-4.3	2.4	2.0	3.7	-3.9	1.4	2.8	2.2	2.5	3.7	6.0	-0.6	8.8	3.8
Government consumption	-1.0	1.9	-5.9	2.1	2.3	-1.8	0.7	-0.1	1.8	2.2	4.3	5.3	2.0	8.3	0.4	9.2
Gross fixed capital formation	13.1	22.0	-17.7	-17.6	-4.4	1.8	0.5	3.5	2.7	-6.6	3.2	5.4	4.5	0.6	-8.3	-9.6
Exports of goods and services	19.6	2.5	-11.7	11.0	12.6	2.0	9.6	3.1	6.4	8.6	5.8	1.7	4.0	-10.4	11.0	6.9
Imports of goods and services	22.6	4.9	-21.5	-0.3	9.6	5.4	4.3	5.1	4.7	5.2	7.4	5.8	5.2	-4.3	10.9	12.3

Contributions

Private consumption	7.7	2.4	-2.8	1.5	1.3	2.3	-2.5	0.9	1.8	1.4	1.5	2.2	3.6	-0.3	5.1	2.3
Government consumption	-0.2	0.3	-1.0	0.4	0.4	-0.3	0.1	0.0	0.3	0.4	0.7	0.8	0.3	1.4	0.1	1.8
Gross fixed capital formation	3.6	6.2	-5.8	-4.9	-1.0	0.4	0.1	0.7	0.6	-1.4	0.6	1.0	0.8	0.1	-1.6	-1.6
Exports, net	-5.3	-2.2	9.4	4.8	1.2	-2.0	3.1	-1.3	1.1	2.3	-0.7	-2.4	-0.7	-4.0	0.2	-3.6

Annual rate of change	Data as of 7 September 2022															
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	I–VI 2022
GDP at constant prices	6.6	6.1	-3.3	1.5	2.1	0.8	-0.6	1.0	3.4	3.0	2.8	2.7	4.0	-4.4	4.2	4.5
Private consumption	11.4	3.5	-4.2	2.4	2.0	3.7	-3.9	1.4	2.8	2.2	2.5	3.7	6.0	-0.4	8.0	4.2
Government consumption	-1.0	1.9	-5.9	2.1	2.3	-1.8	0.7	-0.1	1.8	2.2	4.3	5.3	2.0	8.3	4.0	7.2
Gross fixed capital formation	13.1	22.0	-17.7	-17.6	-4.4	1.8	0.5	3.5	2.7	-6.6	3.2	5.4	4.5	0.6	-11.0	-6.6
Exports of goods and services	19.6	2.5	-11.7	11.0	12.6	2.0	9.6	3.1	6.4	8.6	5.8	1.7	4.0	-12.1	9.9	9.1
Imports of goods and services	22.6	4.9	-21.5	-0.3	9.6	5.4	4.3	5.1	4.7	5.2	7.4	5.8	5.2	-5.4	12.2	15.4

Contributions

Private consumption	7.6	2.4	-2.7	1.5	1.3	2.3	-2.5	0.9	1.8	1.4	1.5	2.2	3.6	-0.2	4.7	2.5
Government consumption	-0.2	0.3	-1.0	0.4	0.4	-0.3	0.1	0.0	0.3	0.4	0.7	0.8	0.3	1.4	0.8	1.5
Gross fixed capital formation	3.6	6.2	-5.8	-4.9	-1.0	0.4	0.1	0.7	0.6	-1.4	0.6	1.0	0.8	0.1	-2.1	-1.1
Exports, net	-5.3	-2.2	9.4	4.8	1.2	-2.0	3.1	-1.3	1.1	2.3	-0.7	-2.4	-0.7	-4.4	-1.1	-4.1

Annual rate of change	Difference (percentage points)															
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	I-VI 2022
GDP at constant prices	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	3.5	-0.3
Private consumption	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.8	-0.4
Government consumption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.6	2.0
Gross fixed capital formation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	-3.0
Exports of goods and services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.1	-2.2
Imports of goods and services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	-1.2	-3.1

Contributions

Private consumption	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.4	-0.2
Government consumption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	0.3
Gross fixed capital formation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	-0.5
Exports, net	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.3	0.5

Sources: the NSI, own calculations.

Table 2.

Annual Rate of Change of GDP at Constant Prices According to the Revised and Preliminary Quarterly Non-seasonally Adjusted Data

Annual rate of change	Data as of 19 October 2022																	
	2018				2019				2020				2021				2022	
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
GDP at constant prices	2.7	2.6	2.9	2.5	5.1	4.3	3.4	3.6	-0.8	-8.9	-2.1	-3.7	3.7	7.1	8.6	10.2	4.4	3.9
Private consumption	6.2	5.2	4.9	-0.4	3.3	6.9	6.4	6.9	0.2	-4.5	3.6	-1.5	6.9	9.2	9.8	8.9	5.5	2.1
Government consumption	3.1	4.7	5.8	7.3	2.6	-1.2	2.1	4.2	6.7	7.7	7.4	10.8	-2.1	-2.2	2.9	2.3	6.6	11.6
Gross fixed capital formation	9.7	5.8	1.9	5.5	2.5	3.2	3.2	8.0	-4.8	-6.6	4.5	6.9	-3.3	-2.0	-11.9	-13.0	-7.4	-11.0
Exports of goods and services	2.0	0.3	-0.8	6.0	5.5	1.2	6.6	2.3	1.9	-16.8	-14.5	-10.3	2.9	23.9	9.6	9.4	4.8	8.9
Imports of goods and services	6.8	7.3	5.2	4.0	4.3	3.3	7.3	5.9	2.2	-14.1	-6.9	1.7	4.9	24.2	13.0	3.9	12.3	12.3

Annual rate of change	Data as of 7 September 2022																	
	2018				2019				2020				2021				2022	
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
GDP at constant prices	2.7	2.6	2.9	2.5	5.1	4.3	3.4	3.6	-0.3	-9.7	-2.9	-4.1	0.2	6.5	3.9	5.6	5.0	4.0
Private consumption	6.2	5.2	4.9	-0.4	3.3	6.9	6.4	6.9	0.4	-4.5	4.1	-1.5	5.4	9.3	8.3	8.7	6.4	2.1
Government consumption	3.1	4.7	5.8	7.3	2.6	-1.2	2.1	4.2	6.7	7.7	7.4	10.8	6.2	1.4	6.3	2.7	1.1	13.1
Gross fixed capital formation	9.7	5.8	1.9	5.5	2.5	3.2	3.2	8.0	-4.8	-6.6	4.5	6.9	-6.1	-4.8	-14.4	-15.5	-4.4	-8.1
Exports of goods and services	2.0	0.3	-0.8	6.0	5.5	1.2	6.6	2.3	1.6	-19.2	-16.3	-12.4	-2.0	22.0	7.9	13.8	7.4	10.7
Imports of goods and services	6.8	7.3	5.2	4.0	4.3	3.3	7.3	5.9	1.2	-15.3	-7.6	0.3	4.6	21.8	12.5	10.9	14.1	16.6

Annual rate of change	Difference (percentage points)																	
	2018				2019				2020				2021				2022	
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
GDP at constant prices	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.8	0.9	0.4	3.5	0.6	4.7	4.6	-0.6	-0.1
Private consumption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	-0.4	0.0	1.5	-0.1	1.5	0.2	-0.8	0.0
Government consumption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-8.2	-3.6	-3.4	-0.4	5.5	-1.4
Gross fixed capital formation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	2.8	2.5	2.5	-3.1	-2.9
Exports of goods and services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.5	1.8	2.0	4.9	1.9	1.7	-4.5	-2.6	-1.9
Imports of goods and services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.2	0.7	1.4	0.3	2.3	0.5	-7.0	-1.8	-4.4

Sources: the NSI, own calculations.

Table 3.

Quarter-on-Quarter Rate of Change of GDP at Constant Prices According to the Revised and Preliminary Quarterly Seasonally Adjusted Data

Quarter-on-quarter rate of change	Data as of 19 October 2022																	
	2018				2019				2020				2021				2022	
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
GDP at constant prices	0.5	0.9	1.0	0.9	1.3	1.1	0.2	1.2	-3.8	-4.8	3.6	1.8	2.8	1.3	1.8	1.6	0.5	0.9
Private consumption	0.9	-0.2	0.4	0.0	3.6	2.3	-1.2	2.4	-2.0	-2.8	4.5	-0.2	3.6	1.2	1.8	0.8	1.0	0.9
Government consumption	1.8	2.5	0.4	0.7	-0.8	0.2	2.0	1.3	2.8	2.4	0.7	3.3	0.3	1.5	4.8	0.5	0.1	-0.1
Gross fixed capital formation	2.0	0.6	0.5	0.8	1.9	1.0	-1.2	-0.1	-0.7	1.6	1.4	-0.8	-3.4	-1.5	-4.0	-2.7	-1.7	-2.5
Exports of goods and services	-0.6	1.6	0.8	3.8	-1.7	-1.3	7.0	-1.5	-3.0	-18.4	8.0	5.8	9.3	-1.5	-2.0	3.6	4.1	2.7
Imports of goods and services	1.4	1.3	-1.1	2.4	1.5	0.5	2.8	1.1	-2.3	-15.6	11.4	10.6	0.6	0.4	1.4	1.6	8.1	0.9

Quarter-on-quarter rate of change	Data as of 7 September 2022																	
	2018				2019				2020				2021				2022	
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
GDP at constant prices	0.7	0.6	0.6	0.4	3.8	-0.3	-0.6	0.2	-0.2	-7.3	3.0	1.5	1.7	1.0	1.0	1.2	0.9	0.8
Private consumption	0.9	-0.2	0.4	0.0	3.6	2.3	-1.2	2.4	-2.0	-2.8	4.5	-0.2	3.6	2.1	1.8	0.8	1.0	-0.6
Government consumption	1.8	2.5	0.4	0.7	-0.8	0.2	2.0	1.3	2.8	2.4	0.7	3.3	0.3	-2.7	4.8	0.5	0.1	5.5
Gross fixed capital formation	4.8	0.4	-2.1	0.6	4.8	1.0	-2.9	0.9	-1.5	-0.6	5.2	0.4	-9.2	-0.5	-4.6	-1.5	0.9	-2.8
Exports of goods and services	-0.1	1.6	0.7	3.2	-0.9	-1.3	6.9	-2.4	-2.1	-20.5	8.3	4.4	8.6	-1.1	-1.9	7.7	2.0	2.5
Imports of goods and services	-2.0	0.4	-1.2	4.6	-1.1	-1.3	4.8	-0.4	0.4	-13.4	10.0	-2.6	6.2	1.8	-1.9	2.3	3.5	4.7

Quarter-on-quarter rate of change	Difference (percentage points)																	
	2018				2019				2020				2021				2022	
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
GDP at constant prices	-0.3	0.3	0.4	0.5	-2.6	1.4	0.8	0.9	-3.6	2.5	0.6	0.4	1.1	0.3	0.8	0.4	-0.4	0.1
Private consumption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	0.0	0.0	0.0	1.5
Government consumption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	-5.6
Gross fixed capital formation	-2.8	0.2	2.6	0.3	-2.9	0.0	1.7	-1.1	0.8	2.3	-3.8	-1.2	5.8	-1.0	0.6	-1.1	-2.6	0.2
Exports of goods and services	-0.5	0.0	0.1	0.6	-0.7	0.0	0.1	0.9	-0.8	2.0	-0.2	1.4	0.7	-0.3	-0.1	-4.0	2.1	0.2
Imports of goods and services	3.4	0.9	0.1	-2.2	2.5	1.8	-2.0	1.5	-2.6	-2.1	1.4	13.1	-5.6	-1.4	3.3	-0.7	4.6	-3.8

Sources: the NSI, own calculations.

