Economic Review

4/2022

BULGARIAN NATIONAL BANK

ECONOMIC REVIEW

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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 4/2022 was presented to the BNB Governing Council at its 23 February 2023 meeting. It employs statistical data published up to 2 February 2023. Expectations of economic trends in Bulgaria in the short term (until the second quarter of 2023), as described in this issue, are based on the BNB macroeconomic forecast prepared as of 12 January 2023. 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.

The Economic Review is available on the BNB website, Research and Publications menu, Periodical Publications sub-menu. Please address notes, comments and suggestions to the BNB Economic Research and Projections Directorate at 1000 Sofia, 1, Knyaz Alexander I Square.

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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

In the fourth quarter of 2022, the downward trend in global economic indicators continued, pointing to a quarter-on-quarter decline in global economic activity. The deceleration of economic activity was driven by high inflation, deteriorating financing conditions resulting from the monetary policy tightening by major central banks, and the continued stringent anti-epidemic measures in China over the review period. The deterioration in global economic activity and unusually high temperatures for the season in Europe led to a decline in demand and to a slowdown in annual growth of crude oil and natural gas prices accordingly, which was a factor behind the halt in the upward trend in global inflation at the end of 2022. The Federal Reserve and the ECB continued to tighten their monetary policies but lowered the pace of increase in key interest rates in the US and the euro area, respectively. Between December 2022 and early February 2023, the Federal Reserve raised its key interest rates by a total of 75 basis points and the ECB by a total of 100 basis points, with the federal funds rate reaching 4.50–4.75 per cent and the ECB interest rates on the main refinancing operations (MROs), the marginal lending facility (MLF) and the deposit facility (DF) coming to 3.00 per cent, 3.25 per cent and 2.50 per cent, respectively. The Federal Reserve continued to reduce its balance sheet size, limiting the reinvestment of proceeds from maturing Treasury securities in its portfolio, and in December 2022, the ECB also announced a plan to reduce its balance sheet by limiting reinvestments from March 2023. The two central banks continued to signal that the interest rate hiking cycle is likely to continue in 2023. These developments in the external environment imply favourable price terms of trade for Bulgaria in the fourth quarter of 2022, as well as weakening in external demand for Bulgarian goods and services and a deterioration of financing conditions in the fourth quarter of 2022 and in the first quarter of 2023.

In the January–November 2022 period Bulgaria was a net creditor to the rest of the world, with the financial account reporting a surplus of EUR 2.1 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. At the same time, balance of payments current and capital account balance was positive at EUR 326.9 million, from EUR 722 million for January–November 2021. The decrease in the surplus was due to the capital account deficit, while the current account surplus increased over the review period. Reflecting these circumstances, in January–November 2022 Bulgaria's gross international reserves in the balance of payments increased by EUR 1.2 billion.

In 2022, an upward trend in the annual growth of non-government sector's deposits was observed, driven by deposits of non-financial corporations. The increase in nominal gross operating surplus in industry, reflecting a significant rise in energy resource prices and enhanced nominal volumes in the trade sector contributed to the strong growth of corporate deposits. An additional factor for the growth of deposits over the year was the continued weak investment activity of firms. Since the beginning of the third quarter, the downward trend in the annual growth rate of household deposits has been halted, possibly reflecting the removal by major commercial banks of the fee for cash availability above a certain amount and the gradual rise in deposit interest rates.

In 2022 growth rates of loans to the non-governmental sector remained high in the context of strongly negative levels of real interest rates, a significant volume of attracted funds and high liquidity in the banking system. Demand for corporate loans was mainly aimed at providing financial resources for working capital and inventories in the context of significant price rises in commodities and raw materials, bottlenecks in supply chains and an increased uncertainty in the economic environment. The reported decline in inventories in the economy after the high levels reached in the first half of the year, the tightening of bank credit standards, as well as the gradual increase in interest rates on new loans, that started at the end of the third quarter and continued in the fourth quarter of 2022 as a result of monetary policy tightening in the euro area contributed to a slight moderation in the corporate loan growth over the last months of the year. Historically low interest rates and inflation acceleration stimulated demand for consumer and housing loans, with growth in housing loans remaining high throughout the year and that in consumer loans slowing down slightly at the end of 2022.

In the third quarter of 2022, economic activity in Bulgaria increased by 0.6 per cent quarter on quarter, according to seasonally adjusted data, but on an annual basis real GDP growth slowed down further to 2.9 per cent (compared to 3.9 per cent in the previous quarter). By final consumption expenditure component, the slowdown in economic activity was driven by the reported decline of inventories in the economy, which was partly offset by the accelerated growth in domestic demand and the positive contribution of net exports. Economic activity growth on an annual basis was recorded in industry (excluding construction) and services. Employment rose by 1.2 per cent year on year, mainly driven by the increased number of employed persons in the services sector. Compensation *per* employee continued to rise at high growth rates on an annual basis, supported by both higher inflation expectations in Bulgaria and increased demand for labour amid growing economic activity and rising labour shortages.

Economic indicators in the fourth quarter of 2022 suggest that the growth rate of economic activity on a quarterly basis will be similar to that recorded in the third quarter. In the first half of 2023, economic activity is expected to weaken, which will reflect a projected decline of inventories in the economy and expected lower exports of goods as a consequence of the deteriorating global economic situation and factors specific to Bulgaria.

In the fourth quarter, annual inflation slowed somewhat, standing at 14.3 per cent in December 2022. These developments mainly reflected emerging direct effects of the significant deceleration in annual oil and gas price increases in international markets recorded at the end of 2022. Food inflation reached a high level in the fourth quarter of 2022 and continued to have the largest contribution to the headline inflation. At the same time, inflation in services accelerated further at the end of 2022. These developments indicate that inflationary pressures in the economy remained strong at the end of 2022, despite the weakening of the pro-inflationary effect of the external environment in terms of energy sources. Factors related to the internal macroeconomic environment that contributed to the formation of high inflation throughout 2022 were the growth in unit labour costs and the increase in household final consumption expenditure.

1. External environment

1.1. Current Business Situation

Global Environment

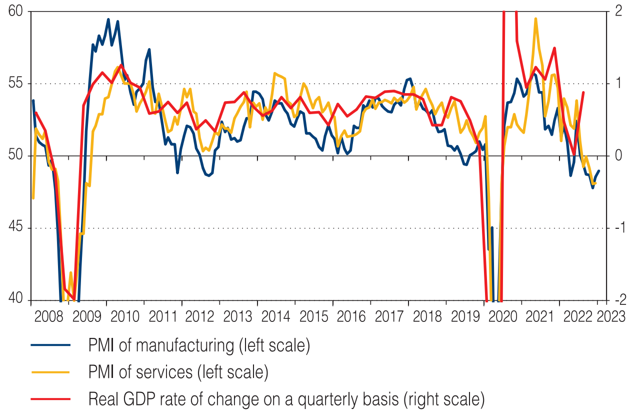
In the third quarter of 2022, global GDP growth accelerated to 0.9 per cent on a quarterly basis, from 0.0 per cent in the second quarter. At the same time, the downward dynamics of the global PMI points to a decline in global economic activity in the last quarter of 2022 and the beginning of 2023. Both manufacturing and services PMIs recorded a contraction in economic activity. A decrease in new orders, lower expectations of future production and activity, as well as a fall in employment were observed in both sectors. The trend towards normalisation of supply chains was maintained in the last quarter of 2022 and in January 2023. Indications of deteriorating economic activity were observed for both developed and developing market economies. The downward trend in global economic activity was driven by the tightening of major central banks' monetary policies, which resulted in worsening of financing conditions.

Growth rates in the volumes of global industrial production and world trade slowed in October 2022. In November, world trade declined year on year, reflecting the decrease in China's trade, and, to a lesser extent, the fall in trade in developed market economies.

In the fourth quarter of 2022, global inflation remained close to the high level of the previous quarter, coming to 9.2 per cent on an annual basis in December. The stabilisation of global inflation is likely due to a slowdown in the annual rate of increase in oil and gas prices, the effect of the high base as of the end of 2021, and the effects of monetary policy tightening by major central banks.

Manufacturing and Services PMIs and Change in World Real GDP

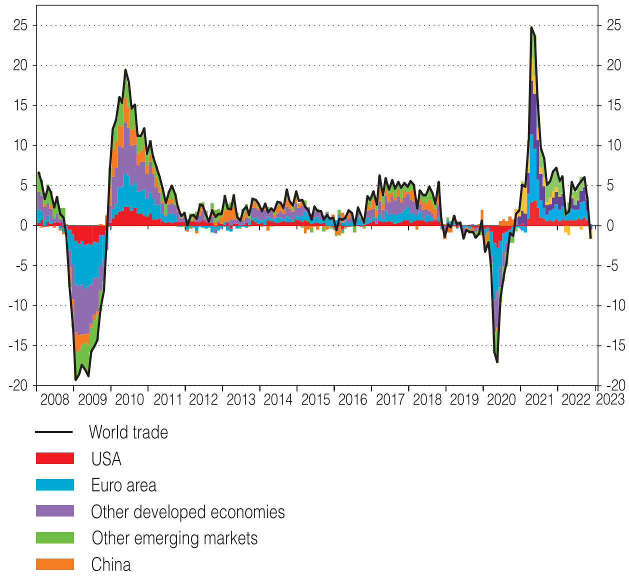
(per cent)



Sources: JP Morgan, 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.

International Commodity Prices

In the fourth quarter of 2022, the Brent oil price fell on a quarterly basis to USD 88.4 *per* barrel (EUR 86.8 *per* barrel) on average over the period. Oil prices continued to rise in both dollars[1] (by 11.0 per cent) and euro (by 24.9 per cent) year on year, but their growth rates slowed down. Natural gas prices also declined on a quarterly basis, and on an annual basis growth rates decelerated significantly, with the trend most pronounced in the European market.[2]

Factors for the quarter-on-quarter decline in oil prices in the fourth quarter of 2022 included market participants' concerns about a slowdown in global economic growth, limited fuel consumption in China due to stringent anti-epidemic measures in place in the country, as well as indications of increased oil exports from Russia before the entry into force on 5 December 2022 of restrictions imposed by EU Member States on imports of petroleum products from the country and a ban on insurance and shipping of Russian oil at a price above the price cap[3] introduced by G7. At the same time, OPEC+ measures to reduce supply[4] and relatively sustainable demand for oil globally were factors that limited further declines in oil prices.

Weaker demand was a major driver for the decrease in the price of natural gas on a quarterly basis in the fourth quarter of 2022. Commodity prices in Europe fell due to unusually high temperatures for the season, reducing demand for domestic heating and helping to fill the EU's natural gas storage facilities. The increased imports of liquefied natural gas (LNG) over the quarter, partly owing to the recovery

[1] Hereinafter referred to as the US dollar.

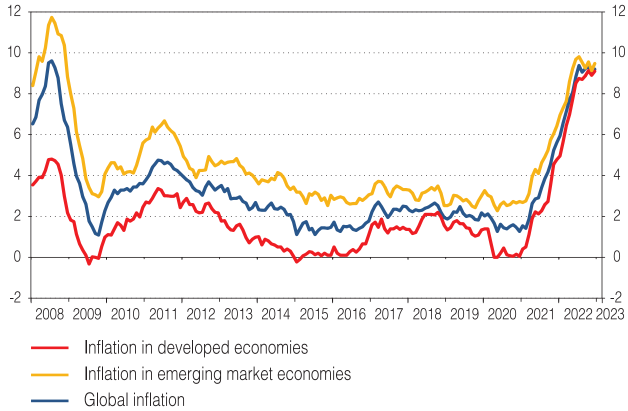
[2] In the European market, the average price of natural gas in euro decreased in the fourth quarter of 2022 by 39.3 per cent compared to the third quarter, while on an annual basis it rose by 28.6 per cent (with an annual growth rate of 316.0 per cent in the third quarter).

[3] The price cap prohibits EU and G7 companies from providing insurance or financing of trade in seaborne crude oil from Russia by sea after 5 December 2022, unless the oil is purchased at a price below 60 dollars *per* barrel, which could be revised in the future.

[4] On 5 October 2022, OPEC+ countries agreed to cut total daily production by 2 million barrels compared to August 2022, effective from November 2022.

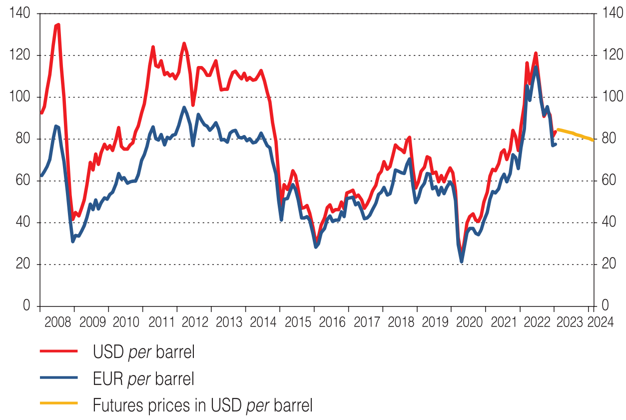
Inflation Measured through CPI

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



Source: World Bank.

Prices and Futures of Brent Crude Oil

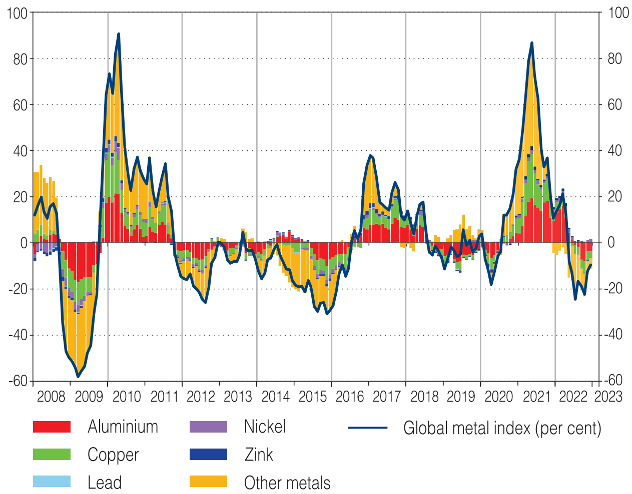


Note: Futures prices are average prices of the first week of January 2023 contracts, USD *per* barrel.

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

Metal 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: ECB and BNB calculations.

of US supplies, contributed to the filling of gas storage facilities and price declines.[5]

In the fourth quarter of 2022, the average metal price index declined by 15.0 per cent in US dollars on an annual basis (-4.7 per cent in euro). The index drop reflected market participants' concerns about deteriorating global situation in the manufacturing sector. Tin and iron scrap made the largest negative contribution to the annual change in the metals index, with a decrease also observed in copper price, which is essential for Bulgarian exports.

From October to December 2022, the food price index measured in dollars recorded annual growth of 2.0 per cent (a 14.4 per cent increase in euro), with growth rates slowing significantly from the previous quarter. The price of wheat, which is essential for Bulgarian food exports, remained broadly unchanged over the quarter, with the increased supply of the new harvest in the southern hemisphere offsetting to some extent limited yields and exports from Ukraine.

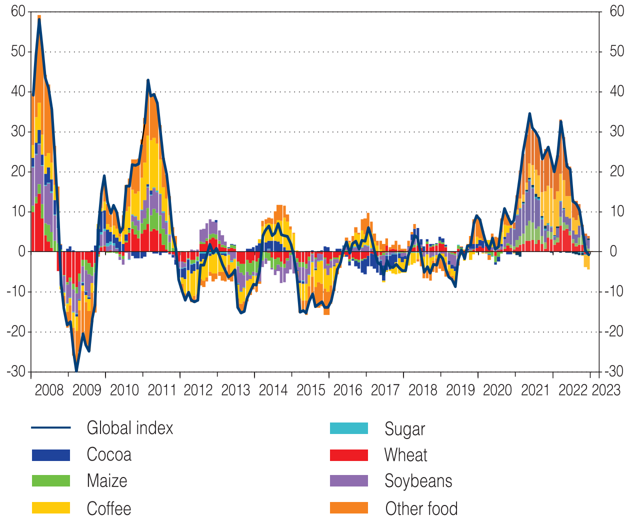
The United States

In the fourth quarter of 2022, US real GDP grew by 0.7 per cent quarter on quarter (compared to growth of 0.8 per cent in the third quarter), with private consumption and changes in inventories making the largest contribution to the growth. Overall for 2022, US GDP growth slowed to 2.1 per cent in real terms (compared with 5.9 per cent in 2021), with private consumption (an increase of 1.9 percentage points) and stock changes (an increase of 0.7 percentage points) contributing most positively to the growth. The slowdown in annual US economic activity growth in 2022 reflected mainly the exhausted effect of fiscal stimuli adopted in 2021 and the tightening of the Federal Reserve's monetary policy. Data on leading economic indicators available as of end-January 2023 indicate that US real GDP growth will slow down in the first quarter of 2023.

[5] According to Gas Infrastructure Europe, gas stocks in EU gas storage facilities reached a filling level of 91.1 per cent, compared with an average level of 83.2 per cent in the fourth quarter for the previous five years.

Food Price Indices

(per cent; percentage points)

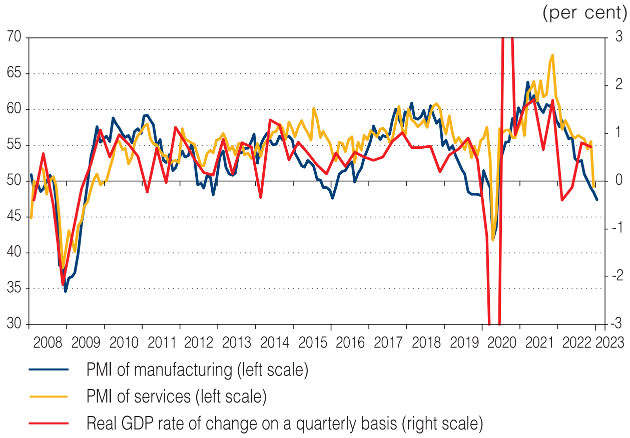


Note: Annual rate of change (per cent) and contribution by sub-component (percentage points) of relevant price indices measured in US dollars.