4.2. Labour Market

Labour Supply

Based on NSI data⁵², the labour force (comprising employed and unemployed persons) increased on an annual basis in the second quarter of 2022 for the first time since the end of 2019. The continued favourable economic situation in Bulgaria supported the labour market and led to a 3.5 per cent decline on an annual basis in the number of persons not in the labour force. The labour force participation rate⁵³ increased both on a quarterly and an annual basis in the second quarter of 2022 as a result of higher activity in all age groups.

According to the LFS data, seasonally adjusted unemployment rate⁵⁴ fell to 4.3 per cent in the second quarter of 2022 from 4.5 per cent in the beginning of the year. Concurrently, administrative statistics data of the Employment Agency, which are published more frequently, point to a break in the downward trend in the unemployment rate over the third quarter of 2022.

Labour Demand

In the second quarter of 2022, employment⁵⁵ increased by 1.3 per cent on an annual basis. Employees in the services sector, and in particular those in the trade, repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities sub-sector, and in the construction sector contributed positively to this. At the same time, there was a decline in the number of employed in agriculture and industry.

The NSI short-term statics data also reported higher demand for labour, with the number of job vacancies in the economy going up by 10.2 per cent on an annual basis in the second quarter of 2022 to 21,401 compared to an average of 18,119 for the 2010–2021 period. According to Employment Agency data, available job

⁵² NSI Labour Force Survey data are used.

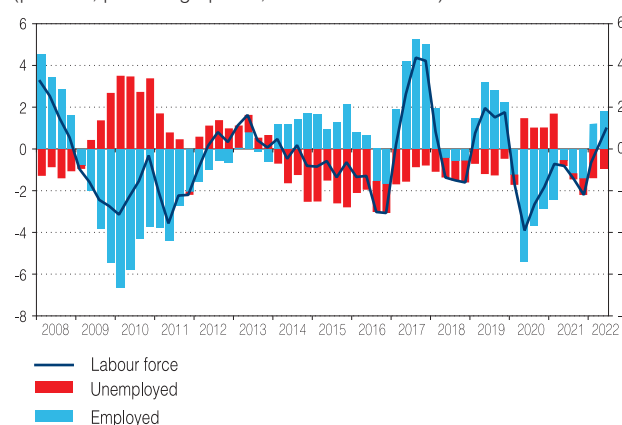
⁵³ The labour force participation rate is the proportion between economically active persons (labour force) and population of the same age. Quarterly data, seasonally adjusted by the BNB.

⁵⁴ The unemployment rate is the proportion between the number of unemployed and the labour force for the age group 15 and older based on Labour Force Survey data. The time series is seasonally adjusted by the BNB.

⁵⁵ NSI System of National Accounts data are used.

Contribution to the Change in Labour Force by Component

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



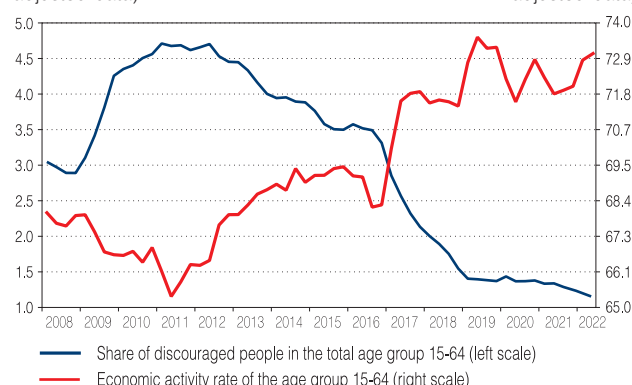
Note: Data refer to the age group 15 and older.

Sources: the NSI, BNB calculations.

Economic Activity and Share of Discouraged Persons

(per cent, seasonally adjusted data)

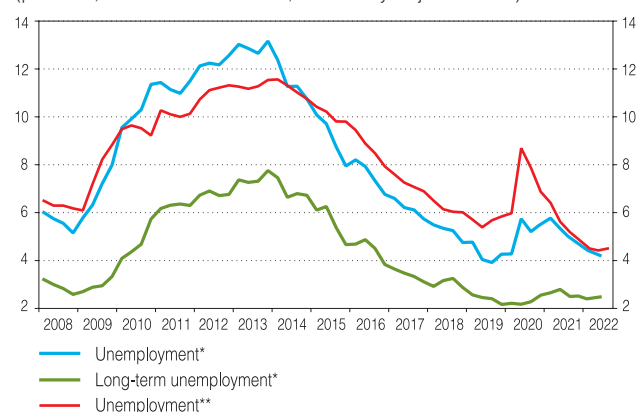
(per cent, seasonally adjusted data)



Sources: the NSI, Labour Force Survey, BNB calculations.

Unemployment Rate

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



* Based on NSI data.

** Based on Employment Agency data.

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

vacancies (outside employment programmes) that have remained unfilled for more than three months continued to increase, reaching 1247 at the end of September 2022, compared to an average of 757 over the corresponding month in the 2010–2021 period. Increased demand for labour against the backdrop of limited scope for supply growth due to the trend toward a decline in working-age population was reflected in an increase in the share of companies, that define labour shortages as a factor hindering their activity in both the second and third quarters of 2022.⁵⁶ Labour shortages, in turn, continued to put upward pressure on labour income whose growth exceeded that of real productivity.

Productivity and Compensation per Employee

Labour productivity⁵⁷ in total economy increased by 3.2 per cent year-on-year in the second quarter of 2022. Growth in real productivity *per* employee was reported in the manufacturing and agricultural sectors, while the fall in the construction and services sectors remained sustained. At the same time, the growth rate of compensation *per* employee accelerated to 20.9 per cent in nominal terms on an annual basis in the second quarter of 2022, driven by factors such as enhanced economic activity, continued labour force shortage and strong rise in consumer prices and inflation expectations. In real terms⁵⁸, the growth rate of compensation *per* employee came to 6.6. per cent on an annual basis, with declines reported only in the construction sector and the information and communication and financial and insurance activities sub-sectors.

NSI data on average gross monthly wages also pointed to an increased annual growth, albeit weaker compared with NSI System of National Accounts data⁵⁹. The growth of average gross monthly wages in the total economy came to 13.4 per cent on an annual basis in the second quarter of 2022; compared to an annual increase

⁵⁶ According to NSI business situation survey data.

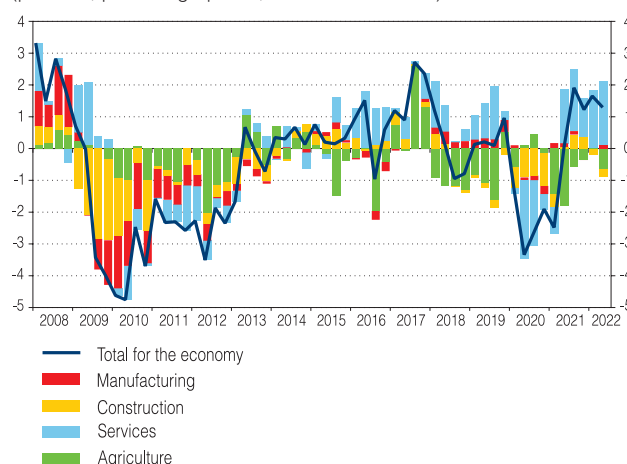
⁵⁷ Labour productivity is calculated after adjusting gross value added (total for the economy) for imputed rent.

⁵⁸ Compensation *per* Employee deflated by the HICP.

⁵⁹ The different dynamics of both indicators for wage *per* employee in the economy reflected the use of various sources to assess employees and differences in definitions and coverage of compensation *per* employee. Furthermore, additional estimates of labour costs in the 'shadow economy' and benefits in kind were made in the System of National Accounts.

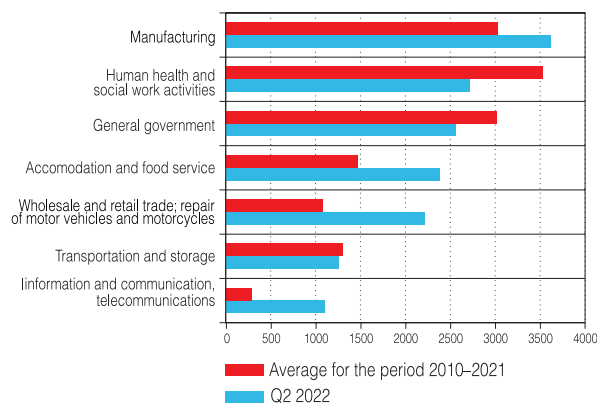
Contribution to the Change in the Number of Employed by Economic Sector

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



Sources: NSI – System of National Accounts (SNA), BNB calculations.

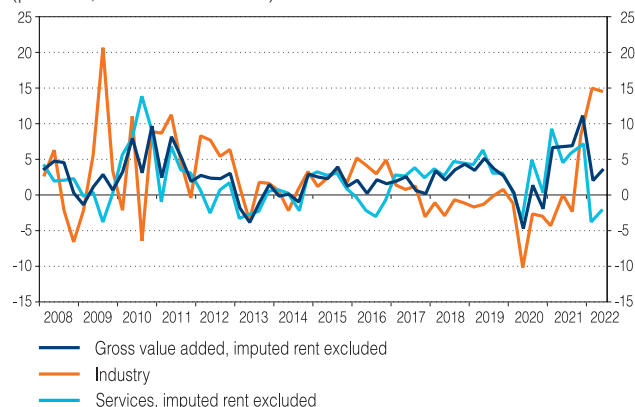
Economic Sectors with the Largest Number of Job Vacancies in the Second Quarter of 2022



Source: the NSI.

Labour Productivity Dynamics (Value Added *per* Employee)

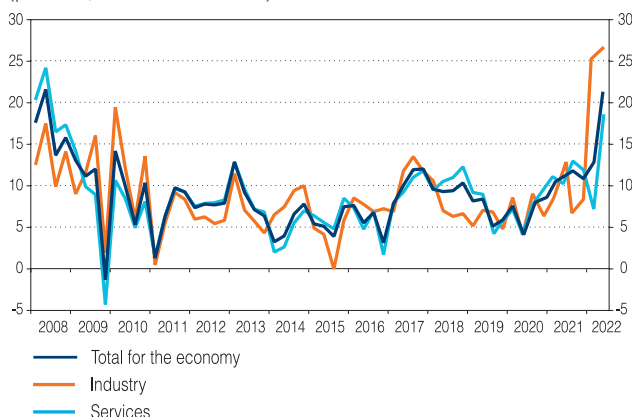
(per cent, on an annual basis)



Sources: the NSI, BNB calculations.

Compensation per Employee at Current Prices

(per cent, on an annual basis)



Source: NSI – System of National Accounts (SNA).

of 9.8 per cent in the first quarter of 2022. A stronger increase in wages was observed in both private and public sectors.

4.3. Behaviour of Firms

In the second quarter of 2022, firms' producer prices continued to rise on an annual basis, likely related to the higher production costs.⁶⁰

Labour Costs of Corporations

Annual growth of firms' unit labour costs continued to accelerate in the second quarter of 2022, driven by stronger annual growth in nominal compensation *per* employee than that in labour productivity. Sustainable economic activity growth in Bulgaria, labour shortages, as well as the indexation of some nominal wages due to high inflation were a prerequisite for this.⁶¹ By economic sector, the highest annual growth in unit labour costs was reported in the services sector (21.7 per cent), followed by the agriculture (13.5 per cent) and industry (10.7). Within industry, both the construction and manufacturing sub-sectors reported an increase in unit labour costs.

Investment Activity of Corporations

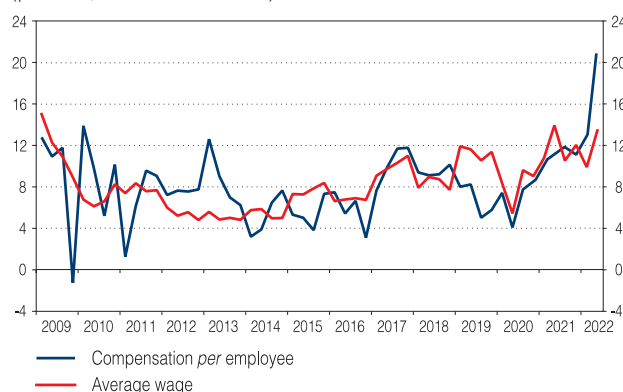
In the second quarter of 2022, firms' investment spending in real terms continued falling on an annual basis. As a result, the private sector had a substantial negative contribution to the decline

⁶⁰ This section reviews corporations' labour and investment costs, while expenditure on raw materials are not analysed due to the lack of public data of quarterly frequency.

⁶¹ According to the 2014 BNB [survey on price and wage setting mechanisms in non-financial corporations in Bulgaria](#), about 30 per cent of companies said that they applied a rule on wage indexation to inflation dynamics.

Compensation per Employee and Average Wage at Current Prices

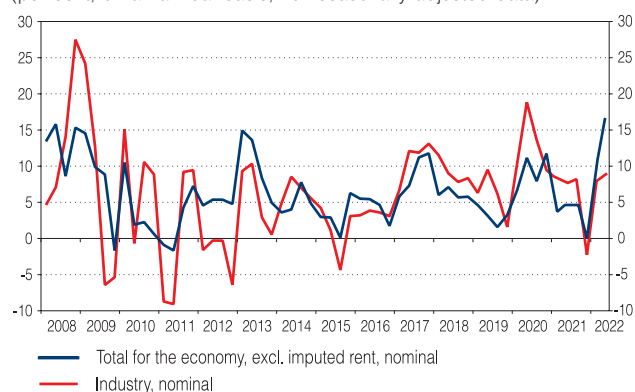
(per cent, on an annual basis)



Sources: NSI – System of National Accounts (SNA), short-term statistics of employment and labour costs.

Unit Labour Costs

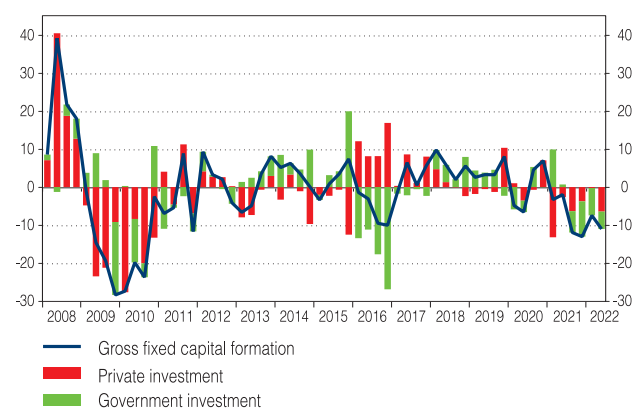
(per cent, on an annual basis; non-seasonally adjusted data)



Sources: the NSI, BNB calculations.

Contribution of Private and Public Sectors to the Annual Rate of Change in Investment in Real Terms

(per cent, percentage points on an annual basis; non-seasonally adjusted data)

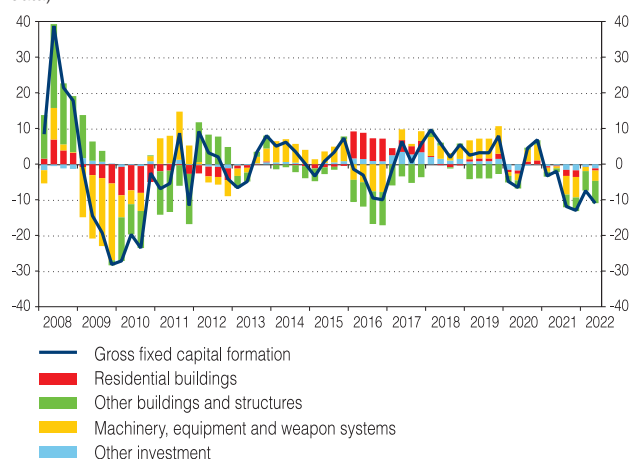


Notes: The NSI does not provide official data on the breakdown of total investments into private and public. The series on private investment is constructed by the BNB as a difference between total investment and the estimated amount of public investment on an accrual basis in real terms. Data on public investment are based on information from quarterly non-financial accounts of the general government sector, published by the NSI.

Sources: the NSI, BNB calculations.

Contribution by Asset Type to the Annual Rate of Change in Investment in Fixed Capital

(per cent; percentage points; on an annual basis; non-seasonally adjusted data)



Sources: Eurostat, BNB calculations.

in total fixed capital investment. By asset type, the decline in investment was broad-based, with investment in non-residential construction and machinery, equipment and weapons systems recording the largest negative contribution.

Financing Sources of Corporations

Based on non-seasonally adjusted data, gross operating surplus which can be used by firms for funding their activities increased by 22.8 per cent on an annual basis in nominal terms in the second quarter, due to industry (101.3 per cent) and agriculture (10.5 per cent), whereas in services it went down by 4.3 per cent. The larger amount of the operating surplus in industry was mainly due to the manufacturing sub-sector, which was in line with strong growth of both sales in real terms and selling prices.

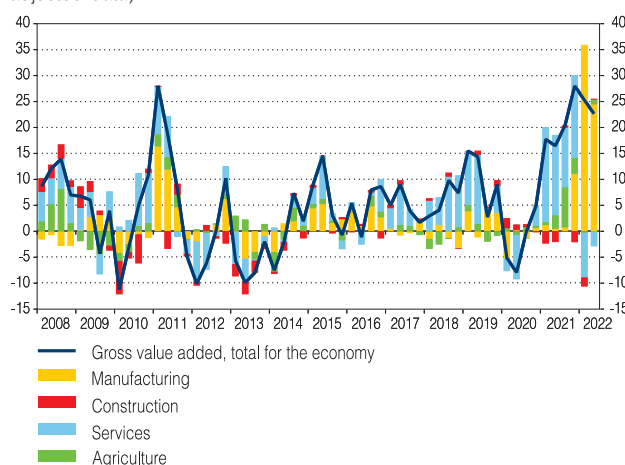
Funding attracted by firms from sources other than the gross operating surplus rose in almost all sectors except for construction, with the highest concentration of attracted financing in the industrial and services sectors (excluding public services and financial intermediation). Growth of attracted funds was largely due to received loans and, to a lesser extent, to the increase in foreign direct investment into Bulgaria over the review quarter.

Price Policy of Corporations

In the second quarter of 2022, firms' selling prices, as measured by the Producer Price Index in

Annual Rate of Change of Nominal Gross Operating Surplus and Contribution by Sector

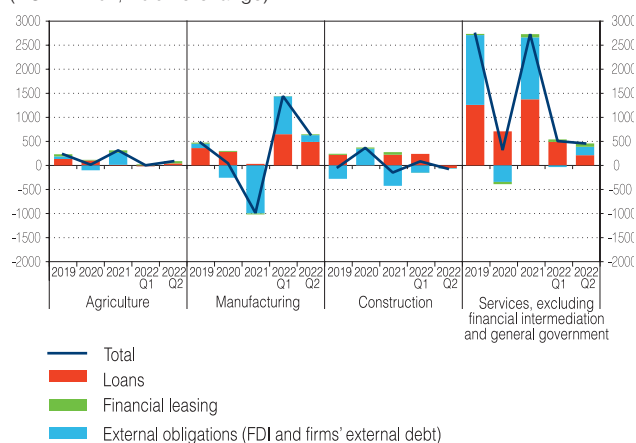
(per cent; percentage points; on an annual basis; non-seasonally adjusted data)



Sources: the NSI, BNB calculations.

Financing Sources*

(BGN million, volume change)



*Sources of financing other than gross operating surplus.

Source: the BNB.

Industry (PPI), posted a 39.9 per cent year-on-year increase. These developments were underpinned mainly by the sizeable increase in energy product prices. Within the index, more significant increases were recorded in domestic producer prices, and, in particular, in production of electricity, heating and gaseous fuels, followed by the manufacture of refined petroleum products, metals, chemical products, and wood and its products. The annual growth rate of PPI continued to accelerate over the third quarter, reaching 56.8 per cent in September 2022. Upward pressure on firms' selling prices continued to be driven mainly by growth in their production costs due to higher prices of energy and non-energy commodities in international markets, as well as by higher labour costs.

Producer price indices in the second quarter of 2022 also reported strong annual growth in all sub-sectors with the exception of telecommunication services. The largest growth on an annual basis was reported in freight handling (21.7 per cent), freight transport by road (18.2 per cent), and maritime transport (16.1 per cent).

Selling prices⁶² in the retail trade sub-sector, which is the closest to the customers in the supply chain, continued to rise in the second quarter of 2022. Annual growth in the NSI retail price index (excluding trade in motor vehicles and motorcycles) reached 20.4 per cent in August 2022 (compared to 20.0 per cent in the second quarter and 13.2 per cent in the first quarter of 2022).

Economic Indicators

Overall, NSI short-term business statistics indicators suggest a continuous increase in economic activity in the third quarter of 2022.⁶³

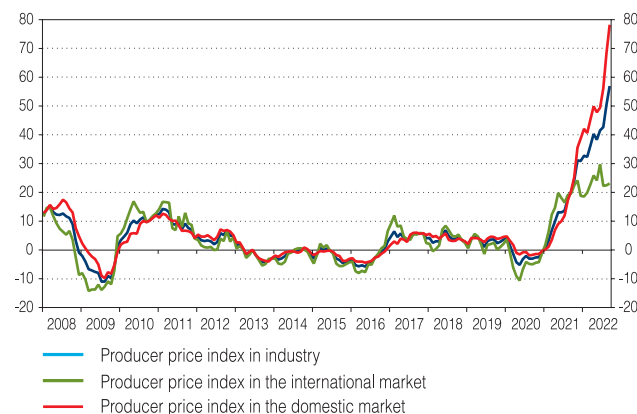
BNB seasonally adjusted data show that in the third quarter of 2022 the overall business climate indicator worsened slightly from the previous quarter, reflecting the contribution of the construction and retail trade sectors. Available data for October 2022 signal that the business climate will continue to deteriorate in the fourth quarter of the year. Between July and October 2022, uncertain economic environment and labour shortage remained the main factors impeding business activity. Despite the deteriora-

⁶² NSI data on retail prices for 2022 are up to August.

⁶³ For more details on the composite economic indicator, see the *Current Economic Environment Section* in this Chapter.

Rate of Change of Producer Price Index in Industry

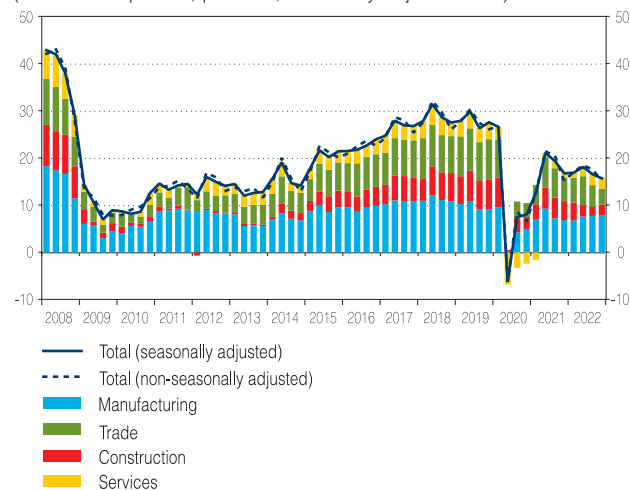
(per cent, on an annual basis)



Source: the NSI.