Sources: ECB and BNB calculations.

US Manufacturing and Services PMIs and Change in US Real GDP

(per cent)



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

Over the last three months of 2022, US labour market conditions did not change significantly, remaining favourable. The number of employees in the non-agricultural sector went up by a total of 742 thousand (compared to an increase of around 1.1 million in the third quarter of 2022) over the review period, while annual wage growth in the private sector stood at 5.1 per cent (5.2 per cent in the third quarter), remaining at historically high levels. The unemployment rate persisted at a historically low level, as the average value of the indicator of 3.6 per cent did not change from the previous quarter.

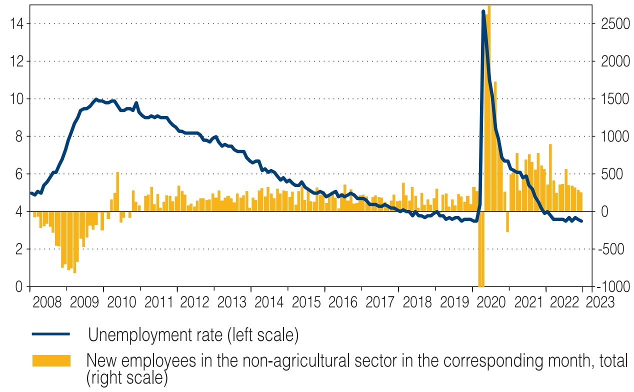
In the fourth quarter of 2022, annual consumer price inflation continued to decelerate from its peak of the year reached in June, remaining, however, well above the 2 per cent target level set by the US Federal Reserve System. In December 2022, the annual rate of change of the price index of personal consumption expenditure (PCE) also dropped, to 5.0 per cent, from 6.2 per cent on average in the third quarter. The decline in inflation was primarily driven by the fall in transport fuel prices. The annual growth rate of the core PCE price index (excluding food and energy products) decelerated to 4.4 per cent in December (compared to 4.9 per cent on average in the third quarter), with the slowdown mainly reflecting lower prices of used cars.

During the period from December 2022 to early February 2023, the Federal Open Market Committee (FOMC, the Committee) continued the monetary tightening process and the implementation of the programme to reduce the Federal Reserve's balance sheet. At the two meetings held during this period, the FOMC raised the federal funds rate corridor by a total of 75 basis points to a range of 4.50–4.75 per cent, with an increase of 50 basis points in December 2022 and 25 basis points in early February 2023. At the February meeting, the Committee signalled that further monetary policy tightening was required to bring inflation down to the central bank's target.

In December 2022, the median of FOMC members' individual forecasts about the federal funds rate showed expectations of increasing by a total of 75 basis points in 2023, corresponding to a corridor of 5.00–5.25 per cent of the federal funds rate.

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

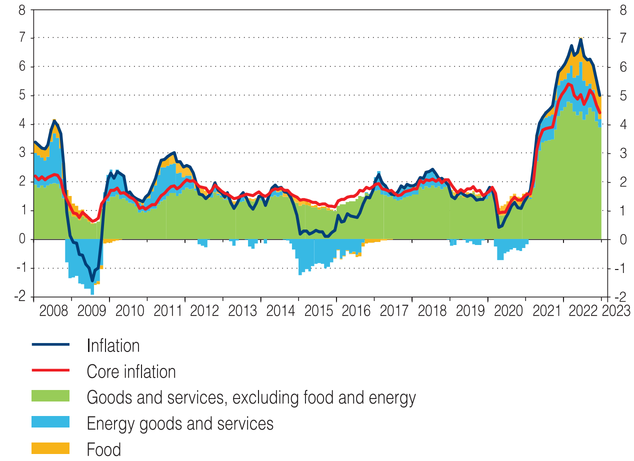
(per cent) (new employees, thousand)



Source: Bureau of Labor Statistics.

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.

China

China's quarterly real GDP growth moderated to 0.0 per cent in the fourth quarter of 2022, from 3.9 per cent in the third quarter. Growth slowdown was driven by the stringent anti-epidemic measures in place in the country due to a new wave of COVID-19 spread, which had a negative impact, notably on economic activity in the services sector. In January 2023, following the lifting of most of the anti-epidemic measures, signs of increased economic activity in the country were observed, with PMI indices in both manufacturing and services sectors rising above the neutral limit of 50 points.

In the fourth quarter, annual inflation in China slowed, standing at 1.8 per cent in December (compared to 2.8 per cent in September 2022). Inflation developments were mainly driven by the slower rate of food price rises. Core inflation accelerated slightly, reaching 0.7 per cent year on year in December (0.6 per cent in September 2022).

Between October and December 2022, the People's Bank of China cut the rate of minimum required reserves of large and medium-sized banks by 25 basis points to 11.0 per cent and 9.0 per cent, respectively, thus providing about 500 billion yuan (USD 69.8 billion) of additional liquidity to banks. The central bank indicated that the reduction in the reserve requirement ratio was aimed at maintaining sufficient liquidity in the banking system and increasing support to the real economy by encouraging banks to finance sectors that were heavily affected by the health crisis related to the ongoing COVID-19 spread.

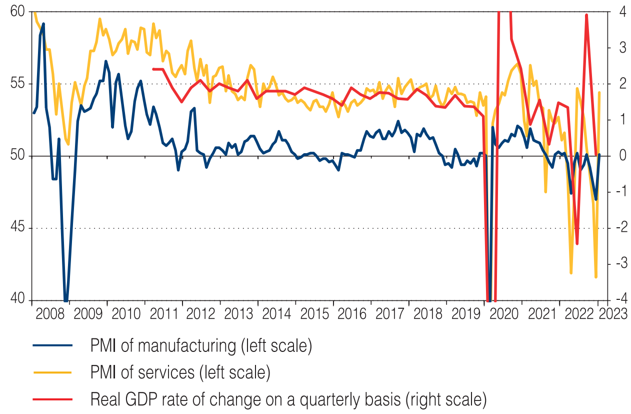
Euro Area

According to Eurostat preliminary data, euro area quarterly real GDP growth slowed to 0.1 per cent in the fourth quarter of 2022, from 0.3 per cent in the third quarter. In Germany and Italy, which are Bulgaria's major trading partners in the EU, real GDP fell from the previous quarter by 0.2 per cent and 0.1 per cent, respectively. Overall for 2022, euro area GDP increased by 3.5 per cent in real terms, from 5.3 per cent in 2021.

Data available as of end-January 2023 on economic indicators, including services and manufacturing PMIs, indicate a slight quarterly decline in euro area real GDP in the first quarter of 2023.

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

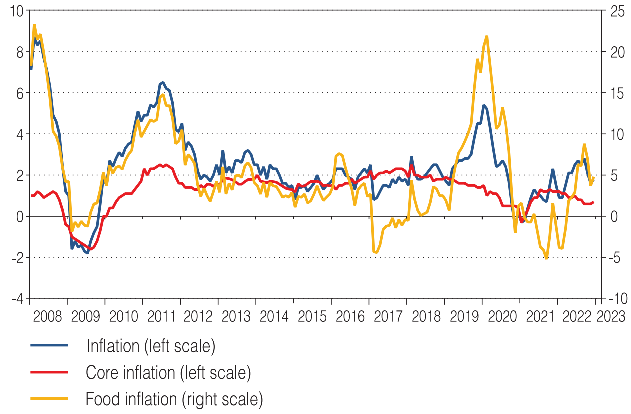
(per cent)



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

China's Inflation Rate

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

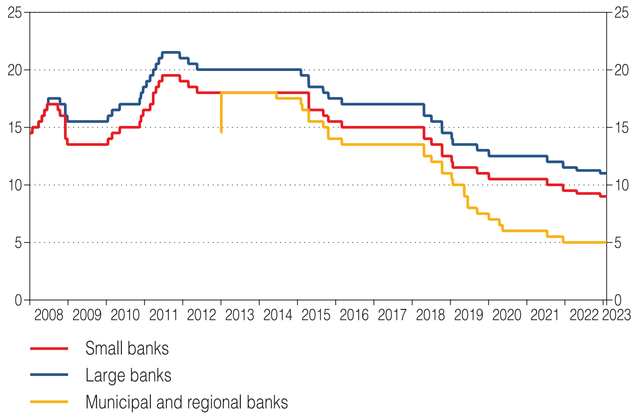


Notes: Inflation is measured by consumer price index. Core inflation is measured by consumer price index, excluding food and energy expenditure.

Source: National Bureau of Statistics of China.

Reserve Requirement Ratio in China

(per cent)



Source: People's Bank of China.

Labour market conditions in the euro area remained favourable. The unemployment rate fell slightly to 6.6 per cent in the fourth quarter of 2022, from 6.7 per cent in the previous quarter, while the employment growth remained relatively high in the third quarter, despite some moderation.

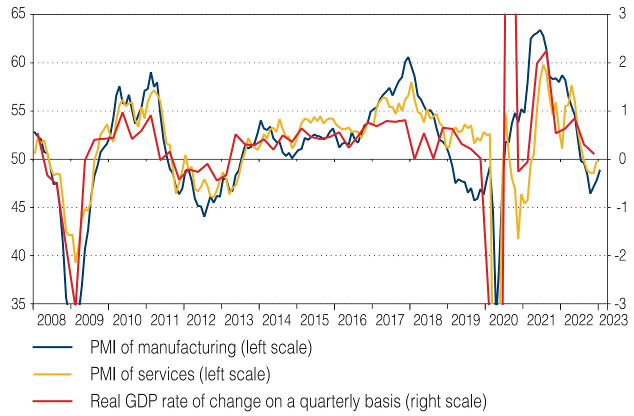
Between November 2022 and January 2023, euro area annual HICP inflation declined. According to preliminary data, inflation reached 8.5 per cent year on year in January 2023, from 10.6 per cent in October 2022, when the highest historical value was recorded. The slowdown in inflation in the euro area was driven by lower growth rates of prices of transport fuels, natural gas and electricity. Annual inflation accelerated further in the other commodity groups, with continuing food price rises contributing more strongly to the headline inflation. Core inflation in the euro area, excluding food and energy products, also continued to accelerate, to 5.2 per cent in January 2023, compared to 4.8 per cent in September 2022.

Due to the high inflation diverging significantly from the ECB's target, the ECB Governing Council continued to raise reference interest rates in the euro area, slowing the pace of increase from 75 basis points in September and October 2022 to 50 basis points in December 2022 and February 2023. As of 2 February 2023, the interest rates on the main refinancing operations, the marginal lending facility and the deposit facility stood at 3.0 per cent, 3.25 per cent and 2.5 per cent, respectively. In December 2022, the ECB Governing Council announced that from the beginning of March 2023, the Asset Purchase Programme (APP) portfolio would start to decline, as reinvestment of maturing assets would be limited by EUR 15 billion monthly on average until the end of the second quarter of 2023 and its subsequent pace would be determined over time.

From October 2022 to January 2023, the ECB's interest rate rise and market participants' expectations of their further rise continued to exert upward pressure on interest rates in the unsecured euro area money market and German government bond yields. In January 2023, the average value of the €STR, the overnight euro area's money market rate, increased to 1.90 per cent on average compared to 1.20 per cent in the fourth quarter of 2022. At the end of January, German government bond yields in the two-

Manufacturing and Services PMIs and Change in Euro Euro Area Real GDP

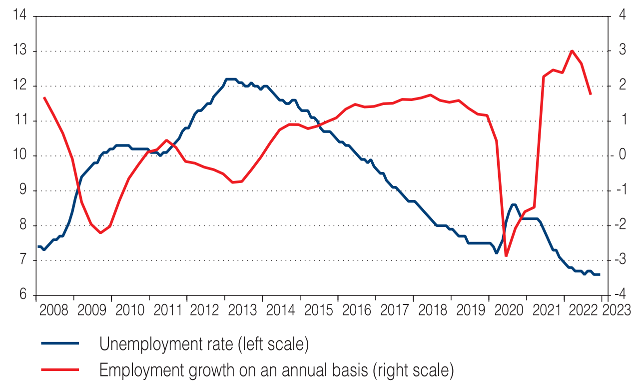
(per cent)



Source: Eurostat.

Euro Area Unemployment Rate and Employment Growth

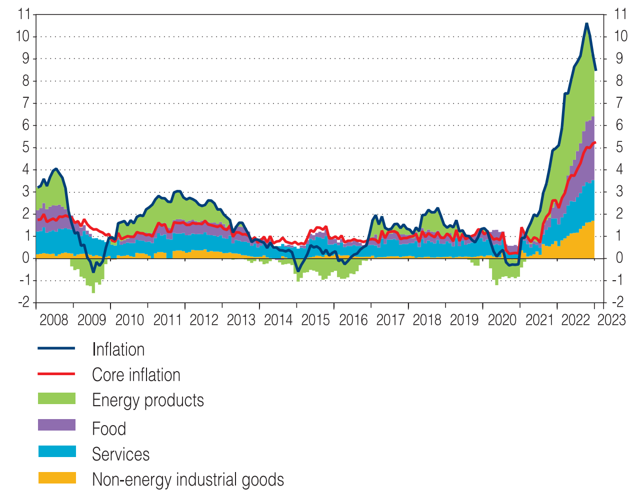
(per cent) (per cent; on an annual basis)



Source: Eurostat.

Euro Area Inflation Rate

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



Notes: Inflation is measured by the HICP. Core inflation is measured by the HICP, excluding energy products, food, alcohol and tobacco products.
Source: Eurostat.

year maturity sector increased to 2.65 per cent, which is 89 basis points above the level at end-September 2022. Over the same period, yields rose by 18 basis points to 2.29 per cent in the ten-year maturity sector. Since the beginning of 2023, German government bond yields have followed a downward trend due to data indicating a slowdown in inflation rates in the euro area, which gave rise to market participants' expectations that the ECB Governing Council would slow the pace of raising key interest rates in the second quarter of 2023.

1.2. Impact on the Bulgarian Economy

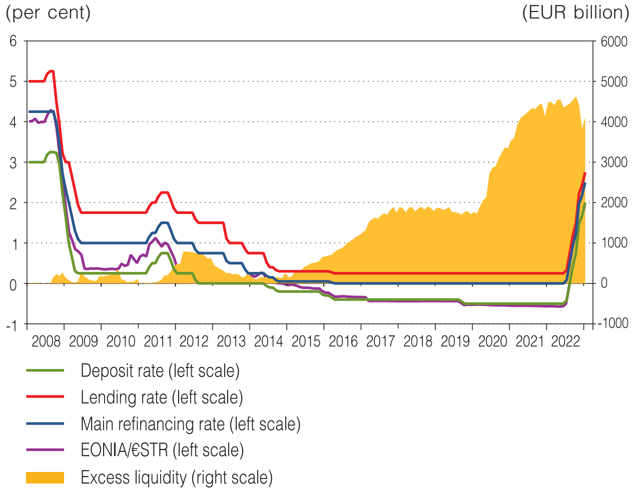
The downward trend in economic indicators of Bulgaria's main trading partners in the euro area in the fourth quarter of 2022 and the beginning of 2023 implies worsening of external demand for Bulgarian goods and services during this period. Given the high degree of openness of the Bulgarian economy and the large share of exports in GDP, Bulgaria's real economic activity may be expected to reflect significantly the external demand deterioration.

Developments in commodity prices in international markets in the fourth quarter of 2022, resulting mainly in a slowdown in growth or a decline in prices on an annual basis, were driven, to a great extent, by lower demand in China, unusually high temperatures for the season in Europe, and expectations of an impending deterioration in global economic activity. The structure of Bulgaria's economy and foreign trade coupled with price developments in commodity groups in international markets point to existing favourable terms of trade for Bulgaria in the second quarter of 2022.[6]

The increase in key interest rates by the Federal Reserve System and the ECB until the beginning of the first quarter of 2023 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 can be expected to be quickly transmitted to the interest rates in Bulgaria, thereby entailing a further increase in domestic lending and deposit rates in the first quarter of 2023.

[6] Favourable terms of trade refer here to a stronger annual increase in the deflator for goods exports compared to goods imports.

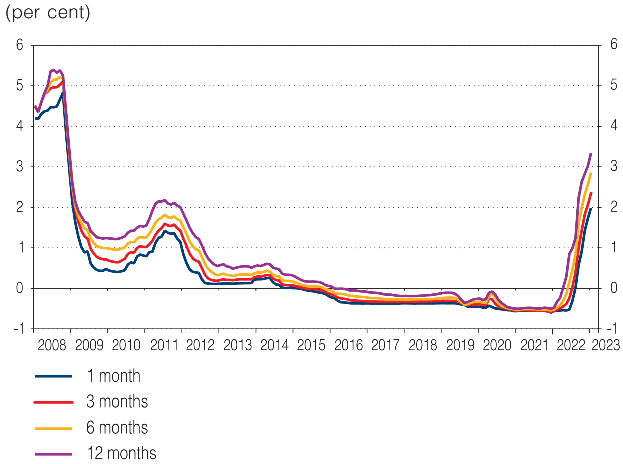
ECB Interest Rates, EONIA, €STR and Excess Liquidity in the Euro Area Banking System



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: ECB.

EURIBOR



Source: ECB.

2. External financial flows

2.1. Balance of Payments and Foreign Trade

Between January and November 2022, Bulgaria's balance of payments data show that gross international reserves rose by EUR 1.2 billion. Banks that increased their foreign assets in foreign currency and deposits contributed most to this growth. As of November 2022, the international reserve coverage of the nominal imports of goods and services remained at a relatively high level of 7.5 months (9.8 months in December 2021). The excess of international reserves[7] over Bulgaria's short-term external debt remained also high, reaching 4.2 times in November 2022 (5.0 times as of December 2021).

Current Account and Capital Account

Between January and November 2022, the current and capital account balance was positive at EUR 326.9 million, compared to EUR 722 million in the corresponding period of 2021. The decline in the surplus reflected the recorded deficit of EUR 129.6 million on the capital account (compared to a surplus of EUR 588.6 million for the January–November 2021 period) due to an increase in the funds paid for the purchase of greenhouse gas emission allowances and a decrease in capital transfers received by the general government sector in the form of investment subsidies. Concurrently, the current account surplus in the January–November period increased compared to the corresponding period of 2021, driven by all items, excluding the trade balance, the deficit of which rose over the period.