Business Climate

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

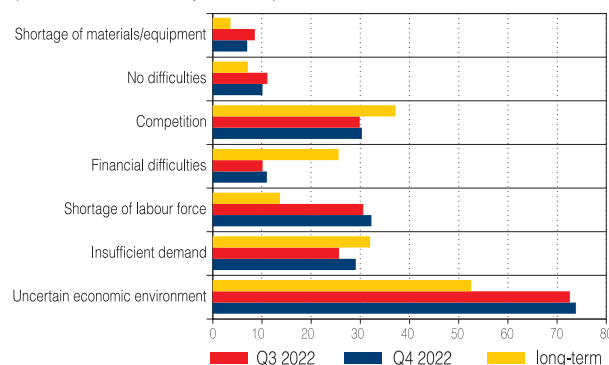


Notes: The answers to the NSI survey questions are presented in a three-tier category scale: 'increase', 'unchanged', 'decrease'. Balances of opinions are calculated as a difference between relative shares of extreme options of replies: 'increase' minus 'decrease'. The business climate indicator is a geometric average of the balances of opinions about the current and expected business situation in corporations in the next six months.

Sources: the NSI, BNB calculations.

Factors Hampering Economic Activity of Corporations

(relative share of corporations)

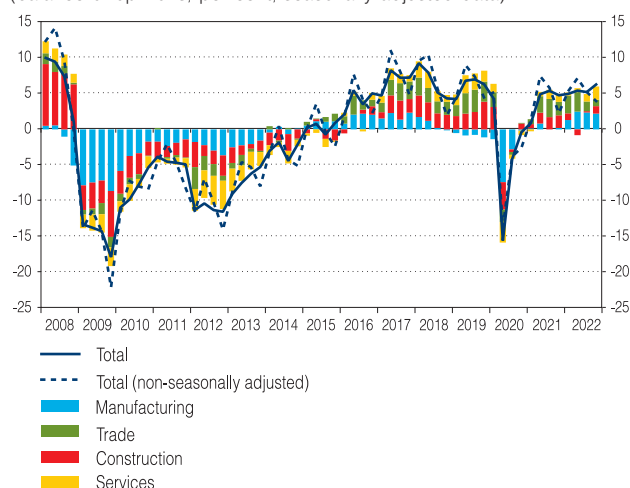


Note: The data are average for the period and are calculated as a weighted average based on economic sectors' shares of corporations in total economy (manufacturing, construction, trade and services). Data for the fourth quarter of 2022 are for October.

Sources: the NSI, BNB calculations.

Corporations' Expectations about Staff Recruitment in the Following Three Months

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



Notes: The answers to the NSI survey questions are presented in three-tier category scale: 'increase', 'unchanged', 'decrease'. Balances of opinions are calculated as a difference between relative shares of extreme options of replies: 'increase' minus 'decrease'. Data for the fourth quarter of 2022 are for October.

Sources: the NSI, BNB calculations.

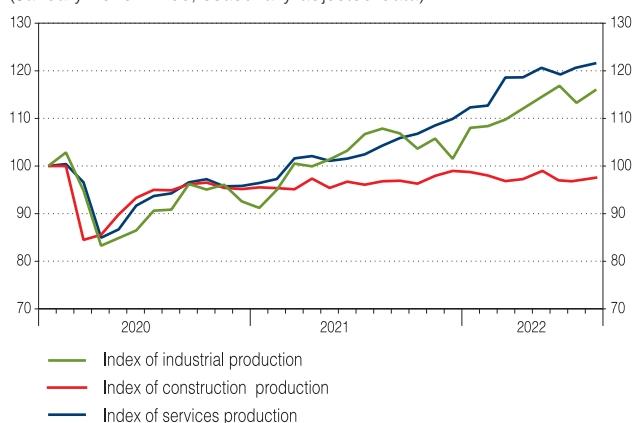
tion in managers' sentiment about the situation in Bulgaria, sentiment about staff employment improved in the total economy.

NSI data on short-term business statistics on output and turnover in manufacturing, retail trade, services and construction production for July–August 2022 give grounds to expect divergent developments with regard to the value added in the respective economic sectors in the third quarter of the year – quarter-on-quarter growth in manufacturing and services (excluding trade) and a fall in retail trade and construction.

The industrial production index increased on average both on a quarterly and annual basis, but at a slower pace for the July–August 2022 period. Economic activity growth on an annual basis was broad-based by economic sector, with the most pronounced growth reported in electricity, heat and gas production and distribution. According to nominal turnover data, economic activity growth in manufacturing was due to an increase in sales in real terms on both domestic and international markets. In the July–August 2022 period, retail trade volumes at constant prices decreased slightly compared to the second quarter of 2022, whereas their annual rate of growth moderated. This probably reflected the negative effects of high inflation on consumers' purchasing power and deteriorating consumer confidence given the high level of economic

Dynamics of the Production Index in Manufacturing, Construction and Services

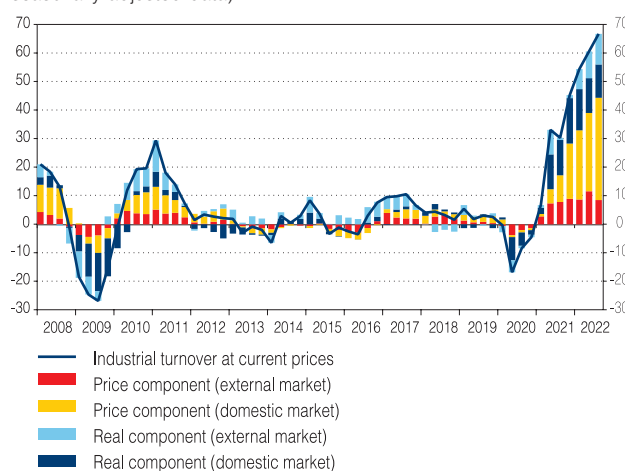
(January 2020 = 100; seasonally adjusted data)



Sources: the NSI, Eurostat, BNB calculations.

Industrial Turnover Dynamics

(per cent, percentage points, quarterly, on an annual basis; seasonally adjusted data)



Note: Data for the second quarter of 2022 are up to May.

Sources: the NSI, BNB calculations.

uncertainty. Over the same period, growth in the services production index (excluding trade) slowed down on both a quarterly and an annual basis. The most sizeable economic activity growth on an annual basis was recorded in services related to hotels and restaurants. (22.9 per cent). Between July and August 2022, construction production reported a slight decrease compared with the second quarter of the year. However, the construction production index increased at an accelerated rate on an annual basis, largely due to building construction. The NSI business climate survey suggests that in the third quarter of 2022 the uncertain economic environment, commodity prices and labour shortages remained the main constraints for the construction firms.

4.4. Household Behaviour

Household Income

In the second quarter of 2022, growth in total household income⁶⁴ continued to accelerate in nominal terms on an annual basis compared to that in early 2022. At the same time, loans and credits continued to increase at a high rate, while savings withdrawals reported a weaker annual increase.

Total household income rose in nominal terms by 16.5 per cent year on year in the second quarter of 2022, mainly due to the reported increase in pension income. Concurrently, the growth rate of income from wages moderated to 7.7 per cent, from 12.9 per cent in early 2022. According to NSI National Accounts and short-term statistics data, this growth was considerably weaker than the reported income growth, which accelerated on an annual basis in the second quarter of 2022.

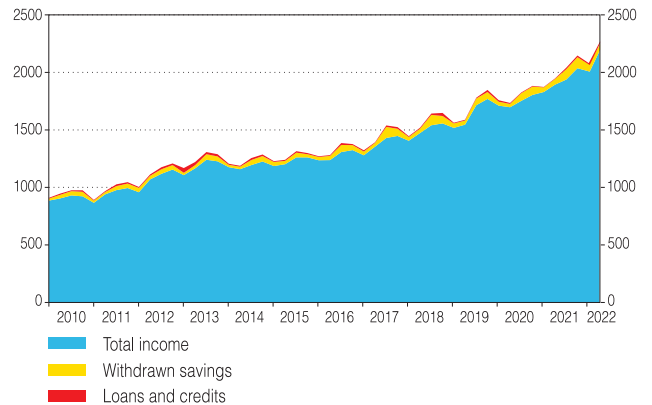
In real terms⁶⁵, total household income also reported a more pronounced increase of 2.8 per

⁶⁴ Total income includes household cash income from wages, pensions, self-employment, social security benefits, allowances and valued in-kind income, which is the cash value of goods and services received in kind by households, for instance social transfers in kind. Total income does not include withdrawn savings and credits. For more details, see NSI's [Methodology](#) on the Household Budget Survey.

⁶⁵ To obtain total income, pensions and wage using different statistics, nominal values are deflated by HICP.

Household Revenue

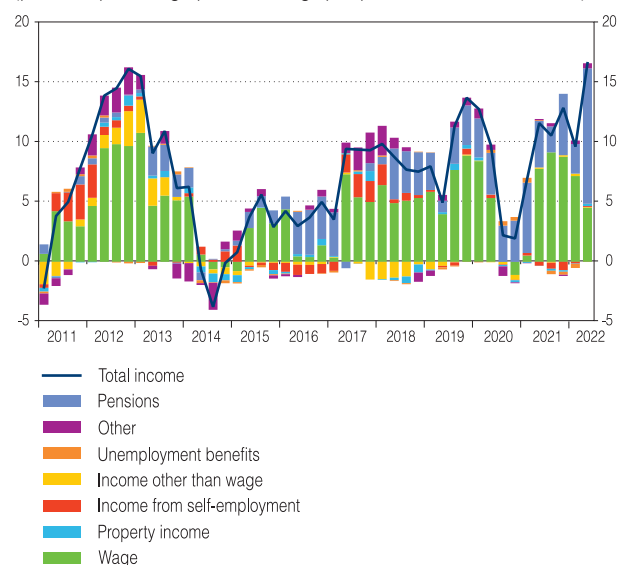
(BGN, monthly average *per person*)



Source: NSI – Household Budget Survey.

Contribution to the Change in Total Monthly Household Income

(per cent, percentage points; average *per person*, on an annual basis)



Sources: NSI – Household Budget Survey, BNB calculations.

cent on an annual basis in the second quarter of 2022 (0.7 per cent in the first quarter of the year). Pension income went up by 22.6 per cent in real terms on an annual basis, while income from wages reported a 5 per cent decrease. The NSI National Account wage bill data⁶⁶ suggest that labour income went up by 5.1 per cent in real terms on annual basis in the second quarter of 2022, while the NSI short-term statistics data on average wage do not indicate any changes as compared to the same period of the previous year. These inconsistencies are likely due to differences in methodologies, scope and data sources across the different statistics.

Higher total income growth resulted in an annual increase in the real disposable income of households of 4.3 per cent in the second quarter of 2022, compared with an annual increase of 0.2 per cent in the first quarter of the year.

Household Expenditure

The year-on-year total household expenditure growth⁶⁷ continued to accelerate in nominal terms in the second quarter of 2022 as a result of higher consumer expenditure, while annual growth in taxes and social security contributions moderated compared with the first quarter. Consumer expenditure went up by 19.4 per cent on an annual basis in the second quarter of 2022, with food and non-alcoholic beverages contributing most to this.

According to the NSI Household Budget Survey, consumer expenditure went up by 5.2 per cent in real terms⁶⁸ on an annual basis in the second quarter of 2022, compared with 4.3 per cent annual growth in early 2022. Healthcare expenditure contributed most to the increase in real terms for a second consecutive quarter, whereas expenditure on food and non-alcoholic beverages recorded a decrease.

Concurrently, according to NSI National Accounts data, private consumption went up 2.1 per cent on an annual basis in the second quarter of

⁶⁶ The wage is calculated by dividing the wage bill to the number of employed in the economy.

⁶⁷ Total expenditure include consumer spending, taxes, social contributions, regular transfers to other households and other expenditure. For more details, see NSI's [Methodology](#) on the Household Budget Survey.

⁶⁸ Household consumer expenditure is deflated by overall HICP. Sub-components of consumer expenditure are deflated by the corresponding HICP groups.

Household Disposable Income

(per cent, average *per person*, on an annual basis)

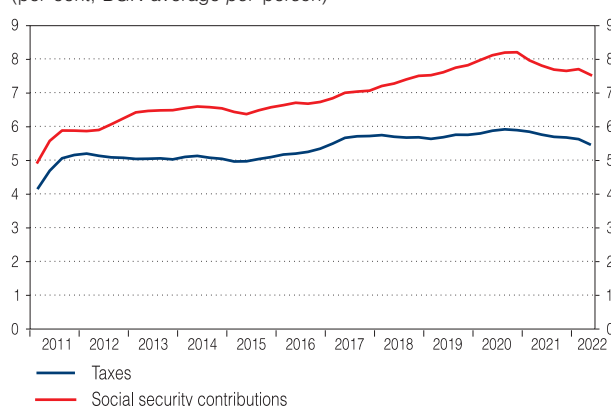


Note: Real disposable income of households represents total income reduced by taxes, social security contributions and regular transfers to other households, HICP deflated.

Sources: NSI – Household Budget Survey, the NSI, BNB calculations.

Shares of Taxes and Social Security Contributions in Total Household Expenditure

(per cent, BGN average *per person*)

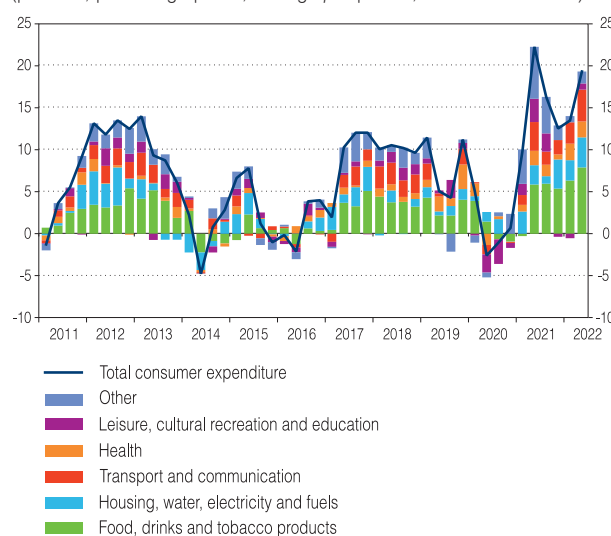


Note: A moving average for the last four quarters is used in order to adjust the data and show the developments.

Source: NSI – Household Budget Survey.

Contribution to the Change in Consumer Expenditure of Households

(per cent, percentage points; average *per person*, on an annual basis)



Sources: NSI – Household Budget Survey, BNB calculations.

2022, compared to an annual increase of 5.5 per cent in the first quarter. According to NSI Household Budget Survey data, higher growth in consumer expenditure can be seen as representative for the lower-income population groups, in which the increase in income from pensions plays a key role in the formation of consumer expenditure. Concurrently, according to NSI National Accounts data, private consumption has a larger scope and covers better higher-income population groups.

Household Savings

The NSI Household Budget Survey shows that the propensity of households to save⁶⁹ part of their received income⁷⁰ increased slightly in the second quarter of 2022 compared to the year's start, though remaining at a lower level compared to the same period of the previous year. Concurrently, accumulated households' net assets in the banking system⁷¹ continued to decline in line with the trend toward lower annual growth in deposits compared to withdrawn loans. According to BNB monetary statistics, withdrawals from the banking system most likely continue to support household consumption.

4.5. Fiscal Policy Effects on the Economy

In the second quarter of 2022, fiscal policy supported economic activity in Bulgaria by both higher direct transfers to households and firms (in the form of social expenditure and subsidies) and an increase in government final consumption expenditure.

The increase in pensions effective as of 25 December 2021⁷² and the payment of pension allowances contributed most to the social expenditure growth⁷³: up 17.5 per cent on an

⁶⁹ Household savings are measured by the difference between the total income and the total expenditure in the relevant quarter. The propensity to save is calculated as a ratio between savings and gross income in the relevant quarter.

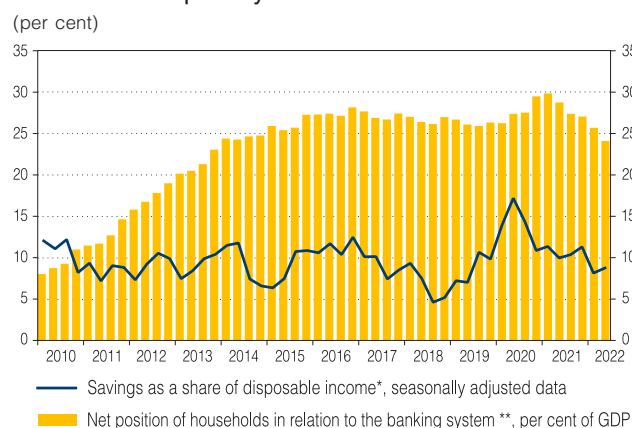
⁷⁰ Income is gross income in the relevant quarter reduced by taxes and social security contributions.

⁷¹ The net position of households *vis-à-vis* the banking system is the difference between deposits and loans of households (positive values should be interpreted as an excess of deposits over loans).

⁷² Pensions were raised by increasing the weight of each year of the length of service in the pension formula from 1.2 to 1.35 and by increasing the minimum and maximum pension amounts.

⁷³ Social payments other than in kind from quarterly non-financial accounts of the general government sector are considered.

Household Propensity to Save



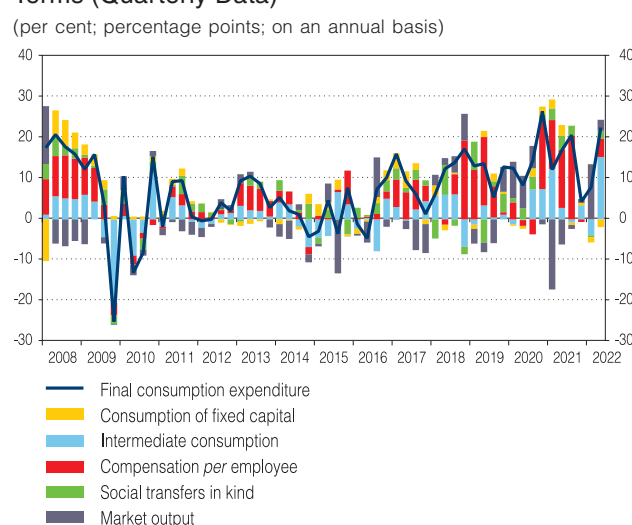
Notes: Savings as a share of disposable income represent the difference between total income and total expenditure of households as a share of total income reduced by taxes, social security contributions and regular transfers to other households. The net position of households *vis-à-vis* the banking system is the difference between deposits and loans of households.

* Based on NSI data.

** Based on BNB data.

Sources: NSI – Household Budget Survey, the BNB.

Contribution of Major Groups of Expenditure to Government Consumption Growth in Nominal Terms (Quarterly Data)



Sources: the NSI, BNB calculations.

annual basis in the second quarter of 2022. At the same time, the continued support for the non-household users of electricity due to the higher electricity prices drove the increase in subsidies (84.4 per cent on an annual basis). The annual increase in government consumption in nominal terms accelerated, with intermediate consumption expenditure contributing most to this. The entry into force of the 2022 State Budget Law in April providing for a considerable increase in the cost of living influenced intermediate consumption expenditure dynamics. Government consumption growth accelerated substantially in real terms on an annual basis and came to 11.6 per cent (from 6.6 per cent in the first quarter of 2022). In the second quarter of 2022 the general government sector's investments in fixed capital went down on an annual basis in both nominal and real terms for the fourth consecutive quarter. The subdued government investment dynamics was probably due to the delay in the implementation of major infrastructure projects resulting from the political uncertainty in Bulgaria and the shift of the fiscal policy towards higher current expenditure.

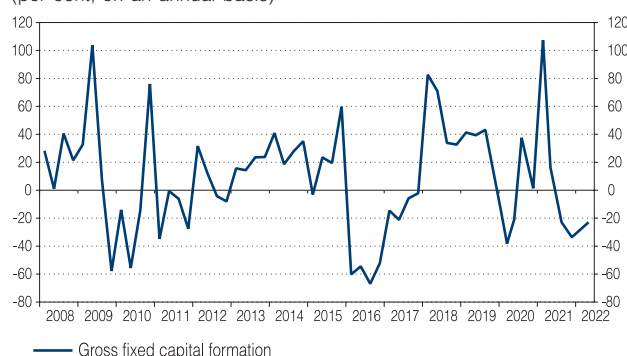
Annual growth of total expenditure under the consolidated fiscal programme (CFP) continued to accelerate and reached 19.7 percent at the end of September (9.8 per cent as of June 2022) reflecting the Amendment to the 2022 State Budget Law, effective as of 1 July 2022, which provided for higher spending on subsidies, social payments and remunerations of employees in the public sector. The elimination of the price ceiling on compensations for non-household electricity consumers⁷⁴ was a determining factor for the substantial acceleration in subsidy expenditure growth over the review period. Concurrently, the increase in pensions from 1 July⁷⁵ resulted in higher social expenditure. Higher operating expenditure also had a relatively significant positive contribution to total budget expenditure

⁷⁴ As per the Law on Amendments to the Law on the State Budget of the Republic of Bulgaria for 2022. The Electricity System Security Fund compensates non-household electricity end customers in full when the real average monthly exchange price of the day-ahead segment of the Independent Bulgarian Energy Exchange EAD for the respective month exceeds the base price of BGN 250/MWh for the 1 July 2022 to 31 December 2022 period.

⁷⁵ The basic pension of all pensioners was increased by 10 per cent; monthly pension allowance introduced in August 2020 in the context of an emergency epidemic situation due to the spread of COVID-19 was also added to the basic amount of the pension.

Annual Rate of Change in Gross Fixed Capital Formation of the General Government Sector in Nominal Terms (Quarterly Data)

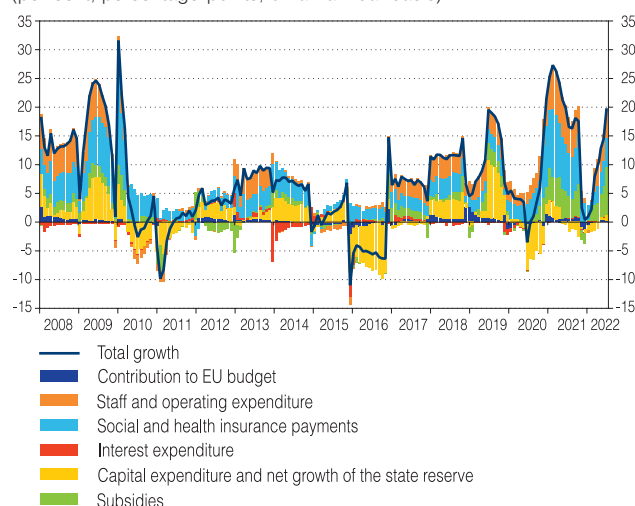
(per cent, on an annual basis)



Source: the NSI.

Contribution of Major Groups of Expenditure to Total Budget Expenditure Growth, Cumulatively

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



Notes: In the Consolidated Fiscal Programme reports for January 2016, personnel costs include wage, insurance and other remuneration expenditure, while in the reports for past periods, the latter were not included in operating expenditure. To prevent inconsistencies of data prior to and after January 2016 resulting from the methodological change, personnel costs and operating expenditure data are presented aggregately in the chart.