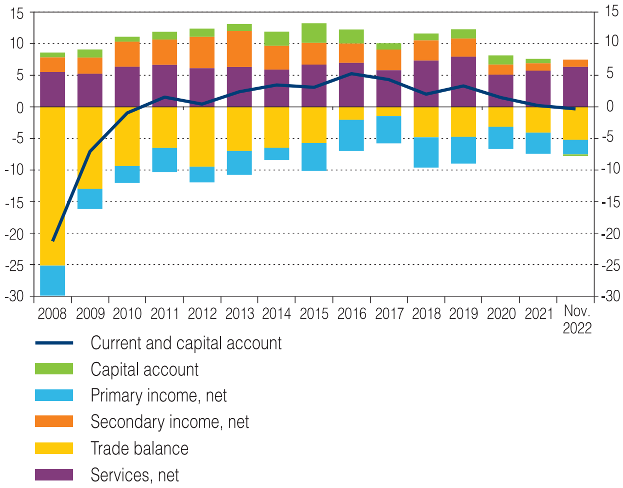
Trade Balance and Foreign Trade in Goods

Between January and November 2022, the trade balance deficit widened from the corresponding period of 2021. Based on more detailed

[7] 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.

Current and Capital Account Flow Dynamics and Contribution by Components

(per cent of GDP)



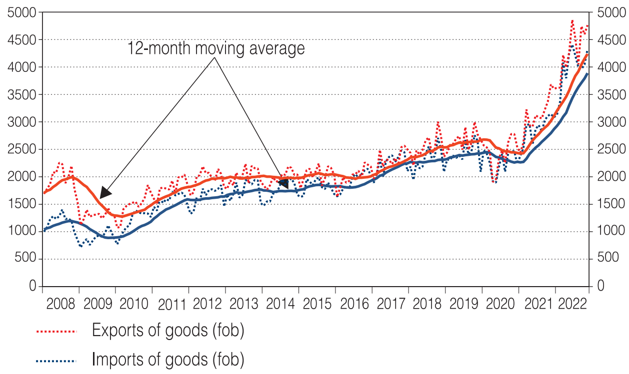
Notes: November 2022 data on the current and capital account flows are accumulated for the last 12 months.

Nominal GDP data for the last four quarters up to the third quarter of 2022 inclusive were used to calculate the ratio to GDP for November 2022.

Sources: BNB, NSI, BNB calculations.

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

(EUR million)



Note: Monthly data are shown in the chart. The latest available observation is for November 2022.

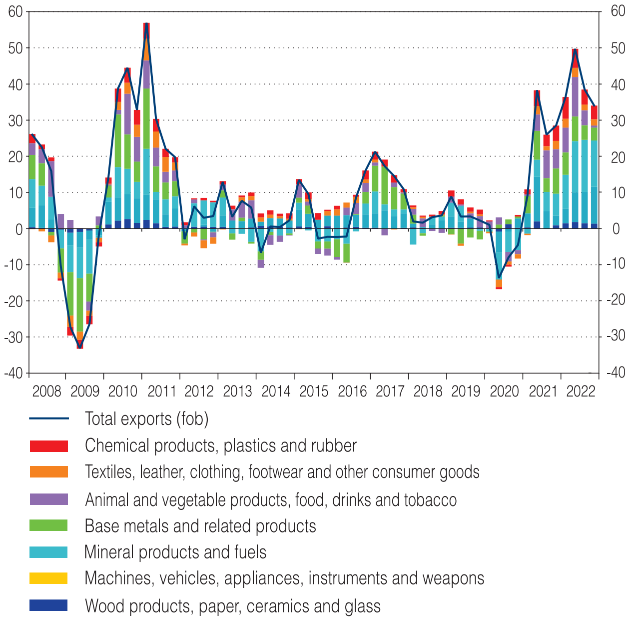
Source: BNB.

data available only until September 2022[8], it can be assumed that the increase in the deficit was largely driven by the stronger year-on-year growth in real imports of goods (10.4 per cent growth *vis-à-vis* January–September 2021) compared to that in exports (7.2 per cent growth *vis-à-vis* January–September 2021), while favourable conditions of trade for the country partially limited the increase in the trade deficit. The upward dynamics of real imports is likely related to the significant accumulation of inventories in the economy over the first six months of 2022, while real growth in exports over the first nine months of 2022 was mainly driven by the 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 goods composition of exported products[9].

By commodity group, foreign trade data show that exports recorded nominal growth of 40.8 per cent on an annual basis in the period from January to October 2022. Exports of all commodity groups picked up, with mineral products and fuels[10], followed by machines[11] and food[12] making the largest positive contribution over the period. According to the BNB calculations, both real volumes and price components contributed positively to the dynamics of exports of mineral products and fuels[13] in the first nine months of 2022, while nominal growth of exports of

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

(per cent, percentage points)

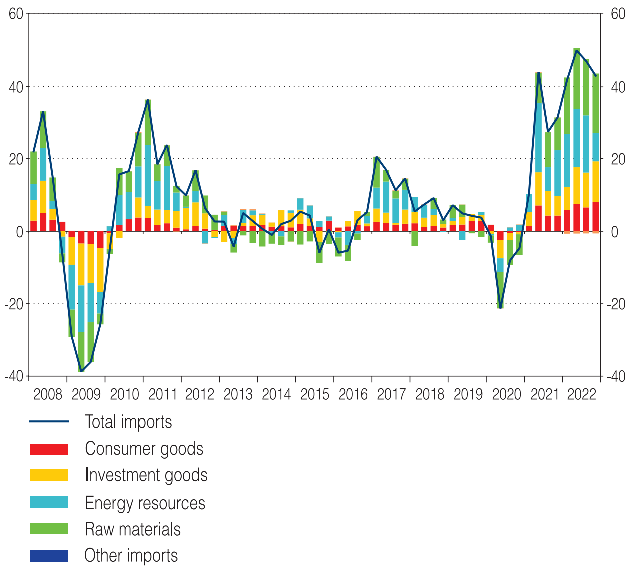


Notes: Quarterly data are used. Data on foreign trade flows for the third quarter of 2022 cover only October and have been compared with October 2021.

Source: BNB.

Imports of Commodity Groups by Use, 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 fourth quarter of 2022 cover only October and have been compared with October 2021.

Source: BNB.

[8] Non-seasonally adjusted national account GDP data.

[9] A favourable goods 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.

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

[11] In this Chapter, it should read the machines, vehicles, appliances, instruments and weapons group under the Combined Nomenclature.

[12] In this Chapter, it should read the animal and vegetable products, food, drinks and tobacco group under the Combined Nomenclature.

[13] 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 September 2022.

machines[14] and food[15] was almost entirely driven by prices.

Between January and October 2022, nominal imports of goods registered an increase of 46.0 per cent on an annual basis. By use[16], the groups of energy resources and raw materials were the key contributors to this dynamics. According to BNB calculations, the upward dynamics of imports in both commodity groups in the first nine months of 2022 was mainly driven by higher import prices and, to a lesser extent, by increased real volumes of imports.[17] In the first nine months, the largest contribution to real growth of imports of goods on an annual basis was made by the groups of machines and fuels.

Balance on Trade in Services

The higher surplus on the net services trade item in the January–November 2022 period compared with the same period of 2021 contributed most to the increase in the current account surplus. Non-seasonally adjusted national account data in the first nine months 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 imports of services increased at a higher rate (16.9 per cent) compared to exports of services (10.5 per cent). Nominal exports of services rose by 28.6 per cent on an annual basis between January and November 2022 driven mainly by the exports of

[14] 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 SITC and Eurostat data on nominal values of exports of this commodity group under the SITC available by September 2022.

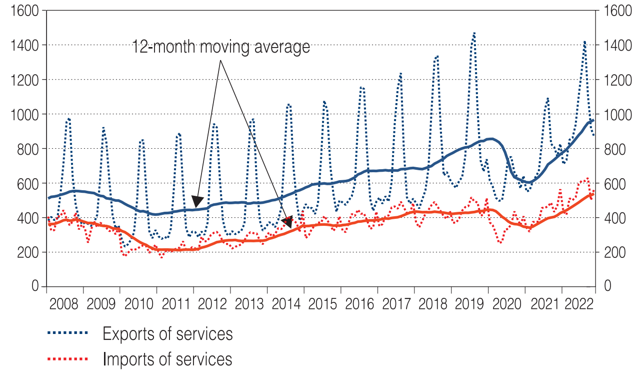
[15] Real volumes of exports of the animal and vegetable products, food, drinks and tobacco group have been constructed, including the commodity groups under the SITC of food and live animals, soft and alcohol beverages, and tobacco, and animal and vegetable fats, oils and waxes. The analysis employs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

[16] Foreign trade data published by the BNB.

[17] 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 September 2022.

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

(EUR million)

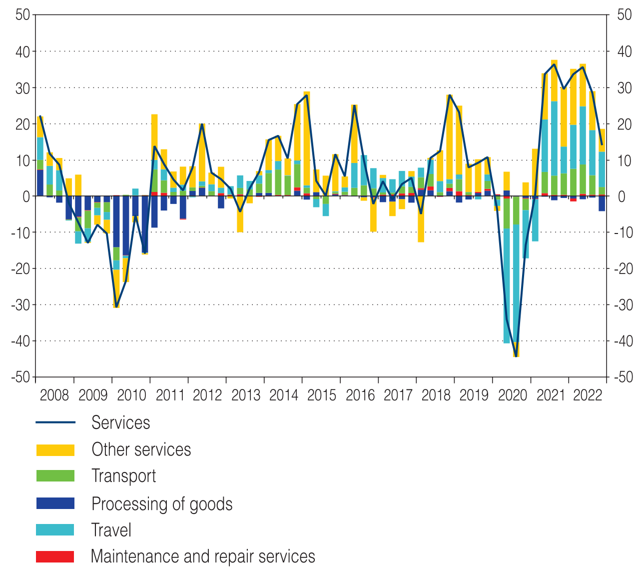


Note: Monthly data are shown in the chart. The latest available observation is for November 2022.

Source: BNB.

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

(per cent, percentage points)



Notes: Quarterly data are used.

Data on foreign trade flows for the fourth quarter of 2022 cover October–November 2022 and have been compared with the corresponding period of the previous year.

Source: BNB.

services related to travel, transport and telecommunications, computer and information services. NSI data indicate that the number of foreign nationals' visits to Bulgaria rose by 51.5 per cent year on year in 2022. The imports of services in nominal terms grew by 29.6 per cent year on year between January and November 2022, reflecting the major contribution of imports of transport services and services related to travel of residents abroad. NSI data indicate that the number of Bulgarians' visits abroad rose by 40.0 per cent in 2022.

Net Primary Income Account and Net Secondary Income Account

From January to November 2022, net primary income deficit declined compared to January–November 2021[18], 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 basis was registered, entirely driven by the banking sector[19]. This was, however, totally offset by lower reinvested profit for the total economy, which is likely due to dividend payments to non-residents, exceeding the net revenues of corporations over the review period.

From January to November 2022, net secondary income surplus rose on an annual basis, reflecting mainly higher incoming current transfers to the general government sector.

Financial Account and International Investment Position

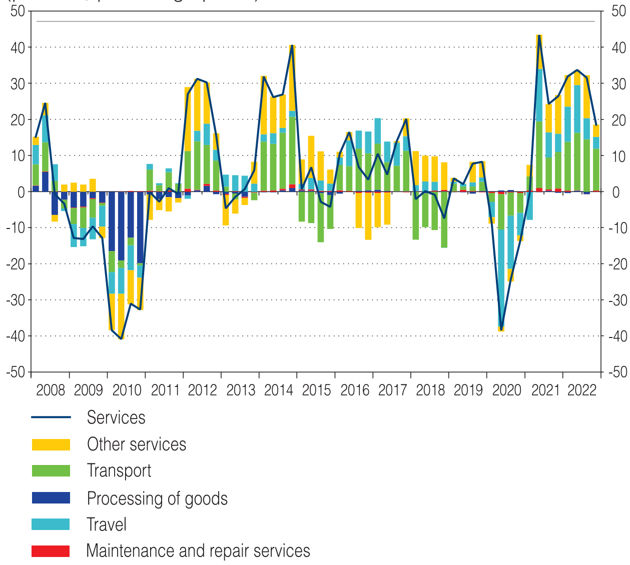
Over the January–November 2022 period, Bulgaria was a net creditor to the rest of the world, with the financial account recording a positive balance of EUR 2117.5 million. The financial account surplus was formed as a result of a higher accumulation of Bulgarian residents' foreign assets in the eleven months compared to that of liabilities to non-residents. The increase in foreign assets was due to the enhanced assets of banks (in the form of foreign currency and

[18] Preliminary data subject to revision which is usually towards an increase in outflows to non-residents.

[19] On 24 February 2022, the BNB adopted a resolution to lift the restriction on distributions of bank profits for 2019 and 2020.

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

(per cent, percentage points)



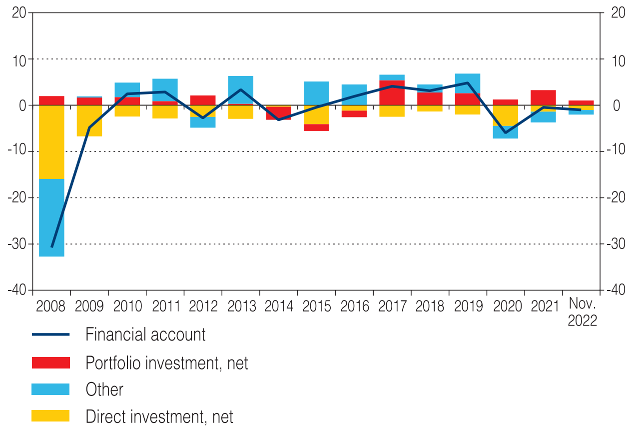
Notes: Quarterly data are used.

Data on foreign trade flows for the fourth quarter of 2022 cover October–November 2022 and have been compared with the corresponding period of the previous year.

Source: BNB.

Financial Account Flow Dynamics and Contribution by Components

(per cent of GDP)



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

Data on financial account flows as of November 2022 have been accumulated for the last twelve months. Nominal GDP data for the last four quarters up to the third quarter of 2022 inclusive were used to calculate the ratio to GDP for November 2022.

Sources: BNB, NSI, BNB calculations.

deposits)[20] and of other sectors. Liabilities to non-residents rose in terms of the banking sector (in the form of direct investments and foreign currency and deposits) and of the government as a result of the September 2022 issue of EUR 2.25 billion of sovereign Eurobonds in international capital markets.

The inflow of attracted direct investments (liabilities) into Bulgaria over January–November 2022 increased by 11.3 per cent compared to the corresponding period of the previous year and reached EUR 2191 million,[21] while the total accumulated direct investments by non-residents comprised 70.4 per cent of GDP at the end of the third quarter of 2022. In January–November 2022, direct investment liabilities were mostly in the form of debt instruments for non-financial corporations.

As a result of balance of payments developments and changes due to valuation adjustments and price revaluations, as of the end of the third quarter of 2022, the negative value of the international investment position of Bulgaria contracted to -12.9 per cent of GDP, from -17.5 per cent of GDP at the end of 2021. This dynamics reflected mainly the drop in the foreign liabilities of Bulgarian residents in the form of direct investment to GDP ratio. Nominal economic activity growth contributed also to the overall decline in the international investment position to GDP ratio.

2.2. BNB Gross International Reserves

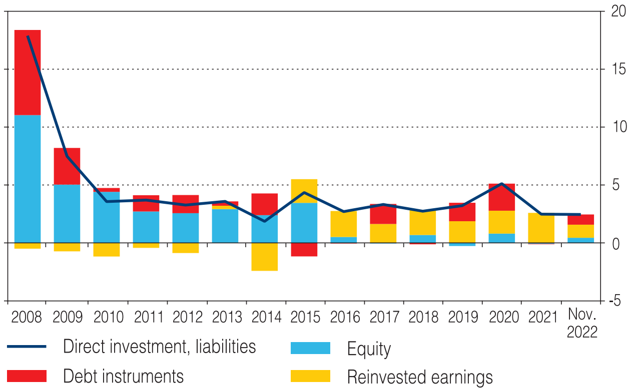
By the end of December 2022, the market value of Bulgaria's international reserves (including valuation adjustments and price revaluations) was EUR 38.4 billion (BGN 75.2 billion), increasing by EUR 3.8 billion (BGN 7.5 billion) from the end of 2021. The amount of gross international reserves reflects 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's liabilities as of December 2022 compared to the end of 2021 was largely driven by the BGN 2.7 billion

[20] 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.

[21] Preliminary data subject to revisions.

Direct Investment – Liabilities by Type of Investment

(per cent of GDP)



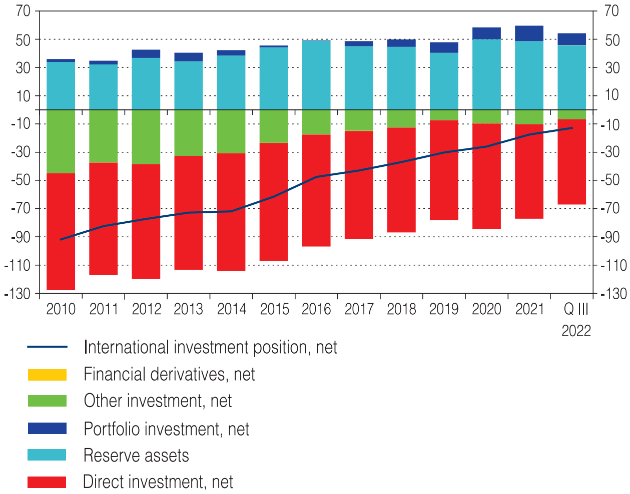
Notes: Data on direct investment flows – liabilities as of November 2022 have been accumulated for the last 12 months.