Sources: the MF, BNB calculations.

growth by end-September, driven mainly by settlements of prior obligations to road construction and maintenance firms under ongoing regular repair and maintenance contracts⁷⁶.

The increase in spending on remunerations for part of the employed in the public sector and the continued operating expenditure growth⁷⁷ imply a positive effect of government consumption on economic activity in the third quarter of 2022. Data on the CFP implementation in the capital expenditure part which show an increase of 16.3 per cent on annual basis by end-September and the low base in the general government expenditure on gross fixed capital formation in the July–September 2021 period point to a positive effect of fixed capital investment on annual real GDP growth in the third quarter of 2022.

By end-September 2022, total CFP budget revenue rose by 18.9 per cent on an annual basis, largely due to higher tax revenue growth and, to a lesser extent, non-tax revenue growth. Tax revenue growth continued to be driven mainly by higher VAT receipts dominated by the strong increase in VAT revenue from imports. Non-tax revenue dynamics reflected largely the payment of contributions by the public undertakings in the energy sector launched in July 2022 to cover electricity and/or natural gas costs.

By end-September 2022, the CFP budget balance amounted to BGN 989 million, or 0.7 per cent of GDP⁷⁸. The funds reported as cash expenditure in December 2021 earmarked for pension allowances and energy subsidies in 2022 (amounting to BGN 1.2 billion), which were not reflected in budget expenditure this year, had an impact on the realised balance.

⁷⁶ Based on MF Monthly Bulletin on Budget Performance and Major Indicators under the Consolidated Fiscal Programme as of the end of September 2022.

⁷⁷ Based on data on the implementation of the Consolidated Fiscal Programme as of the end of September 2022.

⁷⁸ Nominal GDP data for the last four quarters as of the second quarter of 2022 are used in calculating the ratio.

5. PRICE DEVELOPMENTS

5.1. Consumer Prices

Annual inflation, measured by the HICP, continued to accelerate, reaching 15.6 per cent in September 2022 (from 6.6 per cent at the end of 2021). Although food and energy product groups (excluding administratively controlled prices) had a major contribution to inflation, the first nine months of 2022 saw a strong expansion in the range and intensity of price increases in the other components of the consumer basket. This was driven by the simultaneous effect of pro-inflationary factors stemming from both external and internal macroeconomic environment. The most significant pressure toward an increase in consumer prices came from price rises in major energy sources (natural gas, oil, electricity for business consumers⁷⁹) and agricultural products in international markets.⁸⁰ In the January–September 2022 period, a number of discretionary fiscal measures were taken in the form of subsidies on products and reductions in indirect taxes (excise rates and VAT) to mitigate the pro-inflationary impact of the international environment.⁸¹ The depreciation of the euro against the US dollar (by 15.9 per cent year on year as of September 2022) and the continued acceleration of durable goods inflation in the EU were other import-side factors that had an upward influence on consumer prices. As regards the internal macroeconomic environment, rising unit labour costs

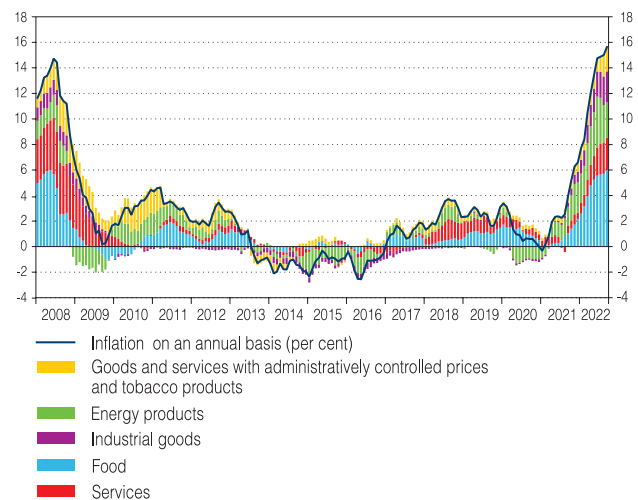
⁷⁹ In 2021 the Independent Bulgarian Energy Exchange (IBEX) was fully integrated with the Day Ahead electricity market in South-East Europe, whereby the price of electricity for non-household consumers in Bulgaria began to be determined by the demand and supply of electricity in the region, and not only at the local level.

⁸⁰ The upward dynamics of food and energy prices in international markets has increased significantly since the start of the war in Ukraine as a result of a disruption in global supply chains.

⁸¹ According to Eurostat data on HICP at constant tax levels, which is calculated on the assumption of full and immediate carry-over by firms of subsidies and changes in tax rates on final consumer prices, the maximum effect of fiscal measures is 0.7 percentage point lower annual inflation. However, the actual effect is likely to be lower, as detailed data from the consumer basket do not indicate that traders carry in full the fiscal measures on consumer prices.

Inflation and Contribution of Major Commodity and Services Groups to It

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

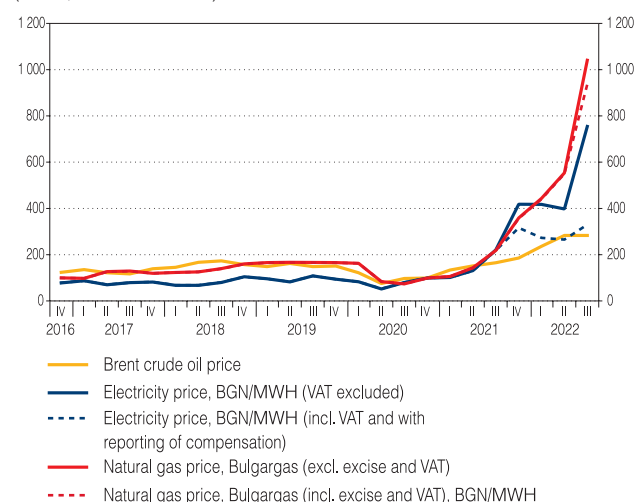


Notes: This structure corresponds to the Eurostat classification; tobacco products and goods and services with administratively controlled prices are presented separately. The price index of goods and services with administratively controlled prices is calculated through the elementary aggregates level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

Sources: the NSI, BNB calculations.

Primary Energy Commodity Prices

(index, Q4 2020 = 100)

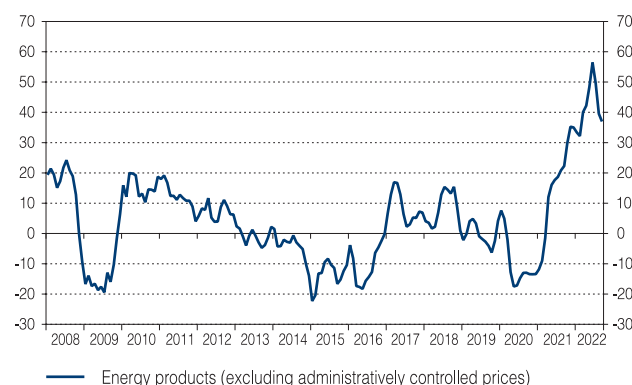


Notes: The electricity price refers to the day ahead segment of the Independent Bulgarian Energy Exchange EAD (IBEX).

The price of natural gas sold by Bulgargas EAD does not include prices for access and transmission through the gas transmission networks.

Sources: the ECB, the IBEX, the EWRC.

Rate of Change of Energy Commodity Price Index (per cent, on an annual basis)



Sources: the NSI, BNB calculations.

exerted an upward pressure on prices.⁸² Another factor with a pro-inflationary effect was the strong consumer demand (as measured by real retail trade turnovers) in the context of annual growth of both net fiscal transfers to households and real wages.

Energy Products Prices

The upward trend in inflation of energy products (excluding those with controlled prices) was halted in the beginning of the third quarter of 2022, with annual price growth in this group reaching 37.0 per cent in September. This dynamics was mainly driven by transport fuel prices, which were influenced by the evolution of oil prices in the international markets, as well as the compensation introduced by the government (in the amount of 0.25 BGN/litre) for the most widely used motor fuels.⁸³ In contrast to transport fuels, prices of gaseous fuels for households (LPG) and solid heating fuels continued to rise at an accelerating annual rate in the third quarter of 2022, and these sub-groups made a significant positive contribution to energy product inflation.

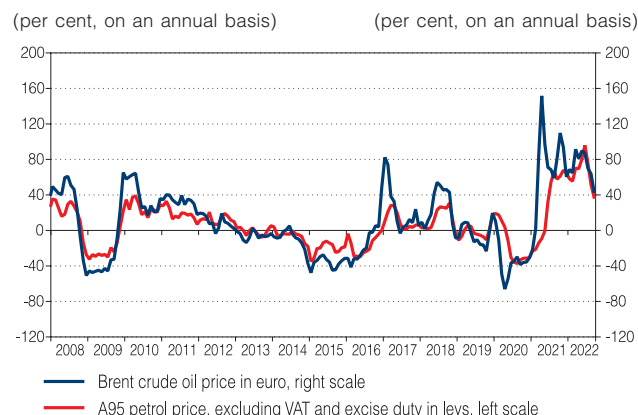
Food Prices

Food inflation accelerated to 24.1 per cent in September 2022 (from 8.1 per cent at the end of 2021) and this group had the highest positive

⁸² In the first half of 2022, the total economy recorded an acceleration in the annual growth of nominal unit labour costs to 14.2 per cent.

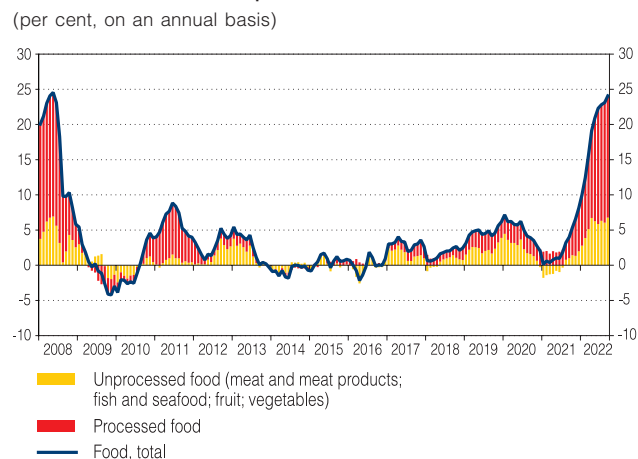
⁸³ Compensation will be granted only to end users when fueling the following types of fuel with the lowest selling price at the point of sale: petrol A95, gas oil (diesel), liquefied petroleum gas (LPG) and natural gas (methane). The discount is granted until exhaustion of the [budget resources provided for this purpose](#) amounting to BGN 150 million.

Rate of Change in Brent Crude Oil and A95 Petrol Prices



Sources: The ECB, the NSI, BNB calculations.

Rate of Change of Food Price Index and Contribution of Processed and Unprocessed Food



Sources: the NSI, BNB calculations.

contribution to the headline inflation, with both processed and unprocessed food contributing to this.

Unprocessed food prices posted year-on-year growth of 20.1 per cent in September 2022 (compared to 6.0 per cent in December 2021). The sub-group of meat and meat products had the biggest contribution to this increase, which corresponded to the higher production costs of corporations (due to animal feed and energy prices) and to increased meat prices within the European Union.⁸⁴ In September 2022, the sub-group of fruit and vegetables also had a significant positive contribution to food inflation, which can be explained by higher prices of products and services used for intermediate agricultural consumption and imported product prices.

Processed food inflation was 26.1 per cent in September 2022 (from 9.2 per cent by end-2021), with the sub-groups of milk, dairy products and eggs, and bread and cereals followed by sugar, chocolate and sugar confectionery, and animal and vegetable fats and oils having the highest positive contributions to the price increase. The increased processed food prices were driven by the upward dynamics of production costs⁸⁵ in the context of an annual rise in euro prices of dairy products, wheat, sugar, vegetable oils and other commodity prices in international markets along with higher producer prices in agriculture. A factor that partially limited inflation in the sub-group of bread and cereals was the introduction of the zero VAT rate for the supply of bread and flour, in force since July 2022 (valid up to 1 July 2023).