Nominal GDP data for the last four quarters up to the third quarter of 2022 inclusive were used to calculate the ratio to GDP for November 2022.

Sources: BNB, NSI, BNB calculations.

Bulgaria's International Investment Position

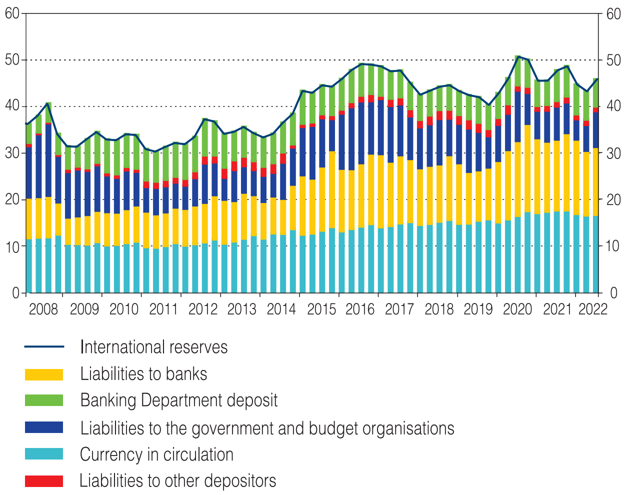
(per cent of GDP)



Sources: BNB, NSI, BNB calculations.

Liabilities Structure of the BNB Issue Department Balance Sheet

(per cent of GDP)



Sources: BNB, NSI, BNB calculations.

increase in banknotes and coins in circulation, the BGN 2.6 billion rise in liabilities to banks and the BGN 2.2 billion growth in liabilities to the government and other budget organisations. In September 2022, BNB international reserves picked up by EUR 4.5 billion on an annual basis, accounting for 45.7 per cent of GDP (47.8 per cent of GDP at the end of September 2021).

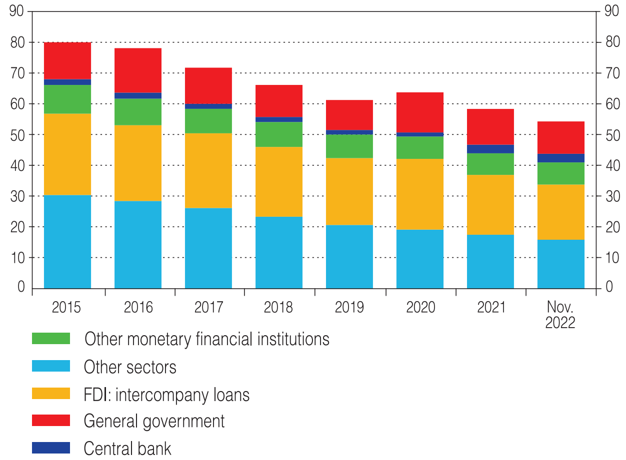
2.3. External Debt

As of November 2022 Bulgaria's gross external debt was EUR 43.8 billion (54.2 per cent of GDP)[22], rising by EUR 2.3 billion compared to December 2021 (58.4 per cent of GDP). External debt increased in all major economic sectors, reflecting a change in the market price of debt instruments with the exception of the general government. External debt of the general government sector increased in November 2022 compared to the end of 2021 as a result of the issuance of sovereign Eurobonds in international capital markets in September 2022 to the amount of EUR 2.25 billion. As of November 2022 the share of long-term debt in Bulgaria’s total gross external debt fell to 80.8 per cent (83.4 per cent in December 2021).

[22] Nominal GDP data for the last four quarters up to the third quarter of 2022 inclusive were used to calculate the gross external debt to GDP ratio as of November 2022.

Gross External Debt

(per cent of GDP)



Note: Nominal GDP data for the last four quarters, including the third quarter of 2022, are used in calculating gross external debt to GDP ratio for November 2022.

Sources: BNB, NSI, BNB calculations.

3. Money and Credit

3.1. Monetary and Credit Aggregates

Deposits of the Non-government Sector

In 2022, the annual growth in non-government sector's deposits[23] tended to accelerate, its rate reaching 14.3 per cent as of December 2022. This dynamic was determined by the accelerated annual growth in non-financial corporations' deposits, which stood at 26.6 per cent as of December 2022 (8.5 per cent in December 2021). By sector of economic activity, production and distribution of electricity, heating, and gaseous fuels and wholesale and retail trade; repair of motor vehicles and motorcycles had the largest contributions to the growth of corporate deposits in January–September. The increase in deposits of corporations engaged in production and distribution of energy products added to the significant rise in energy resources prices and to the growth in nominal gross operating surplus in industry.[24] At the same time, growth in nominal volumes of the retail sector and the gradual phasing-out of the stockpiling trend are likely to have contributed to the growth in corporate deposits in this sector. An additional factor for the high growth in non-financial corporations' deposits over the year was the continuing weak investment activity of firms.

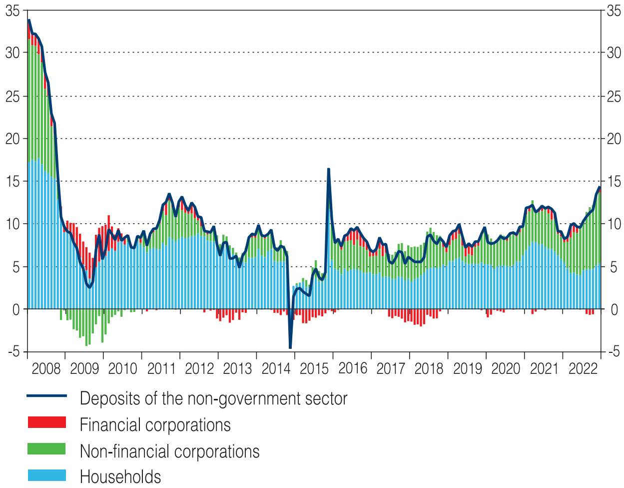
Following a slowdown in the annual growth rate of household deposits in the first half of 2022, this trend has stopped since the beginning of the third quarter, and deposit growth started to accelerate, reaching 8.3 per cent in December. Factors with a potential impact on these devel-

[23] Non-government sector's deposits include deposits of households, non-financial corporations and financial corporations. Deposits of households and non-financial corporations comprised the largest share of all non-government sector's deposits (96.5 per cent on average for the last 12 months as of December 2022), and therefore, the analysis is focused on these two sectors.

[24] The first three quarters of 2022 saw a significant increase in the nominal gross operating surplus in industry (excluding construction), most pronounced in the first quarter of the year (183.7 per cent year on year). Over the next two quarters, annual growth stood at 116.5 and 126.7 per cent, respectively.

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

(per cent, percentage points)

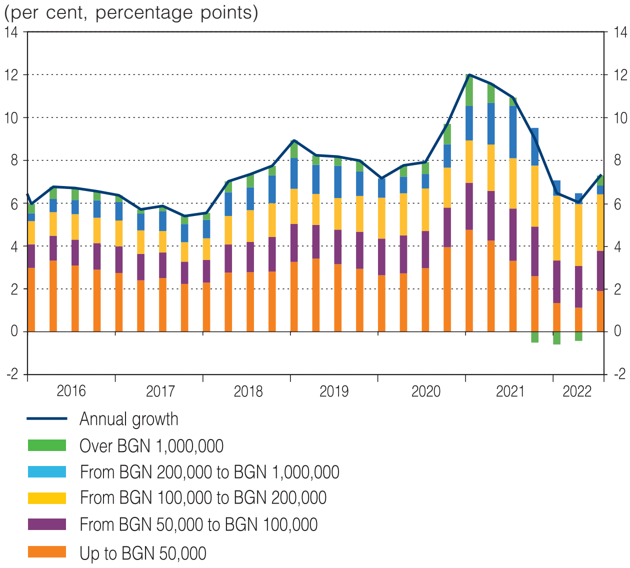


Note: The annual growth rate of non-government sector's deposits in November 2015 reflects the exhausted base effect of KTB removal as a reporting unit from the monetary statistics in November 2014.

Source: BNB.

Annual Growth of Household Deposits and Contribution by Deposit Amount

(per cent, percentage points)



Source: BNB.

opments are the removal by major commercial banks of the fee for cash availability above a certain amount in the third quarter of the year,[25] as well as the gradual rise in deposit rates. The cancellation of this fee is a possible cause for the contribution of the largest deposits to the annual growth of household deposits to become positive in the third quarter of 2022 (with a negative contribution of the largest deposits in the second quarter of the year).

Annual growth of the broad monetary aggregate M3 remained relatively high throughout 2022, tending to accelerate somewhat in the second half of the year. Overnight deposits, which remained the preferred form of savings by households and firms, had a major contribution to the growth of M3. Deposits with an agreed maturity of up to two years recorded a gradual contraction of the negative contribution, more pronounced in the last quarter, possibly linked to the emerging upward trend in interest rates on time deposits. In 2022, both firms and households continued to save predominantly in local currency, with some increase in deposits of non-financial corporations in foreign currency (mainly in euro) observed since the second quarter of the year.

Reserve Money

At the end of 2022 reserve money grew by 11.1 per cent on an annual basis (9.1 per cent in December 2021), with both currency in circulation and banks' reserves contributing to this growth.

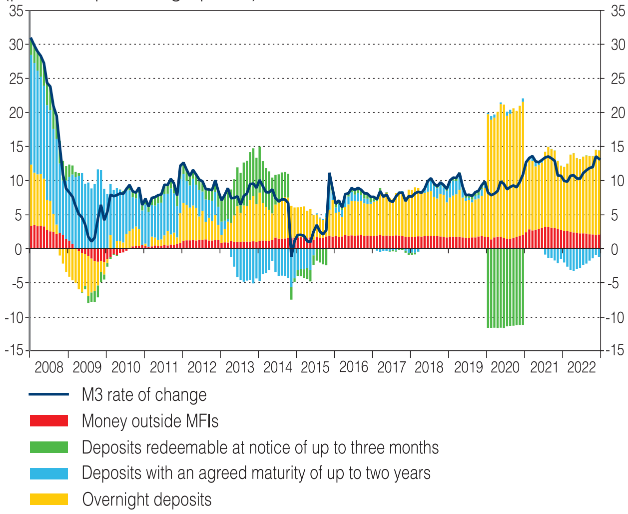
In 2022 dynamics of banks' deposits with the BNB reflected mainly movements in banks' excess reserves.[26] Excess reserves dynamics over the year was influenced by the suspension of the macroprudential measure limiting banks' foreign exposures in force since 1 April

[25] As of 1 August 2022, major commercial banks in Bulgaria removed the fee for cash availability above a certain amount.

[26] Amendments to Ordinance No 21 of the BNB on the Minimum Required Reserves Maintained with the Bulgarian National Bank by Banks, 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.

Annual Rate of Change in M3 and Contribution by Components

(per cent, percentage points)

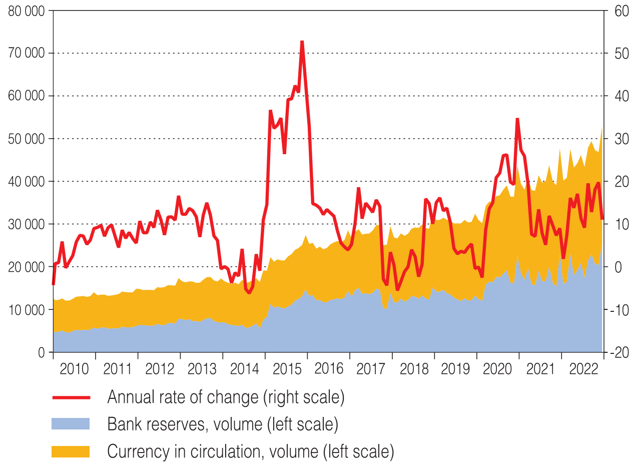


Note: In view of the analysis of the banking products and in line with the methodological requirements, transferable savings deposits have been reclassified from the Deposits redeemable at notice of up to three months indicator to the Overnight deposits of the household sector indicator with the January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

Source: BNB.

Reserve Money

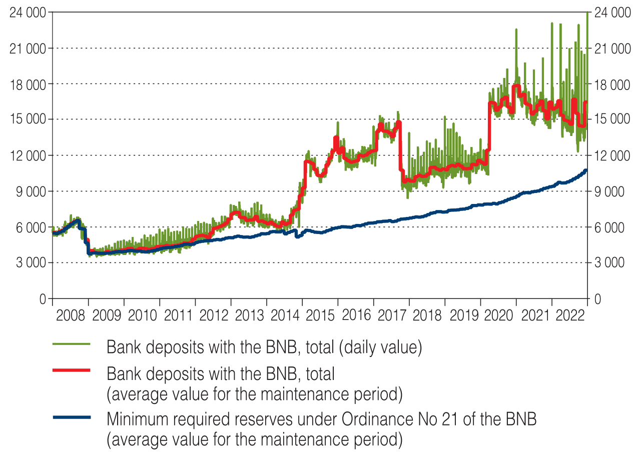
(BGN million) (per cent)



Source: BNB.

Bank Deposits with the BNB

(BGN million)



Source: BNB.

2022,[27] as well as the ECB's increases of the deposit facility rate in July, September, November and December.[28] The negative spread since mid-September between the interest rate on banks' excess reserves with the BNB and the ECB deposit facility rate represents a potential factor for the reduction of part of the excess reserves by commercial banks owned by euro area member state banks. In December 2022 excess funds over the required minimum of reserve assets under Ordinance No 21 was 32.0 per cent on an average daily basis, from 52.2 per cent in December 2021. In 2022 the amount of minimum reserve requirements continued growing under the influence of the rising deposit base. As of December the effective implicit rate of minimum reserve requirements[29] remained broadly unchanged at 9.36 per cent compared with end-2021. Commercial banks' deposits with the BNB comprised 8.26 percentage points in minimum reserve requirements, and the remaining 1.10 percentage points were in the form of recognised cash balances.

A downward trend in the annual growth of reserve money was observed in 2022, its rate reaching in December 11.0 per cent (16.3 per cent in December 2021). These developments mainly reflected the effect of the high base of 2021, while strong consumer price increases contributed to the continued demand for money in circulation for transactional purposes and to maintaining its relatively high growth rate.

Reserve currency (euro) trading with the BNB is the main lev liquidity management instrument of banks under currency board arrangements. In 2022 BNB sales (net) to banks were EUR 2.4 billion.

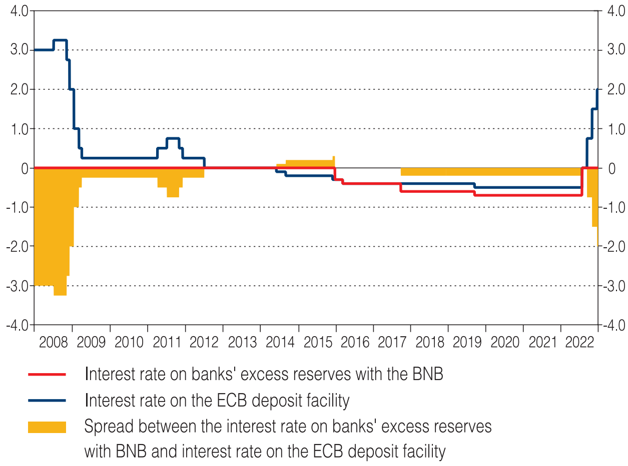
[27] The measure was introduced in March 2020 as part of the BNB package of anti-crisis measures in the context of the COVID-19 pandemic and repealed by the BNB Governing Council's resolution of 23 February 2022, with effect from 1 April 2022.

[28] As from 27 July 2022, the ECB deposit facility rate was raised to 0.00 per cent, resulting in the equalisation of the ECB deposit facility rate and the interest rate on the banks' excess reserves with the BNB. The ECB deposit facility rate was additionally raised to 0.75 per cent since 14 September 2022, to 1.50 per cent since 2 November 2022 and to 2.00 per cent since 21 December 2022. If the interest rate on the ECB deposit facility is zero or positive, the interest rate on banks' excess reserves with the BNB is 0.00 per cent.

[29] Under Article 3 of BNB Ordinance No 21, the rate of minimum required reserves for the 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.

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

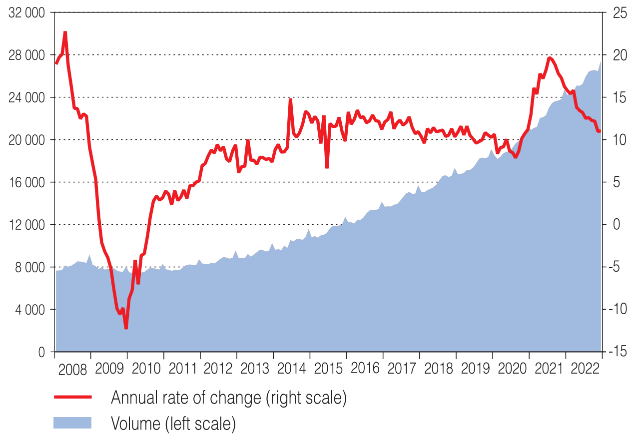
(per cent)



Sources: BNB, ECB.

Currency in Circulation

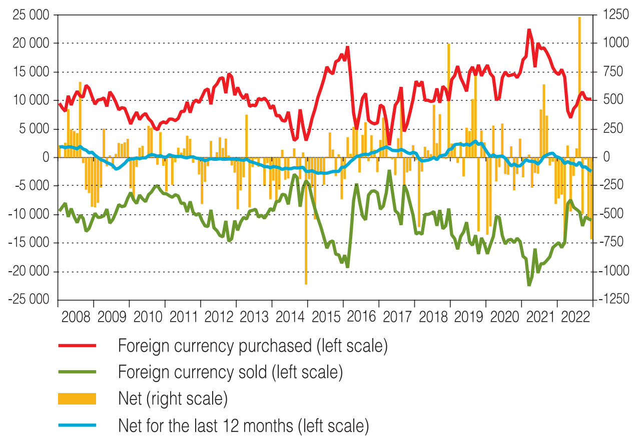
(BGN million) (per cent)



Source: BNB.

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

(EUR million) (EUR million)



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: BNB.

Credit to the Non-government Sector

In 2022 growth rates of credit to the non-government sector[30] remained high. On the demand side, the main drivers for credit growth were historically low interest rates, which in real terms reached strongly negative values, as well as demand for credit by firms for working capital and accumulation of inventories in a context of a significant price rise in major raw materials, bottlenecks in supply chains and an increased uncertainty in the economic environment. On the supply side, credit growth factors involved the significant volume of attracted funds and high liquidity in the banking system. Since the end of the third quarter of 2022, annual credit growth has started to slow gradually, driven mainly by the non-financial corporations' sector, reaching 12.2 per cent as of December (8.3 per cent by end-2021).

Slowdown in the growth of credit to non-financial corporations was entirely determined by the overdraft, which rose by 17.5 per cent year on year in December (26.0 per cent in August 2022). Overdraft dynamics was influenced by the reported decline in inventories in the economy after the high levels reached in the first half of the year. In addition, tightening of bank standards in extending loans and the gradual increase since the end of the third quarter and further in the fourth quarter of 2022 in interest rates on new loans as a result of the tightened monetary policy in the euro area have also contributed to the lower growth in corporate loans. In terms of volumes of newly extended loans[31] to firms, the trend was upward over the year.[32]

Historically low interest rates and inflation acceleration stimulated demand for consumer and housing loans, with growth in housing loans

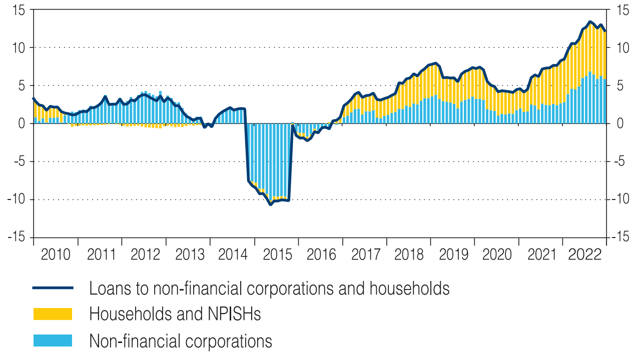
[30] Loans represent the bulk of bank claims on the non-government sector with a share of 97.1 per cent on average for the last 12 months as of December 2022, and the analysis was therefore focused on them. In addition to loans, claims include also repurchase agreements, securities other than shares, and shares and other equity instruments. Non-government sector's deposits, in turn, include loans to households, 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 accounted for 92.9 per cent on average for the last 12 months as of December 2022, and therefore developments in these two sectors are addressed.

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

[32] Based on 12-month moving average.

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

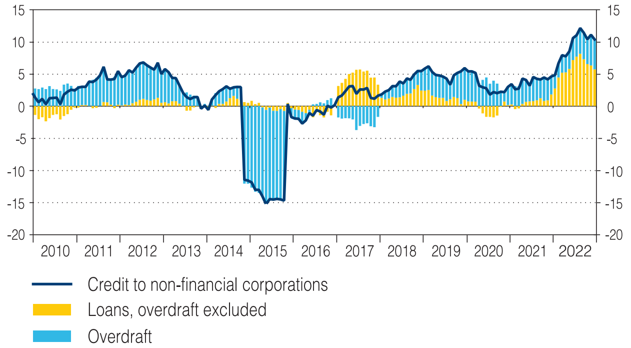
(per cent, percentage points)



Source: BNB.

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

(per cent, percentage points)

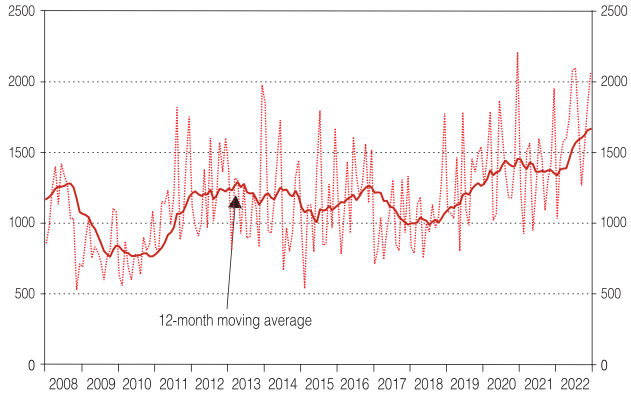


Note: The annual growth rate of loans to non-financial corporations in November 2015 reflects the exhausted base effect of KTB removal as a reporting unit from the monetary statistics in November 2014.

Source: BNB.

New Loans to Non-financial Corporations (Monthly Volumes)

(BGN million)



Source: BNB.

remaining high throughout the year and that of consumer loans slowing down slightly at the end of 2022. High growth in loans for house purchase (17.8 per cent as of December 2022) reflected mainly the enhanced demand amid rising labour income, strongly negative real rates and household demand for real estate as an alternative form of savings or investment. Annual consumer credit growth stood at 12.4 per cent as of December 2022, with a certain slowdown observed in the last month of the year, possibly as a result of the start of raising interest rates on new consumer loans. In the case of newly granted consumer loans, a downward trend in volumes was observed over the second half of the year.[33]

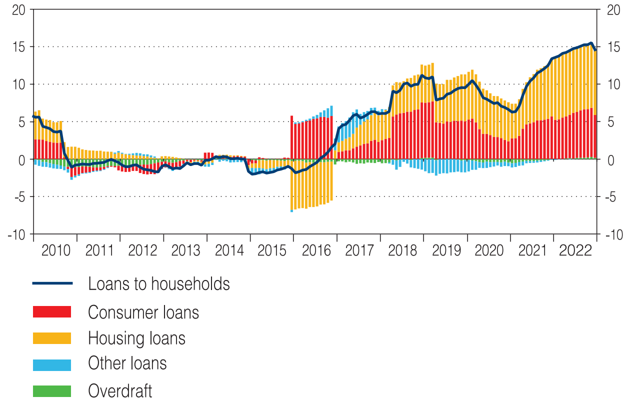
Bank Lending Survey

The weighted results of the bank lending survey conducted by the BNB[34] show tightening of the standards[35] for granting consumer, residential and corporate loans in the third quarter of 2022. The main factors affecting the tightening of the bank credit policy (credit standards and conditions[36]) over the quarter were the increased risk assessment and the lower risk appetite. For the first time since the first quarter of 2010, banks have cited the cost of attracted resources as a factor for the tightening of their credit policy on corporate loans.

According to the weighted responses of banks, demand for corporate loans and, to a lesser extent, loans for current household consumption increased from the second quarter of 2022, while demand for housing loans fell slightly. In corporate lending, an increase was mainly observed in short-term financing and, to a greater extent, in the sector of large enterprises. The necessity of financial resources for working

Annual Growth of Household Credit and Contribution by Loan Type

(per cent, percentage points)

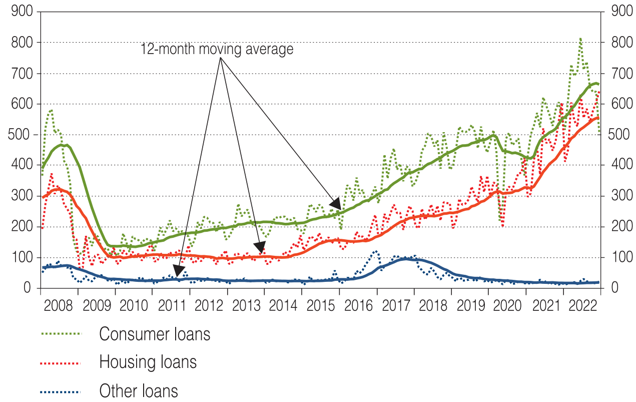


Note: Based on additional information received from reporting units, a revision of household loans was carried out according to their purpose of use in the period December 2015–August 2019.

Source: BNB.

New Loans to Households (Monthly Volumes)

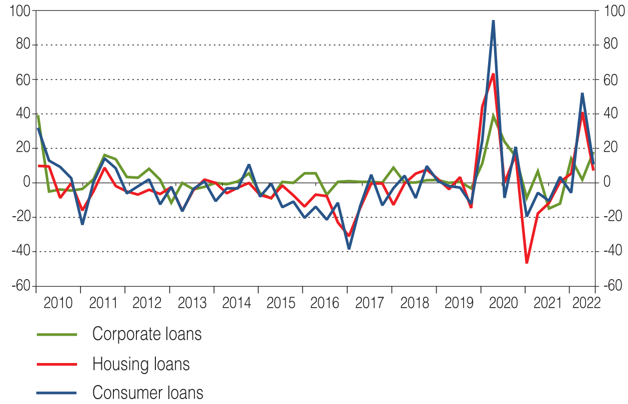
(BGN million)



Source: BNB.

Changes in Credit Standards

(balance of opinions)



Source: BNB.

[33] Based on monthly data.

[34] 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 bank market share in the relevant credit segment.

[35] *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.

[36] *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.

capital and accumulation of inventories was considered by banks to be the main factor behind stronger demand for corporate loans over the quarter. For households, the most influential factors for the increased demand for consumer credit in the third quarter of 2022 were demand for financial resources for the purchase of current consumption and durable goods, while the overall state of the macroeconomic environment contributed to the weaker demand for housing loans.

3.2. Interest Rates

Interbank Money Market Interest Rates

A significant increase of traded volumes in the interbank money market was observed at the end of the third and in the fourth quarter of 2022. Overnight unsecured lending transactions in levs concluded between October and December 2022 were BGN 13,540 million (against BGN 2331 million in July–September). The increases in key interest rates undertaken by the ECB and the negative spread since mid-September between the interest rate on bank excess reserves and ECB's deposit facility rate contributed to the reduction of bank excess reserves in the last quarter of the year,[37] creating an incentive for banks to raise more liquidity from the interbank money market.

Under the currency board arrangements in Bulgaria, the increase in key interest rates in the euro area was rapidly passed on to interbank money market rates. As of December 2022, the monthly value of the LEONIA Plus index was positive and stood at 1.42 per cent (with a negative value of -0.64 per cent in June 2022) and the spread between LEONIA Plus and €STR came to -15 basis points (-5 basis points in June 2022).

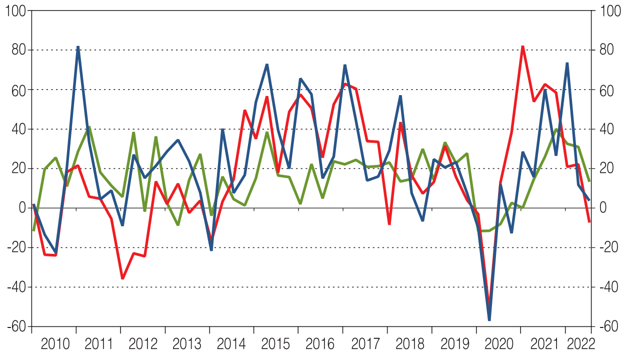
Interest Rates on Deposits

In the context of a continuing significant inflow of attracted funds and high liquidity in the banking system, transmission of the changes in the ECB's monetary policy to deposit interest rates in Bulgaria was comparatively more contained compared to the interbank market interest rates. Since the beginning of the second half of

[37] On a quarterly basis.

Changes in Credit Demand

(balance of opinions)

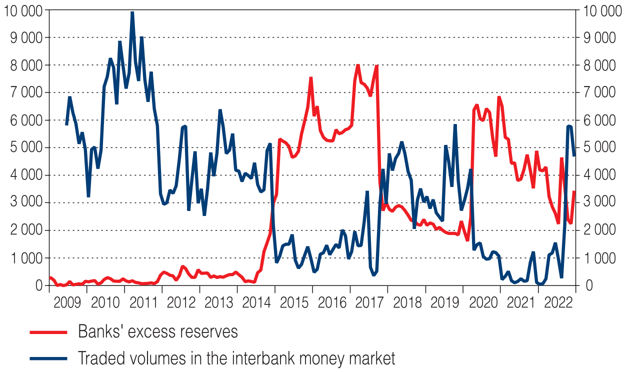


Notes: As regards credit standards, charts present banks' balance of opinions defined as a difference in percentage points between the percentage of banks responding 'tightened' ('considerably' and 'somewhat'), and the percentage of banks responding 'eased' ('considerably' and 'somewhat'). As regards 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 compared to the previous quarter.

Source: BNB.

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

(BGN million)



Source: BNB.

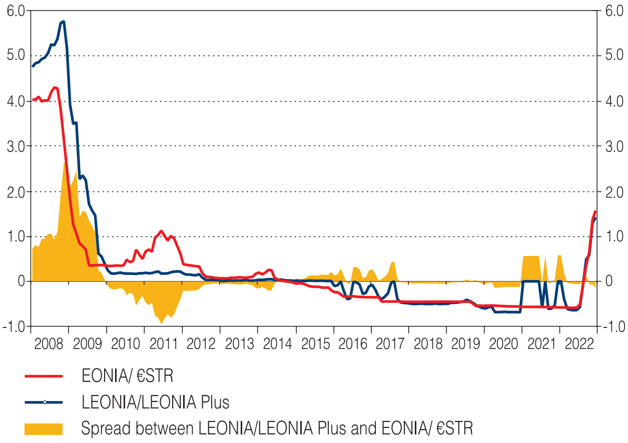
2022, there has been a gradual upward trend in the weighted average interest rate on new time deposits of non-financial corporations and households, which reached 1.01 per cent as of December 2022 (-0.13 per cent in June). In the non-financial corporations' sector, the weighted average interest rate reached 1.05 per cent as of December 2022 (-0.41 per cent in June). By currency, a more substantial increase was observed in interest rates on firms' new time deposits in US dollars. In the household sector, the increase in the weighted average interest rate was lower (to 0.94 per cent in December, compared to 0.12 per cent in June), with a more significant rise, as for firms, in US dollar deposit interest rates. This dynamics is likely to reflect a faster and stronger tightening of the monetary policy by the US Federal Reserve compared to the monetary policy tightening in the euro area.

Interest Rates on Loans

The slight downward trend in interest rates on new loans to corporations and households

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

(per cent, percentage points)



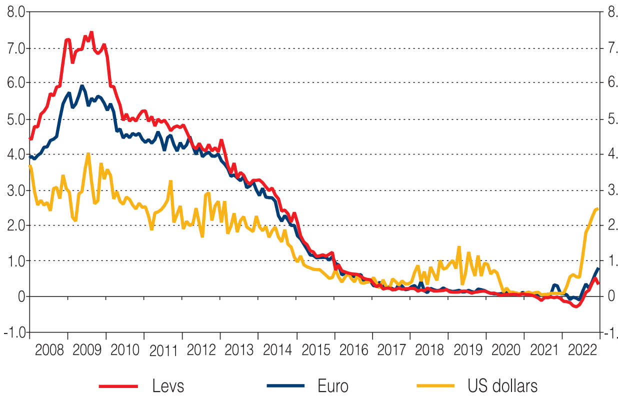
Notes: The EONIA/*€STR* series is composed of: EONIA between 2008 and 14 March 2017; pre-€STR between 15 March 2017 and 30 September 2019; €STR in the period after 30 September 2019.

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: BNB, ECB.

Interest Rates on New Time Deposits by Currency

(per cent)

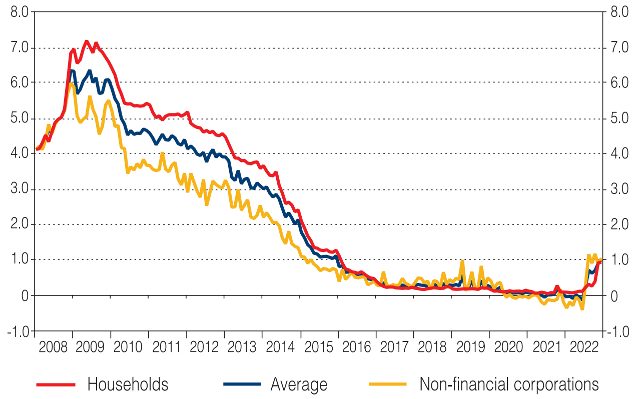


Note: The average interest rates by currency are based on rates for all sectors and maturities weighted by relevant volumes of new deposits.

Source: BNB.

Interest Rates on New Time Deposits by Sectors

(per cent)



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

Source: BNB.

observed in the first eight months of 2022 was reversed at the end of the third quarter of the year. Between September and December there was a smooth rise in interest rates, which was more pronounced in corporate loans and consumer loans to households, while for housing loans the increase was marginal. Potential factors for the gradual transfer of the effects of the increase in interest rates by the ECB on lending rates in Bulgaria are the strong competition in the banking sector and the large volume of funds attracted by banks.

In the non-financial corporations sector, interest rate increases were mainly determined by the rise in US dollar loans (up by 711 basis points compared to August to 8.01 per cent in December 2022). Interest rates on loans in euro and levs increased by 180 basis points to 3.92 per cent and by 63 basis points to 3.12 per cent, respectively.[38]

In the household sector, the annual percentage rate of charge (APRC) on consumer loans increased to 10.1 per cent as of December 2022 (8.7 per cent in August), reflecting entirely the upward dynamics of the interest rates. Results of the bank lending survey indicate that banks are tightening consumer credit conditions in terms of premia for riskier loans in the third quarter of 2022, which is likely to affect the rising interest rates on consumer loans in the fourth quarter. The APRC on housing loans increased insignificantly, amounting to 2.9 per cent by December 2022 (2.8 per cent in August 2022).

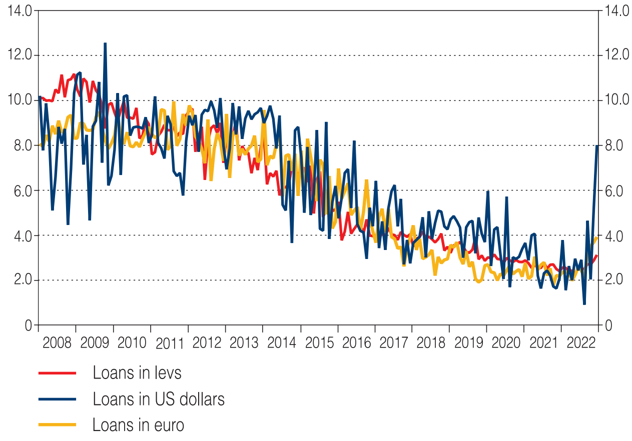
Government Securities Yields

By the end of 2022 yields on Bulgarian Eurobonds issued and traded in international capital markets recorded a decrease compared to the end of September 2022. Concurrently, an increase in the yields of German government bonds and other euro area countries was observed, reflecting the continued increases in key ECB interest rates. The reference government securities yield curve in Bulgaria showed that the increase was most pronounced in bonds in the maturity sectors of 15 years and 10 years: by 97 and 95 basis points, respectively, while a slight increase was reported at short-term

[38] Indicated values of interest rates on new loans to non-financial corporations and on new loans to households are on a monthly basis.