Core Inflation

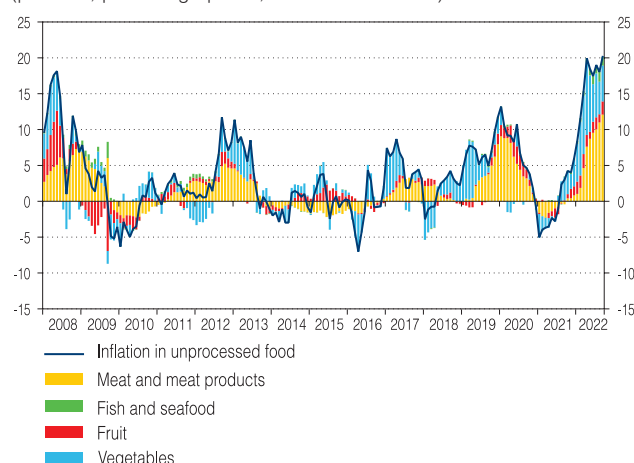
In the first nine months of 2022 core inflation (including services and non-food prices) followed an upward trend, reaching 11.2 per cent in September (from 3.2 per cent at the end of 2021). Price increases in both non-food goods and services contributed to these developments.

⁸⁴ The analysis employs public data of the Ministry of Agriculture and Food.

⁸⁵ According to the producer price index (PPI), in September 2022 prices related to the manufacture of bakery and farinaceous products rose by 36.2 per cent and those related to the production of milk and dairy products increased by 28.3 per cent. In September 2022 producer prices related to the manufacture of oils and fats grew by 33.5 per cent on an annual basis.

Contribution of Major Sub-groups to Unprocessed Food Inflation

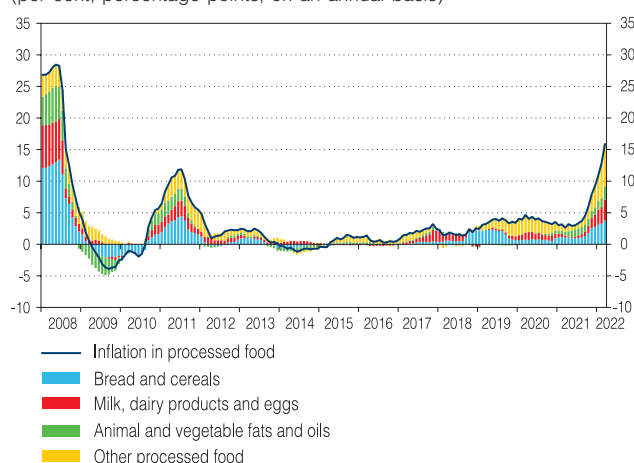
(per cent, percentage points, on an annual basis)



Sources: the NSI, BNB calculations.

Contribution of Major Sub-groups to Processed Food Inflation

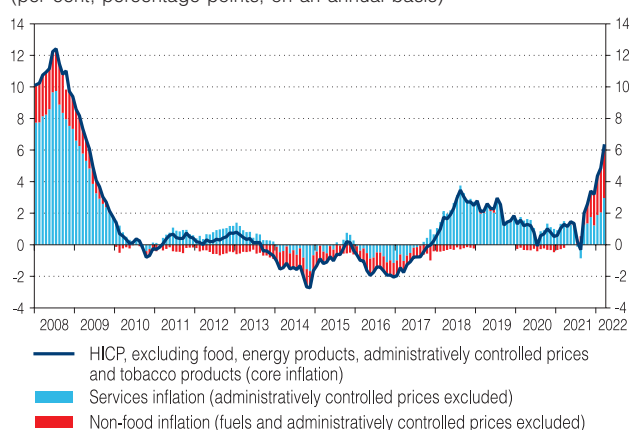
(per cent, percentage points, on an annual basis)



Sources: the NSI, BNB calculations.

Core Inflation and Contribution of Services and Non-food Goods to It

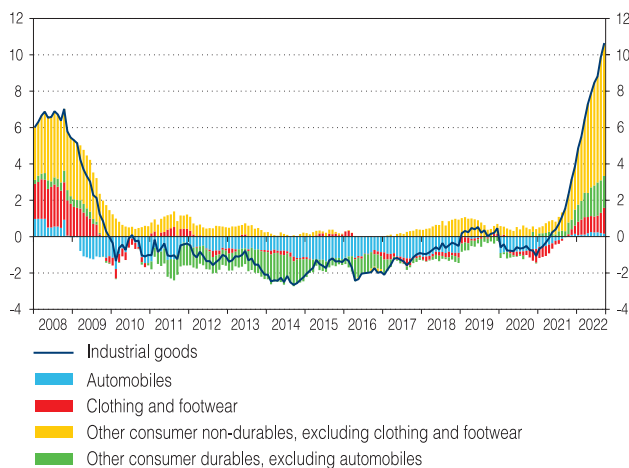
(per cent, percentage points, on an annual basis)



Sources: the NSI, BNB calculations.

Contribution of Major Sub-groups to Inflation in Industrial Goods (Excluding Energy Products)

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



Sources: the NSI, BNB calculations.

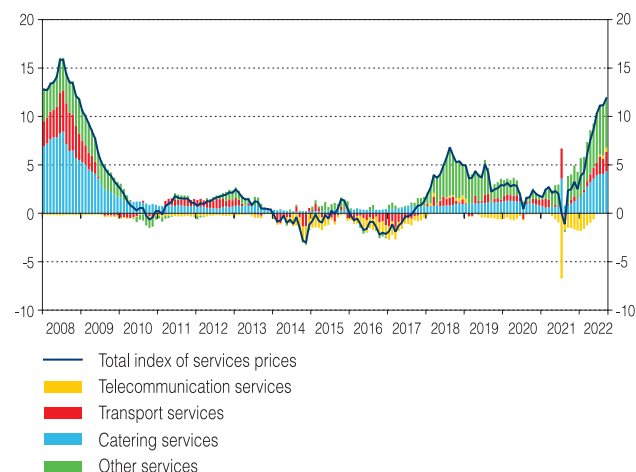
Inflation in non-food goods accelerated to 10.6 per cent in September 2022 compared to 3.9 per cent at the end of 2021. This dynamics was driven primarily by non-durable goods (mainly clothing and footwear, materials for the maintenance and repair of the dwelling, household goods and spare parts and automobile accessories). In the group of durable goods, inflation acceleration was comparatively smoother, and furniture and furnishings and major household appliances had the largest positive contributions to the price increase. Price increases in these HICP sub-groups were a result of the growth in final consumption expenditure of households on these goods,⁸⁶ as well as higher prices of imported industrial goods and raw materials used in the production process.

Annual inflation in the group of services accelerated to 11.9 per cent in September 2022 compared to 2.5 per cent at the end of 2021. This dynamics was driven by emerging indirect effects of higher food and fuel prices on catering and transport services prices. Other sub-groups with an essential contribution to the price rises were short-stay accommodation services, motor vehicle repair and maintenance services, telecommunication services, services for the regular maintenance and repair of the dwelling and house rentals. Potential factors with a pro-inflationary effect on dynamics of these prices

⁸⁶ According to NSI data, in August 2022 real volumes of retail trade in non-food goods (excluding trade in motor fuels and lubricants) increased by 4.4 per cent year on year (7.5 per cent on average between January and August 2022).

Contribution of Major Sub-groups to Inflation in Services

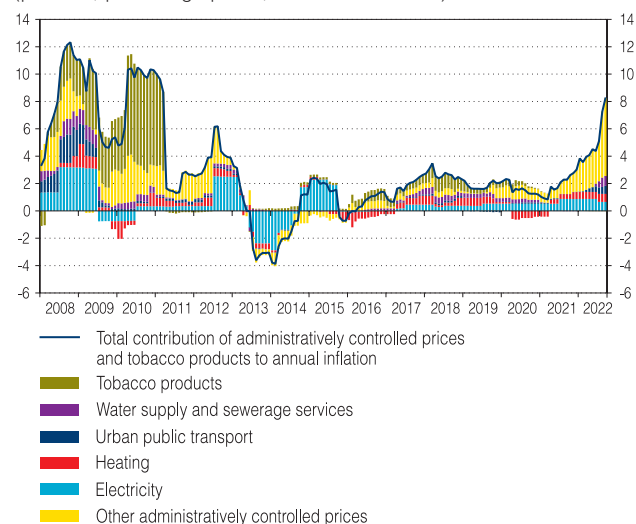
(per cent, percentage points, on an annual basis)



Sources: the NSI, BNB calculations.

Contribution of Major Sub-groups to Inflation in Administratively Controlled Prices (Including Tobacco Products)

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



Sources: the NSI, BNB calculations.

were the strong consumer demand of households, rising unit labour costs, increased energy prices and continuing house price rises.

Goods and Services with Administratively Controlled Prices and Tobacco Products

Inflation in goods and services with administratively controlled prices and tobacco products increased to 8.2 per cent in September 2022, from 3.0 per cent by end-2021. Central gas supply⁸⁷ had the largest positive contribution to this in the context of rising natural gas prices in international markets. Other regulated services, which experienced more substantial year-on-year rises were water supply, waste collection and sewerage services, medicines and other pharmaceuticals, inland public transport, electricity and heating.⁸⁸ Factors limiting the increase in regulated energy prices for households were the VAT reduction from 1 July 2022 on district heating and natural gas supply prices (until 1 July 2023), as well as the excise duty exemption for electricity, liquefied petroleum gas and natural gas (until 30 June 2025).

In September 2022, the diffusion index, showing the share of groups of goods and services with rising prices on an annual basis, was 89.5 per cent. In terms of price increases, the number of HICP goods and services with inflation of above 5 per cent on an annual basis rose strongly from the beginning of 2022, whereas the groups with inflation from 0 to 5 per cent prevailed at the end of 2021.

Inflation Expectations

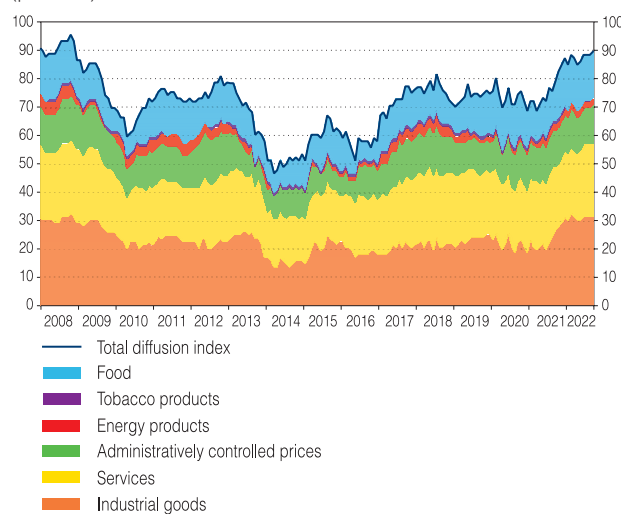
According to the regular NSI business survey, the share of firms in all economic sectors which foresee an increase of selling prices in the following three months increased significantly over the first five months of 2022. Subsequently, in June–September 2022 there was a slight weakening of firms' attitudes towards new increases in selling prices, and the balance of opinions indicator began to decline. At the same time, the

⁸⁷ As of September 2022, the EWRC approved price of natural gas of the public supplier Bulgargas EAD (including excise and VAT but excluding prices for access and transmission through gas transmission networks) was 361.8 per cent higher than that in September 2021, which led to an increase in the regulated price of central heating service in HICP to the amount of 253.9 per cent on an annual basis.