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

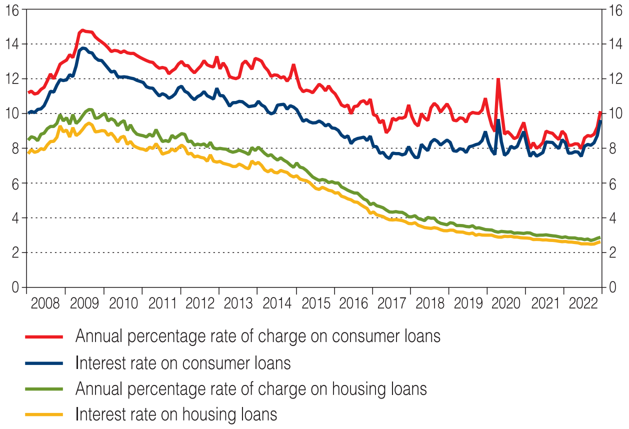
(per cent)



Source: BNB.

Interest Rates and APRC on New Household Loans

(per cent)

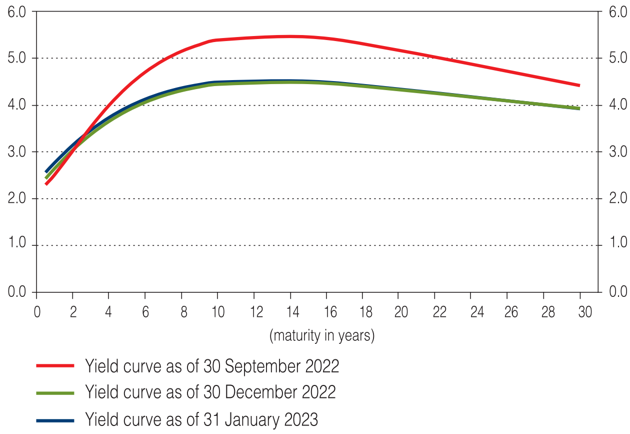


Note: The difference between the APRC and the relevant interest rates reflects the approximate per cent of all non-interest service charges on loans (including fees and commissions).

Source: BNB.

Bulgarian Government Bond Yield Curve

(per cent)



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.

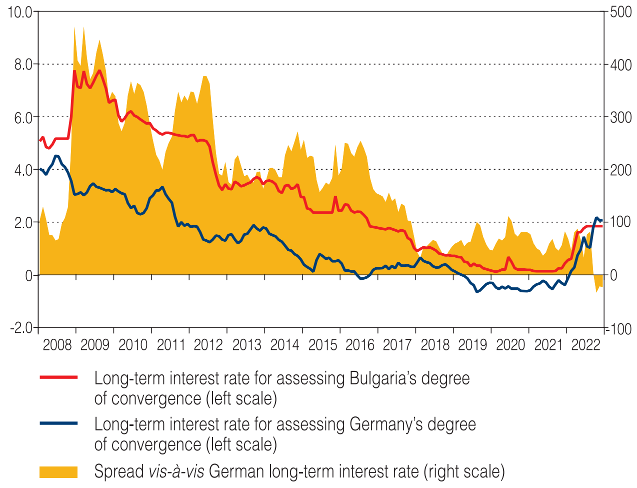
Sources: MF, BNB calculations.

maturities. By the end of 2022 the yields of Bulgarian and German government bonds narrowed in all government bonds compared to the end of September 2022, with the narrowing being most pronounced for the bonds maturing in 2034 and 2035 (by 142 basis points for both bonds). A factor with a potential impact on the spread contraction was Bulgaria's better fiscal position in the last quarter of 2022 compared to expectations in September.

In December 2022 the long-term interest rate for assessing Bulgaria's degree of convergence remained at 1.85 per cent. It remained unchanged for the fifth consecutive month since July 2022 due to the lack of transactions with Bulgarian benchmark bonds in the secondary government securities market, with the lack of new BGN-denominated bond issues on the primary market with a close to 10-year residual maturity also having an additional effect[39].

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

(per cent) (basis points)



Sources: BNB, ECB.

[39] Daily data show that the long-term interest rate remained unchanged from 14 June 2022 to 31 December 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 third quarter of 2022 real GDP increased by 0.6 per cent compared to the previous quarter. According to the non-seasonally adjusted data, economic activity growth continued to slow down on an annual basis reaching 2.9 per cent (compared to 3.9 per cent in the previous quarter). By final consumption expenditure component, the slowdown in economic activity was driven by the reported decline in inventories in the economy, which was partly offset by the accelerated growth in domestic demand and the positive contribution of net exports.

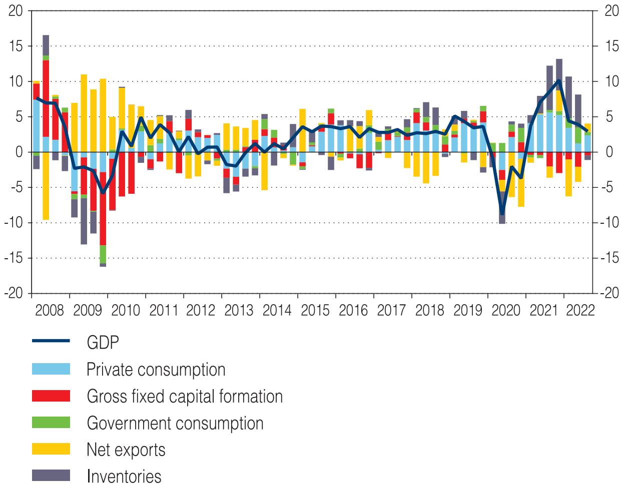
Real household consumption grew by 4.2 per cent on an annual basis in the third quarter of 2022 (up from 2.1 per cent in the previous quarter) amid a lower savings rate[40] and strong growth in nominal labour income which exceeded consumer price growth rates. The weakening of households' saving propensity can be explained by high inflation and by keeping nominal interest rates on deposits at low levels. Other factors supporting private consumption growth were the improved indicator of consumer confidence and higher net fiscal transfers to households, as well as employment growth and credit activity.

On an annual basis, government consumption at constant prices increased by 3.8 per cent in the third quarter of 2022 (compared to 11.6 per cent in the previous quarter). The annual growth in government consumption mainly reflected higher

[40] The household savings rate series is calculated on the basis of the NSI Household Budget Survey data, subsequently seasonally adjusted by the BNB.

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

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



Sources: NSI, BNB calculations.

public expenditure on intermediate consumption and wages in the public sector.[41]

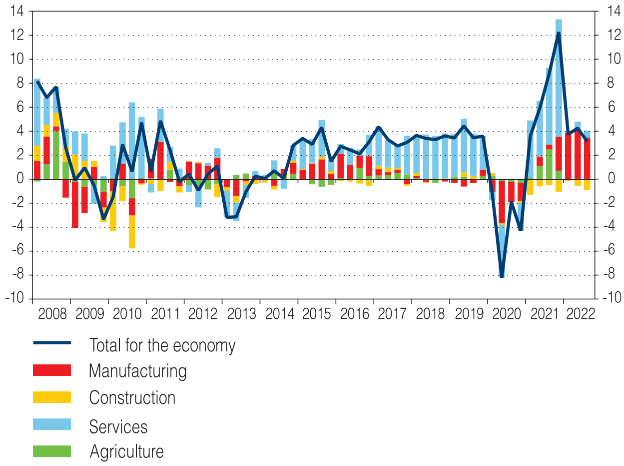
Over the third quarter of 2022, investment in fixed capital fell by 3.3 per cent on an annual basis (compared with a 11.0 per cent decrease in the previous quarter). According to the BNB estimates[42], the decline in total investment was due mainly to public and, to a lesser extent, private sectors. Factors likely to have had a restrictive effect on investment activity are the continuing relatively high economic uncertainty, the persisting shortage of some raw materials (mainly in manufacturing and construction), the significant price rises in investment goods, and the delay in the implementation of large public infrastructure projects.

Net exports had a positive contribution to the annual growth of real GDP in the third quarter of 2022, driven by the higher rise in exports of goods and services than that of imports. As regards exports, there was an acceleration in its annual growth in real terms, driven by both the goods and services components. On an annual basis, the change in imports was in line with the dynamics of final demand elements and the amount of their import component.[43]

In the third quarter of 2022, according to seasonally adjusted NSI data, gross value added in Bulgaria increased by 0.6 per cent in real terms on the previous quarter, with annual growth amounting to 3.1 per cent, according to non-seasonally adjusted data. Gross value added in industry went up by 10.9 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 real value added in the construction sub-sector

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

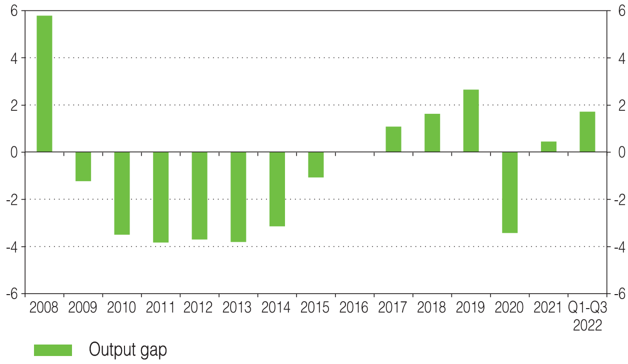
(per cent; percentage points; on an annual basis; non-seasonally adjusted data)



Sources: NSI, BNB calculations.

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: NSI, BNB calculations.

[41] These developments were probably driven by the higher public operating and wage expenditure for 2022 compared to 2021 under the State Budget Law of the Republic of Bulgaria for 2022, as well as under the Law amending the State Budget Law of the Republic of Bulgaria for 2022 adopted by the National Assembly on 25 February 2022 and 30 June 2022 respectively.

[42] The NSI does not provide official data on the breakdown of total investment 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.

[43] For more details, see the Balance of Payments and Foreign Trade Section in Chapter 2: External Financial Flows.

observed since the second quarter of 2020 continued. Annual value added in the services sector grew by 0.8 per cent in the third quarter of 2022, with all sub-sectors contributing to this effect, except culture, sport and entertainment; other activities, while the general government, education, human health and social work activities sub-sector had the most significant positive contribution. The value added in agriculture fell by 2.4 per cent year on year in the third quarter corresponding to the preliminary data published by the NSI on the weaker agricultural harvest in 2022[44] than in the previous year.

Cyclical Position of the Bulgarian Economy

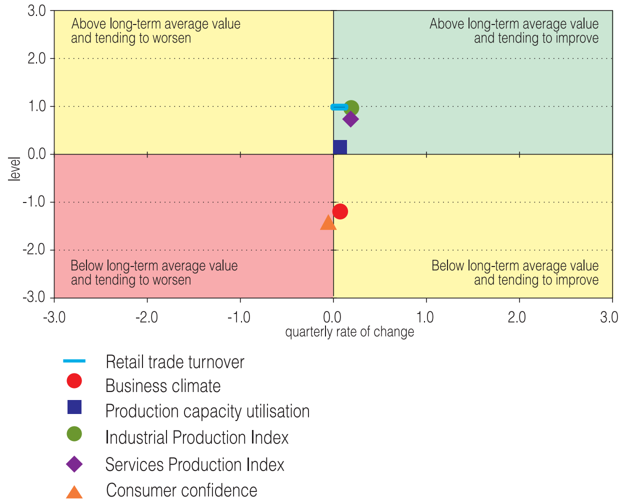
According to BNB estimates, the cyclical position of the economy in the third quarter of 2022 was characterised by a positive output gap given the significant increase in economic activity in 2021 and the first nine months of 2022. This suggests that part of the factors of production in the economy were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

NSI short-term business statistics indicators provide divergent signals about the cyclical position of the economy in the fourth quarter of 2022.[45] The indicators tracking firms' current production activity on the basis of reported data (the industrial production index, services production index, capacity utilisation and retail turnover index) were positioned significantly above their long-term average value and tended to improve further. Concurrently, over the fourth 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 corporate and household pessimistic sentiment about the economic situation in Bulgaria. The reduction of the differences in firms' assessments of their current economic situation and short-term economic outlook resulted in a certain decrease in the uncertainty

[44] For more details, see NSI first estimation on final output in agriculture for 2022.

[45] Part of the economic indicators are available up to November 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 fourth quarter of 2022.

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

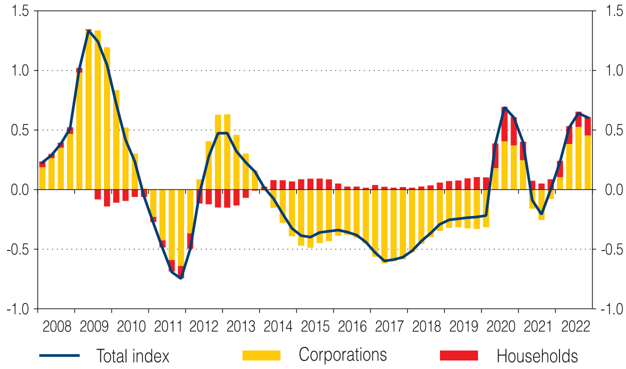


Notes: The chart compares the level (the vertical axis) and the quarterly change (the horizontal axis) of selected economic indicators. Data are averaged for available months in the fourth quarter of 2022. Each series is transformed using the HP filter (with a parameter λ = 100) in order to eliminate short-term fluctuations and then it is standardised. 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: 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: EC, BNB calculations.

indicator calculated by the BNB in the fourth quarter of 2022.

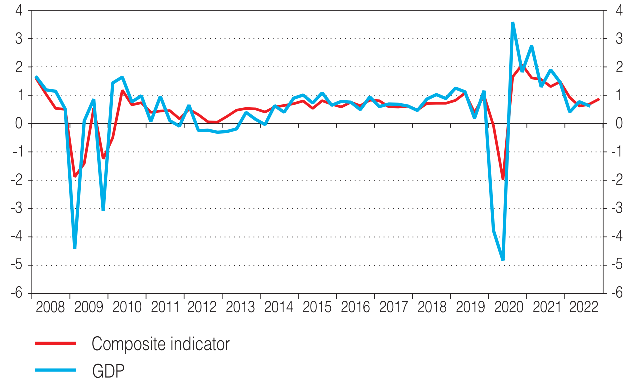
Expected Economic Activity

The composite economic indicator[46] of economic activity in Bulgaria constructed by the BNB continued to increase on a quarterly basis in the fourth quarter of 2022 which is a prerequisite of similar dynamics observed in real GDP. Higher quarterly growth in the composite indicator was mainly driven by the increase in retail trade turnover at constant prices, construction and services production indices, credit activity, as well as the improved household and corporate sentiment in all major sectors. At the same time, the upward dynamics of the composite indicator in the fourth quarter of 2022 was curbed by the decline in the industrial production index and the positioning of the global PMI below the neutral 50-point limit.

In the first half of 2023, growth in economic activity is expected to follow a downward trend on a quarterly basis, which will cause annual real GDP growth to decelerate further at the beginning of 2023 and turn into a slight decline in the second quarter of 2023.[47] This will reflect both the projected decline in inventories in the economy and the expected lower exports of goods, given the deteriorating global economic situation and factors specific to Bulgaria, such as the ban on exports to countries other than Ukraine of petroleum products made from Russian oil, and planned repair works in important export enterprises in Bulgaria.

Composite Economic Indicator of Economic Activity

(per cent; quarter on quarter)

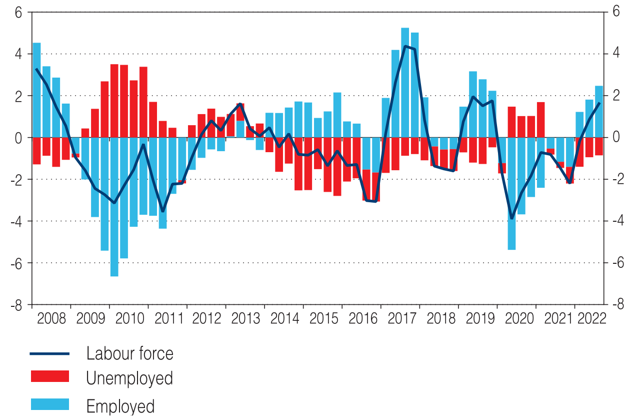


Notes: This indicator is constructed on the basis of a dynamic factor model whose purpose is to derive the total component in dynamics of various indicators with a monthly frequency. Dynamics of the composite indicator may be used as a guidance for the change in real GDP of Bulgaria. Selected indicators 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: NSI, Employment Agency, BNB calculations.

Contribution to the Change in Labour Force by Component

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

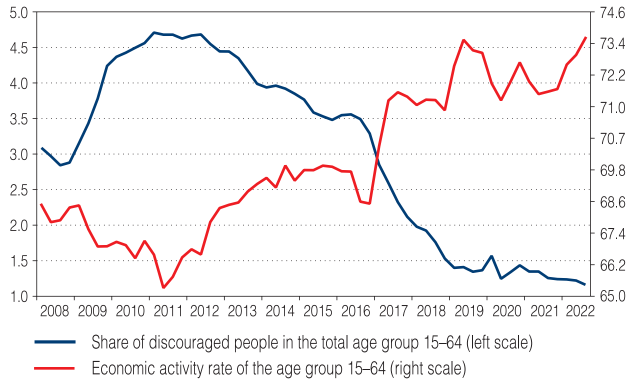


Note: Data refer to the age group of 15 and older.

Sources: NSI, BNB calculations.

Economic Activity and Share of Discouraged Persons

(per cent, seasonally adjusted data) (per cent, seasonally adjusted data)



Sources: NSI Labour Force Survey, BNB calculations.

[46] Industrial production; construction and services indices; and retail turnover. capacity utilisation and retail turnover are available until November 2022. Data available as of December 2022 are: unemployment rate; producer price index in industry; new loans to corporations and households; global PMI. Business climate and consumer confidence indicators are available as of January 2023.

[47] For further details, see the BNB Macroeconomic Forecast, December 2022.

4.2. Labour Market

Labour Supply

Labour supply in the economy increased, with labour force[48] (comprising employed and unemployed persons) growing by 1.6 per cent year on year in the third quarter of 2022 underpinned by real GDP growth. The number of people outside the labour force fell by 4.6 per cent on an annual basis, thus more than offsetting the negative effect on the labour force from the decrease in the working-age population due to unfavourable demographic trends in Bulgaria. The labour force participation rate[49] increased both on a quarterly and annual basis as a result of higher activity in all age groups.

According to the LFS data, seasonally adjusted unemployment rate[50] fell to 4.0 per cent in the third quarter of 2022, with long-term unemployed also declining. 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 and fourth quarters of 2022, with the number of newly registered unemployed rising on a quarterly basis in the industry sector.

Labour Demand

Labour demand in the economy continued to exceed labour supply over the third quarter of 2022. The number of job vacancies and the share of firms experiencing staff shortages grew further, although employment rose.

The number of employees[51] increased by 1.2 per cent on an annual basis in the third quarter of 2022 due to the increase in employment in the services sector. At the same time, persons employed in construction remained close to the level recorded in the same period

[48] NSI Labour Force Survey (LFS) data are used.

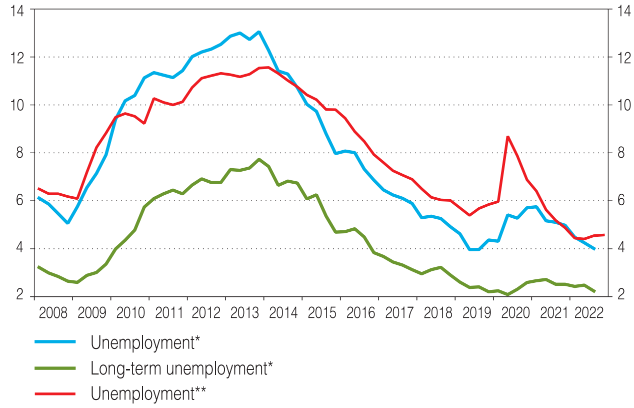
[49] The labour force participation rate is the proportion between economically active persons (labour force) and population of the same age. Quarterly data, seasonally adjusted by the BNB.

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

[51] NSI System of National Accounts data are used.

Unemployment Rate

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

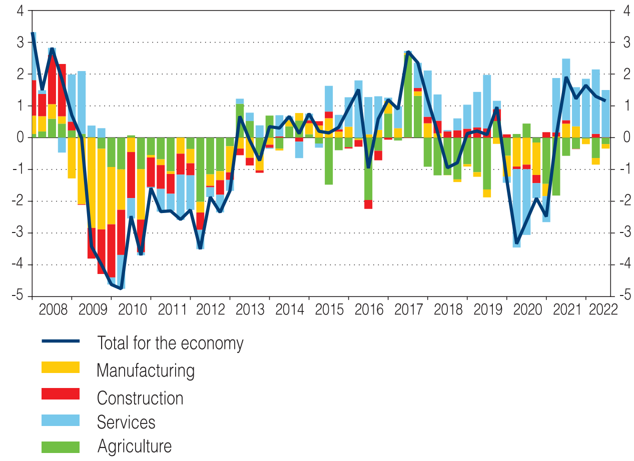


* NSI data.
** Employment Agency data.

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

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

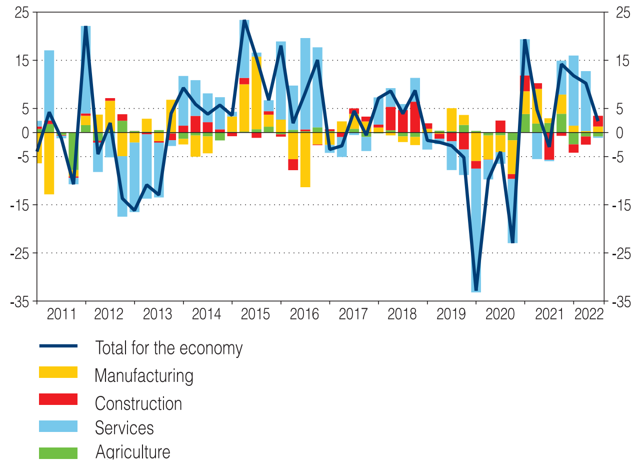
(per cent; percentage points; on an annual basis)



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

Contribution to the Change in the Number of Job Vacancies by Economic Sector

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



Sources: NSI, BNB calculations.

of 2021, while their number in agriculture and manufacturing declined.

Concurrently, according to the NSI short-term statistics data, job vacancies in the economy went up by 2.4 per cent year on year in the third quarter of 2022, entirely driven by the increase in job vacancies in manufacturing and construction, while the services sector declined on an annual basis for the first time since early 2022. The increase in job vacancies amid decreasing employment in manufacturing implies a deepening of labour supply problems in the sector, while the decline in announced jobs in services was likely due to a recovery of employment in this sector, which was comparatively more affected by the measures against the COVID-19 pandemic.

Available job vacancies (outside employment programmes) that have remained unfilled for more than three months[52] also increased on an annual basis at the end of the third and fourth quarters of 2022. The increasing number of job vacancies was accompanied by an ongoing quarterly and annual increase in the share of companies, that define labour shortages as one of the main factors hindering their activity.[53] These developments suggest persistent difficulties among firms in filling job vacancies, forcing them to compete for employees by raising wages.

Productivity and Compensation per Employee

In the third quarter of 2022 labour productivity in real terms[54] increased by 2.0 per cent on an annual basis, driven by industry, while in agriculture, construction and services it declined. The lower annual increase in labour productivity compared to the previous quarter was reflected in a slight slowdown in annual growth in compensation *per* employee. At the same time, growth in economic activity, increasing labour shortages, high inflation and increased inflation expectations continued to contribute to strong increases in nominal labour income. As a result, the growth rate of compensation *per* employee in nominal terms came to 18.1 per cent year on year in the

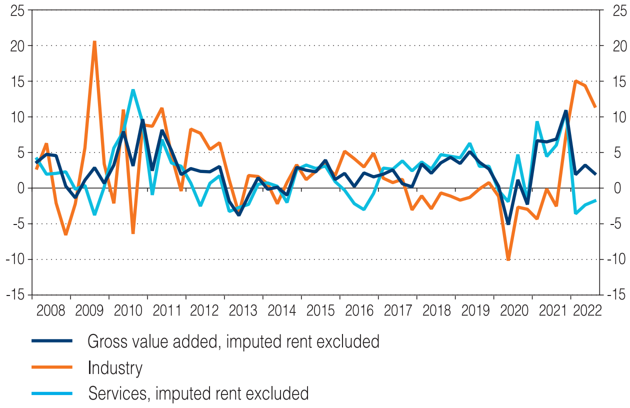
[52] According to Employment Agency data.

[53] According to NSI business situation survey data.

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

Labour Productivity Dynamics (Value Added *per* Employee)

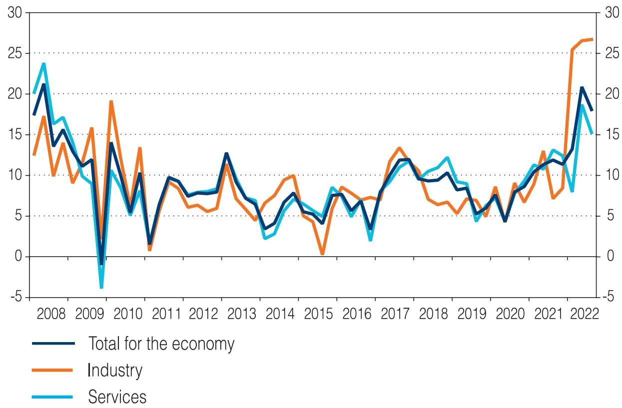
(per cent, on an annual basis)



Sources: NSI, BNB calculations.

Compensation *per* Employee at Current Prices

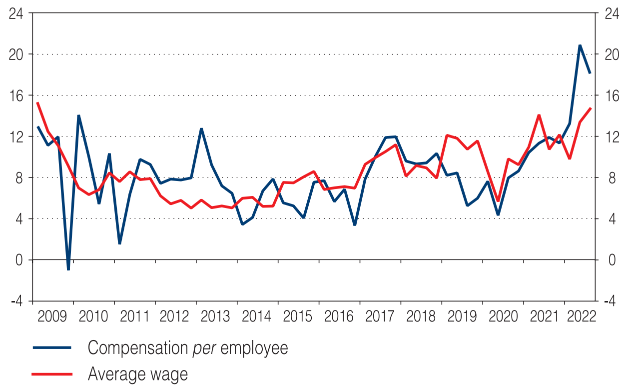
(per cent, on an annual basis)



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

Compensation *per* Employee and Average Wage at Current Prices

(per cent, on an annual basis)



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

third quarter of 2022. In real terms,[55] it rose by 2.5 per cent on an annual basis, with growth driven mainly by industry.

NSI data on average gross monthly wages pointed to weaker nominal growth (14.7 per cent on an annual basis) compared to the compensation *per* employee in the third quarter of 2022.[56] Concurrently, the annual growth of the average gross monthly wage accelerated on the previous quarter due to the stronger growth in public sector wages.

4.3. Behaviour of Firms

In the third quarter of 2022, firms' producer prices continued to rise on an annual basis, albeit at a slower pace, likely related to the retained upward trend in their production costs.[57]

Labour Costs of Corporations

In the third quarter of 2022 firms' unit labour costs continued to grow on an annual basis (by 15.8 per cent), driven by the stronger annual growth in nominal compensation *per* employee than that reported in labour productivity. The steady growth in final demand, labour shortages, as well as the indexation of some nominal wages due to high inflation[58] were a prerequisite for this. By economic sector, the highest annual growth in unit labour costs was reported in the services sector (17.3 per cent), followed by agriculture (13.7 per cent) and industry (13.6 per cent). Within industry, both the construction and manufacturing sub-sectors reported an increase in unit labour costs.

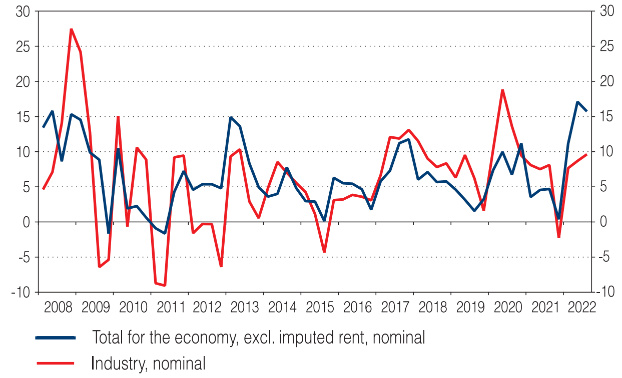
Investment Activity of Corporations

In the third quarter of 2022 firms' investment spending in real terms continued falling on an annual

[55] Nominal compensation *per* employee was deflated by the HICP to calculate the indicator in real terms.
[56] 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.
[57] This section reviews corporations' labour costs, while expenditure on raw materials is not analysed due to the lack of public data of quarterly frequency.
[58] 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 had applied a rule on wage indexation to inflation dynamics.

Unit Labour Costs

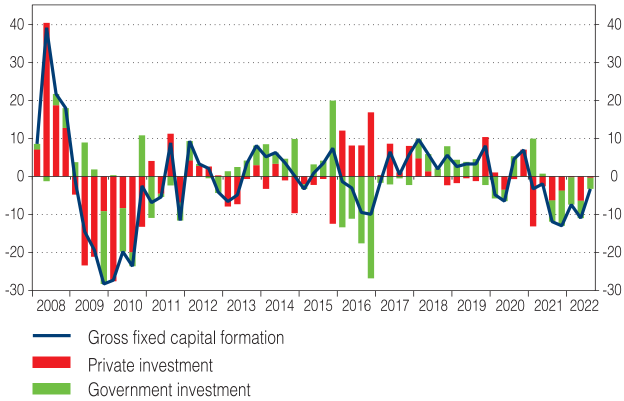
(per cent, on an annual basis; non-seasonally adjusted data)



Sources: 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)

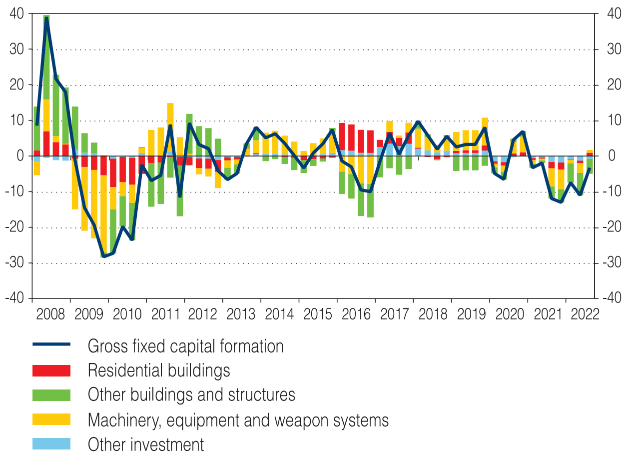


Notes: The NSI does not provide official data on the breakdown of total investment into private and public. The series on private investment is constructed by the BNB as a difference between total investment and the estimated amount of public investment on an accrual basis in real terms. Data on public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

Sources: 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.

basis. As a result, the private sector had a low negative contribution to the decline reported in gross fixed capital formation. By asset type, a decline in investment was recorded in non-residential construction, intellectual property products and cultivated biological resources. At the same time, firms' spending on machinery, equipment and weapon systems reported annual growth.

Financing Sources of Corporations

Based on non-seasonally adjusted data, nominal gross operating surplus which can be used by firms for funding their activities increased by 26.0 per cent on an annual basis in the third quarter of 2022, due to industry (90.5 per cent) and, to a lesser extent, to agriculture (18.6 per cent) and services (2.5 per cent). The larger amount of the operating surplus in industry was mainly due to the manufacturing subsector 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, with highest concentration of attracted financing in services (excluding public services and financial intermediation) and manufacturing. This was largely due to received loans and to the increase in liabilities to non-residents, including foreign direct investment.

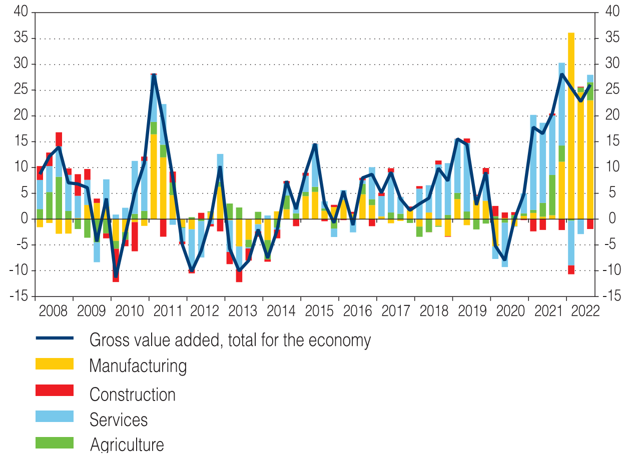
Price Policy of Corporations

In the third quarter of 2022 firms' selling prices, as measured by the Producer Price Index in industry (PPI), posted a 50 per cent year-on-year increase, mainly driven by the substantial rise in energy product prices. Within the index components, more significant increases were recorded in domestic producer prices, in particular in the production of electricity, heating and gaseous fuels, followed by the production of refined petroleum products and food products. The annual growth rate of PPI slowed down in the fourth quarter, reaching 23.3 per cent in December 2022, mainly driven by the developments in oil and natural gas prices in international markets. Higher international market prices of non-energy commodities (excluding metals), as well as higher firms' labour costs as compared to the same period of the previous year, were other factors which continued to exert upward pressure on firms' production costs and selling prices.

Producer price indices in services also reported strong annual growth in all sub-sectors in the third quarter of 2022. The largest growth on an annual basis was reported in freight handling (21.6 per

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

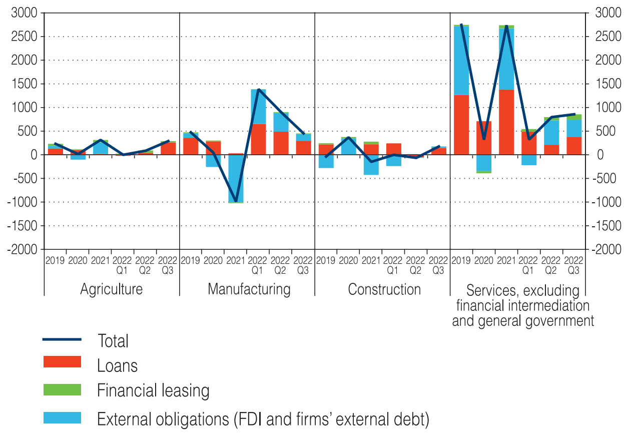
(per cent; percentage points; on an annual basis; non-seasonally adjusted data)



Sources: NSI, BNB calculations.

Financing Sources*

(million BGN, volume change)

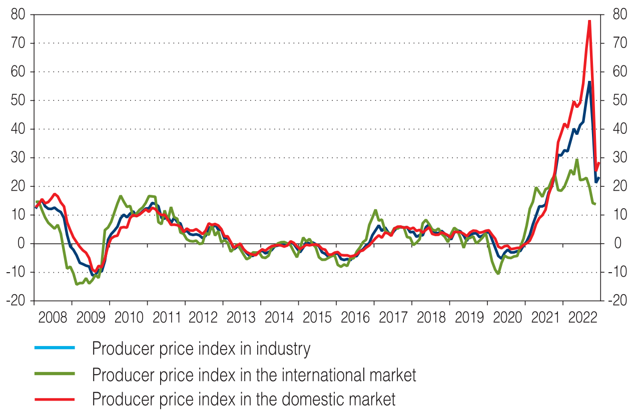


* Sources of financing other than the gross operating surplus.