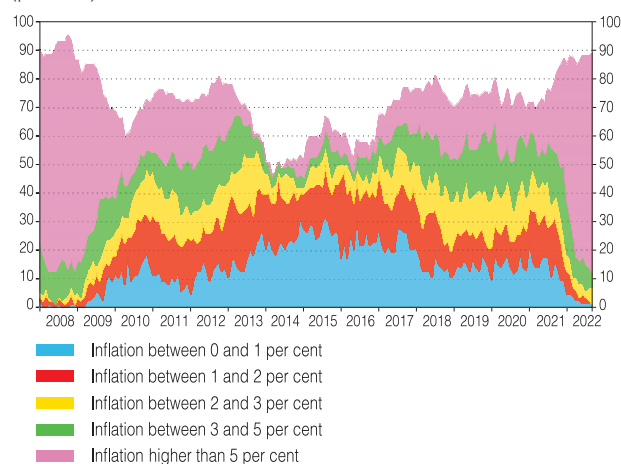
⁸⁸ For further information, see the EWRC's decisions on the price of [electricity](#) and [heating](#) for households.

Diffusion Index

a) *relative shares of increasing HICP sub-indices on an annual basis by major groups of goods and services*
(per cent)



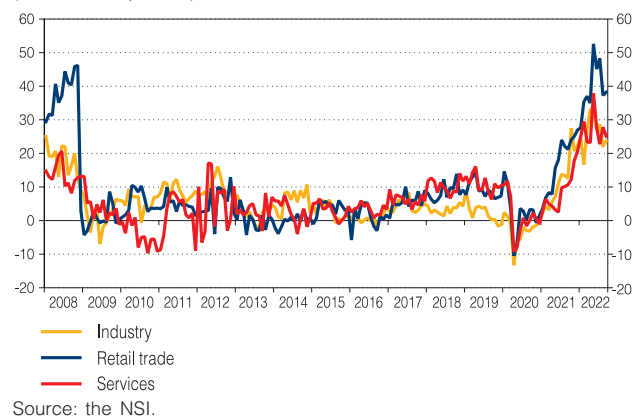
b) *relative shares of increasing HICP sub-indices on an annual basis by the size of the increase*
(per cent)



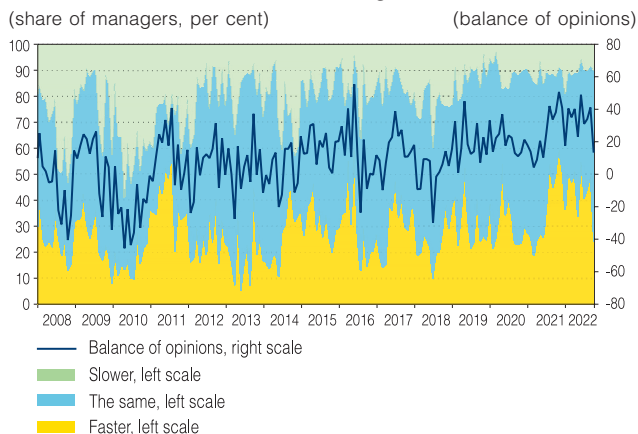
Notes: Data on the HICP 4-digit level sub-indices (sub-classes according to the NSI methodology) have been used. The diffusion index shows the share of sub-indices reporting an increase in value on an annual basis. When calculating the relative shares, the weight of the relevant sub-indices in the consumer basket is not taken into account. Sources: the NSI, BNB calculations.

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

(balance of opinions)



Expectations for the Rate of Growth in Selling Prices in Retail Trade over the Following Three Months



Source: the NSI.

group of retail trade managers forecasting price hikes reported attitudes towards a slowdown in the growth rates of prices compared to those observed previously, which implies a possible interruption of the upward trend in food and non-food goods inflation over the following months.

Based on these developments along with our assumptions about changes in international prices of commodities and their pass-through to administratively regulated prices, inflation is expected to gradually slow down in the fourth quarter of 2022 and the first quarter of 2023. The projected strong increase in unit labour costs, private consumption growth and suspension of some of the government's fiscal measures⁸⁹ are expected to be factors with a pro-inflationary effect.

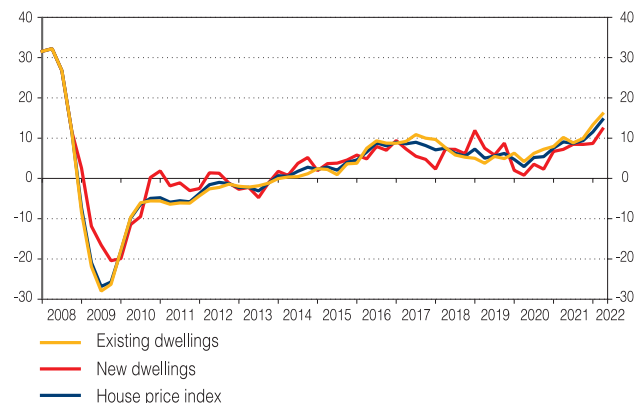
5.2. Housing Prices

In the second quarter of 2022, the annual growth rate of the house price index (HPI) continued to accelerate, reaching 14.6 per cent, from 9.4 per cent by end-2021, which was also accompanied by an increase in the volume of concluded sale and purchase transactions (by 26.8 per cent on an annual basis in the second quarter). Price increases were wide-ranging across regional cities and reflected the simultaneous price hikes of existing (16.0 per cent) and new (12.3 per cent) housing. Factors still

⁸⁹ This refers to the compensation of consumers for the price of motor fuels (0.25 BGN/litre) and the compensation of the firms for the high price of electricity for business consumers. For further details, see the BNB publication [Macroeconomic Forecast](#), September 2022.

Rate of Change of House Price Index

(per cent; on an annual basis)



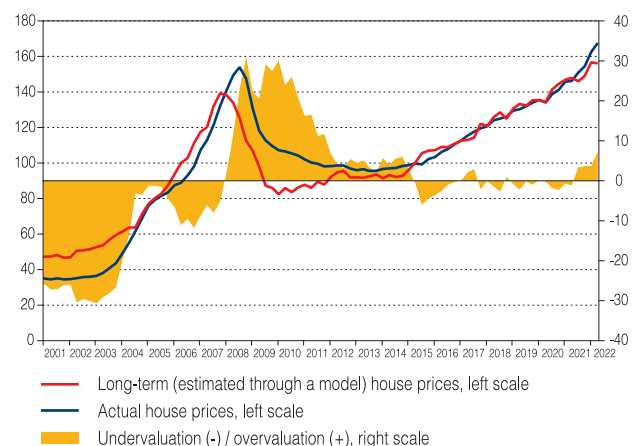
Note: From the beginning of 2022, the HPI is calculated solely on the basis of data from an administrative source (the Property Register), and thus the data are not fully comparable to those of previous years.

Source: the NSI.

Actual and Equilibrium Housing Prices

(index 2015 = 100)

(per cent)



Sources: the NSI, BNB calculations.

Key Indicators of the Housing Market Developments in Bulgaria

(per cent; year-on-year change)

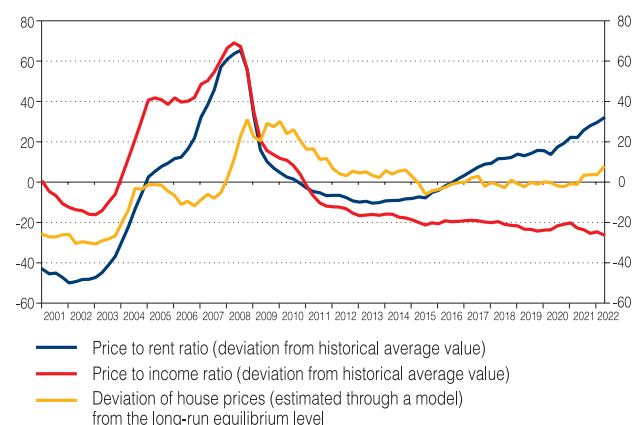
Indicators	2017	2018	2019	2020	2021	2021		2022	
						III	IV	I	II
Price developments									
House price index, total	8.7	6.6	6.0	4.6	8.7	8.7	9.4	11.5	14.6
New dwellings	6.7	5.7	8.5	2.2	7.7	8.5	8.4	8.7	12.3
Existing dwellings	9.7	7.0	4.8	6.0	9.2	8.8	10.0	13.3	16.0
Inflation (HICP)	1.2	2.6	2.5	1.2	2.8	2.9	6.0	8.9	13.4
House rentals, paid by tenants (HICP)	1.0	1.9	3.3	2.5	1.7	1.5	1.9	4.3	6.2
Lending									
New housing loans	32.7	14.9	12.4	18.1	24.0	30.2	37.4	47.0	36.5
Annual percentage rate of charge on new housing loans (per cent, at the end of the period)	4.4	3.9	3.5	3.2	3.0	3.0	3.0	2.9	2.9
Housing loans balances	12.7	19.4	0.0	-15.5	14.4	16.2	17.6	17.1	17.0
Construction and investment									
Permits issued for the construction of new residential buildings (square meters)	32.5	39.0	-7.9	-9.0	0.0	10.3	23.7	13.9	43.3
Value added in construction (at average annual prices for 2015)	4.0	1.1	3.7	-1.0	0.0	-9.2	-28.8	-4.2	-12.1
Constriction Production Index, building construction	10.9	2.6	8.4	-8.3	0.8	-0.1	3.0	5.1	2.7
Fixed investment; residential buildings	-10.3	102.1	19.2	-2.2	6.6	-12.0	-13.0	-0.6	-4.4
Construction cost index for new buildings	2.5	2.9	5.1	2.1	12.2	16.3	18.5	24.2	56.7

Notes: 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. In calculating the annual growth of new loans for house purchases, aggregated data for the last 12 months are used.

Sources: the NSI, the BNB, Eurostat.

supporting housing demand and thereby contributing to higher prices included the increased labour income, strong credit activity, as well as accumulated savings in the economy and limited alternatives for their investment amid low interest rates and accelerating inflation. In addition, continuing acceleration of the annual growth in construction costs to 56.7 per cent in the second quarter of 2022, which was in line with reported shortages of some construction materials and their price increases⁹⁰ after the outbreak of the war in Ukraine was an essential supply-side pro-inflationary factor. Over the second quarter of 2022, the price-to-rent ratio, which is a frequently used indicator of undervaluation/overvaluation of houses, continued to exceed significantly (by 31.7 per cent) its long-term average value.⁹¹ This signals that household decisions to purchase a home were driven by reasons other than ensuring an immediate financial advantage by renting newly acquired properties. Such reasons could be the expectations of a continuing increase in housing prices (and realised capital gains after

Indicators of Undervaluation/Overvaluation of Housing (per cent)



Sources: the NSI, BNB calculations.

⁹⁰ According to NSI business situation data for Bulgaria.

⁹¹ Calculations for the period from the first quarter of 2000 to the second quarter of 2022.

a sale in the future) or perceptions of residential properties as an alternative asset for preserving value in an environment of low interest rates and high inflation. At the same time, estimates based on the BNB macroeconomic model⁹² suggest a significantly lower positive deviation of current residential property prices in Bulgaria from their long-term equilibrium level (7.3 per cent). This was due to the fact that rising household income in combination with persistently low interest rates on housing loans have pushed up housing affordability which is recorded as an increase in their equilibrium price under the macroeconomic model.

⁹² Additional information on this model is available in the research topic *Dynamics of House Prices in Bulgaria between 2000 and 2016*, Economic Review, issue 1 of 2017.

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THE SCULPTURAL COMPOSITION BY KIRIL SHIVAROV DEPICTING HERMES AND DEMETER ON THE SOUTHERN FAÇADE OF THE BULGARIAN NATIONAL BANK BUILDING IS USED IN COVER DESIGN.