Source: BNB.

Rate of Change of Producer Price Index in Industry

(per cent; on an annual basis)



Source: NSI.

cent), maritime transport (20.1 per cent), and freight transport by road (19.9 per cent).

Selling prices in the retail trade sub-sector[59], which is the closest to the customers in the supply chain, continued to rise. Annual growth in the NSI retail price index (excluding trade in motor vehicles and motorcycles) reached 17.1 per cent in November 2022 (20.8 per cent in the third quarter of 2022).

Economic Indicators

Overall, NSI short-term business statistics indicators point to a continuous quarter-on-quarter increase in firms' economic activity in the fourth quarter of 2022.[60]

BNB seasonally adjusted data show that in the fourth quarter of 2022, the overall business climate indicator improved on the previous quarter, reflecting the contribution of the manufacturing, construction and services sectors, whereas in retail trade this indicator worsened. Available data for January 2023 signal that the business climate will continue to improve in the first quarter of the year. Between October 2022 and January 2023, the uncertain economic environment and labour shortage remained the main factors hampering business activity. In line with the more optimistic managers' assessments of the future economic situation in Bulgaria, improved sentiment about staff employment was reported for the total economy.

NSI data on short-term business statistics on output and turnover in manufacturing, retail trade, services and construction production for October–November 2022 give grounds to expect divergent developments about the value added in the respective economic sectors in the fourth quarter of the year – a quarter-on-quarter decline in manufacturing and services (excluding trade) and in retail trade and construction.

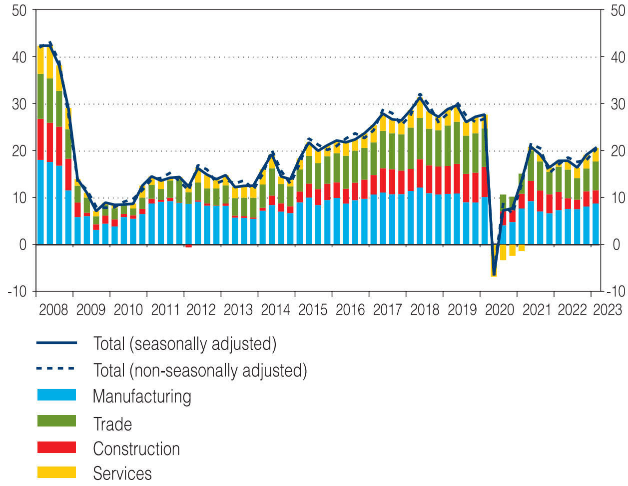
The industrial production index decreased on average for the October–November 2022 period, while the indicator continued to increase at a slower pace on an annual basis. The annual growth in economic activity was due to manufacturing, while mining and quarrying and production and distribution of electricity, heating and gas reported a year-on-year decline. According

[59] NSI data on retail prices for 2022 are up to November.

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

Business Climate

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

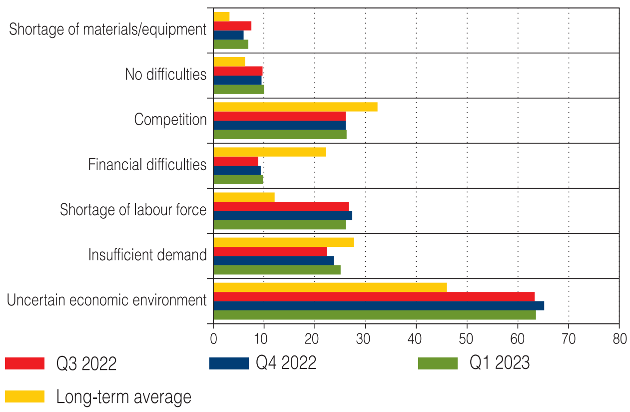


Notes: The answers to the NSI survey questions are presented in a three-tier category scale: 'increase', 'unchanged', 'decrease'. Balances of opinions are calculated as a difference between relative shares of extreme options of replies: 'increase' minus 'decrease'. The business climate indicator is a geometric average of the balances of opinions about the current and expected business situation in corporations in the next six months. Data for the first quarter of 2023 are for January.

Sources: NSI, BNB calculations.

Factors Hampering Economic Activity of Corporations

(relative share of all corporations)



Notes: 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 first quarter of 2023 are for January.

Sources: NSI, BNB calculations.

to nominal turnover data, growth in economic activity in manufacturing was supported by an increase in sales in real terms in international markets. In the October–November 2022 period, retail trade volumes at constant prices increased on the third quarter of 2022, whereas their annual rate of growth moderated. These changes are in line with the reported improvement in consumer confidence, higher fiscal transfers to households[61] in the fourth quarter of 2022 and the low propensity of households to save in the context of strongly negative real interest rates on deposits. The services production index (excluding trade) rose on a quarter-on-quarter basis in the October–November 2022 period, which was reflected in an acceleration in the annual growth of the indicator. Across sub-sectors, the most sizeable economic activity growth on an annual basis was recorded in services related to hotels and restaurants (37.7 per cent). Between October and November 2022, construction production reported a relatively strong increase compared with the third quarter of the year. As a result, the construction production index recorded growth on an annual basis (compared with a decline in the third quarter of 2022), which was due to both building and civil/engineering construction. The NSI business climate survey suggests that in the fourth quarter of 2022 and January 2023 the uncertain economic environment, commodity prices and labour shortages remained the main impeding factors for construction firms.

4.4. Household Behaviour

Household Income

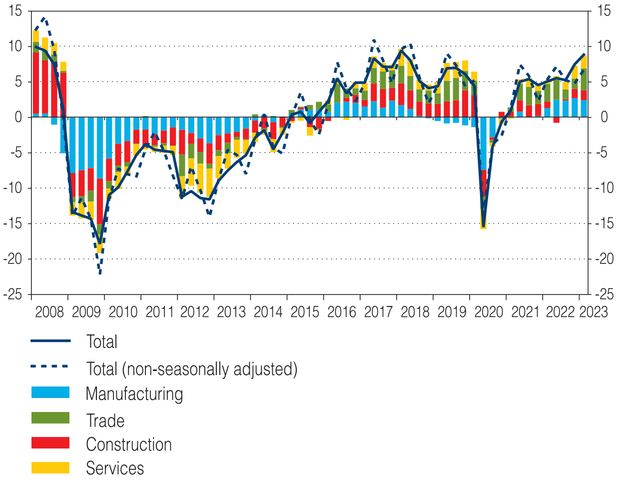
Household income continued to rise in both nominal and real terms. The resulting total household income[62] in nominal terms rose by 21.1 per cent on an annual basis in the third quarter of 2022, with the main contribution to the increase in pensions, followed by a rise in wage income. Household income from withdrawn

[61] The recalculated amount of pensions for employment and the increase in the maximum amount of pensions to BGN 3400, in force since 1 October 2022, contributed to this. See also the Fiscal Policy Effects on the Economy section in this Chapter.

[62] 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 loans. For more details, see NSI's methodology on the Household Budget Survey.

Corporations' Expectations about Staff Recruitment in the Following Three Months

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

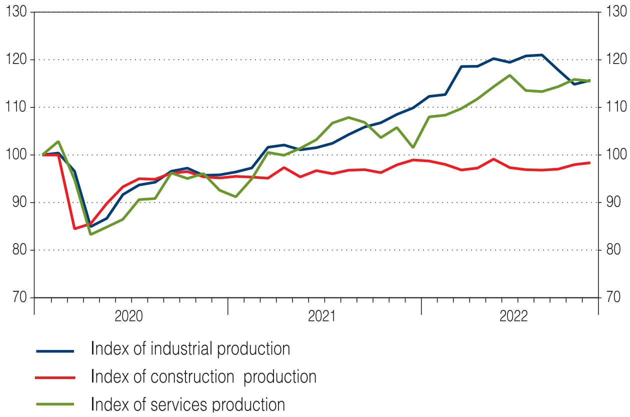


Notes: The answers to the NSI survey questions are presented in a three-tier category scale: 'increase', 'unchanged', 'decrease'. Balances of opinions are calculated as a difference between relative shares of extreme options of replies: 'increase' minus 'decrease'. Data for the first quarter of 2023 are for January.

Sources: NSI, BNB calculations.

Dynamics of the Production Index in Manufacturing, Construction and Services

(January 2020 = 100; seasonally adjusted data)



Sources: NSI, Eurostat, BNB calculations.

savings also reported an increase on an annual basis in the third quarter of 2022, while the amount of borrowings and loans posted a year-on-year decline.

Annual growth of total household income also accelerated in the third quarter of 2022 in real terms[63], reaching 5.1 per cent. Pension income went up by 25 per cent in real terms on an annual basis in the third quarter of 2022, while wage income declined in real terms for the second consecutive quarter (down by 3.9 per cent on an annual basis). The stronger increase in total household income in real terms against the backdrop of a fall in wage income, which accounts for the major share of total income, was due to an increase in alternative sources of income for households, such as pensions, property income, sales income and social benefits.

In line with stronger total income growth, households' real disposable income growth also accelerated to 6.7 per cent on an annual basis in the third quarter of 2022, compared with an annual increase of 4.3 per cent in the second quarter of the year.

Household Expenditure

The continuous rise in consumer prices led to an increase in total nominal household expenditure[64] of 23.8 per cent on an annual basis in the third quarter of 2022. Consumer expenditure, which accounted for 84.6 per cent of total household expenditure for this quarter, went up by 25.8 per cent on an annual basis, with food and soft drinks contributing most to this increase, followed by spending on housing, water, electricity, and fuel. Although the annual growth of tax and social security expenditure also accelerated, the downward trend in their share in total household expenditure continued for the third consecutive quarter.

According to the NSI Household Budget Survey, consumer expenditure growth accelerated to 9.3 per cent in real terms[65] on an annual basis in the

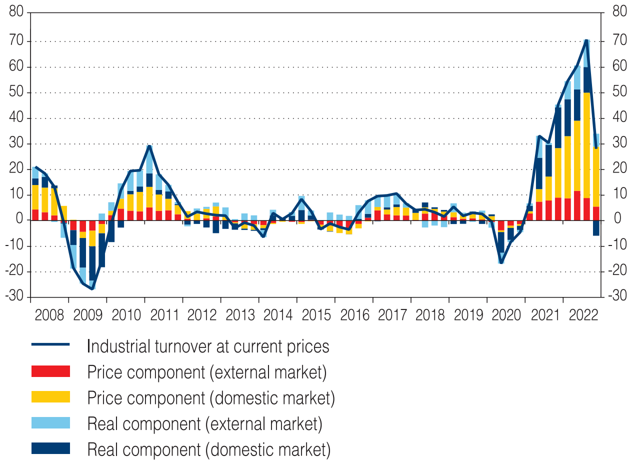
[63] To obtain total income, pensions and wage using different statistics, nominal values are deflated by the HICP.

[64] Total expenditure includes 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.

[65] Household consumer expenditure are deflated by overall HICP. Sub-components of consumer expenditure are deflated by the corresponding HICP groups.

Industrial Turnover Dynamics

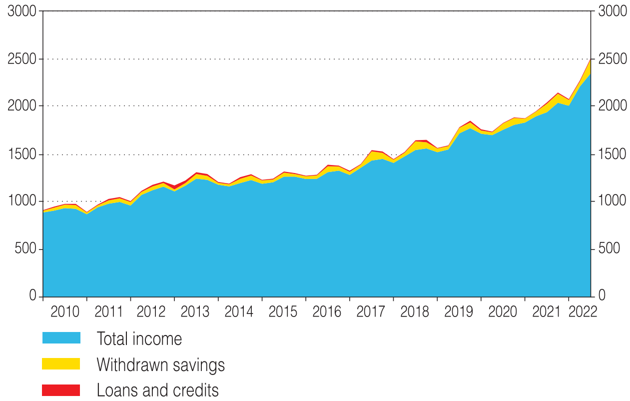
(per cent; percentage points; on an annual basis; non-seasonally adjusted data)



Note: Data for the fourth quarter of 2022 are up to November.
Sources: NSI, BNB calculations.

Household Income

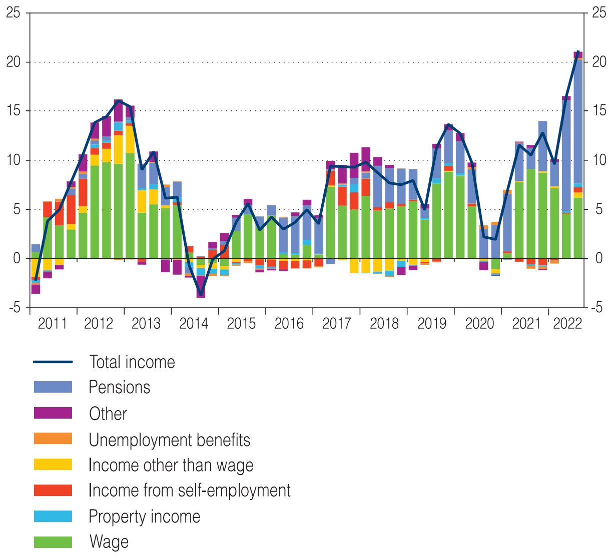
(BGN, monthly average *per* person)



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.

third quarter of 2022, compared with 5.2 per cent growth in the second quarter of 2022. All types of expenditure recorded an increase in real terms, with health expenditure remaining the largest contributor to the reported annual growth in the third quarter of 2022.

The NSI national accounts data on private consumption, which have a broader scope compared to consumer expenditure according to the Household Budget Survey, also reported an acceleration of real growth to 4.2 per cent on an annual basis in the third quarter of 2022.

Household Savings

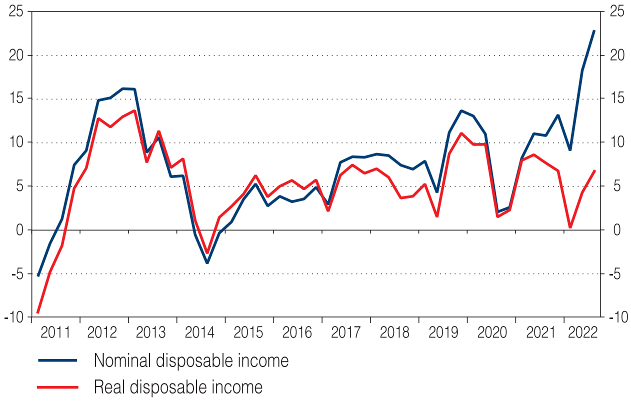
The NSI Household Budget Survey shows that the propensity of households to save[66] part of their income[67] decreased slightly to 8.4 per cent (seasonally adjusted data) in the third quarter of 2022, from 8.7 per cent in the previous quarter. The accumulated household net assets in the banking system[68] also continued to decline due to the higher growth in loans to households than that in their deposits. As a result, the tendency toward withdrawals from the banking system to support household consumption which was observed since the second quarter of 2021 continued in the third quarter of 2022.

4.5. Fiscal Policy Effects on the Economy

The third quarter of 2022 saw a more limited direct fiscal policy impact on economic activity due to a slowdown in government consumption growth amid a continued, albeit shrinking, year-on-year government investment decline. At the same time, the indirect impact of fiscal policy on economic activity in Bulgaria increased reflecting both the measures taken to support household disposable income through higher social benefits

Household Disposable Income

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

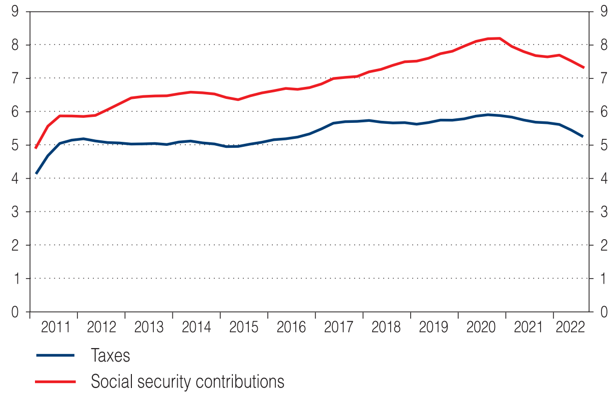


Note: Real disposable income of households represents total income reduced by taxes, social security contributions and regular transfers to other households, HICP deflated.

Sources: NSI – Household Budget Survey, BNB calculations.

Shares of Taxes and Social Security Contributions in Total Household Expenditure

(per cent, BGN average *per* person)

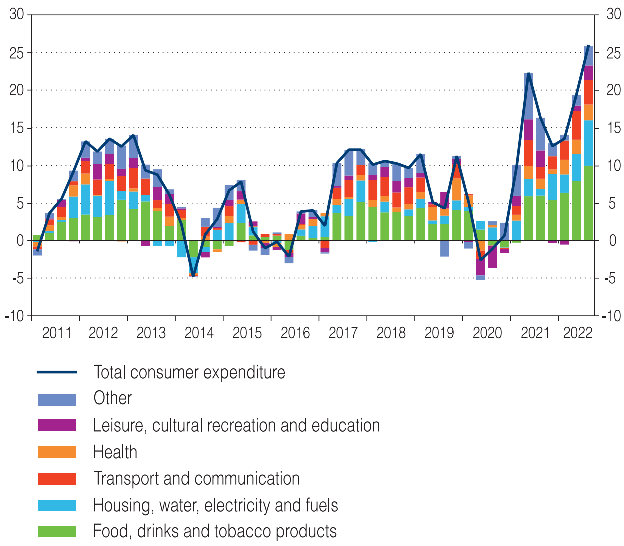


Note: A moving average for the last four quarters is used in order to adjust the data and show the trend in the developments.

Source: NSI – Household Budget Survey.

Contribution to the Change in Households' Consumer Expenditure

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



Sources: NSI – Household Budget Survey, BNB calculations.

[66] 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.

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

[68] Based on BNB monetary statistics, 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).

and the support to the firms' financial position through higher subsidy spending.[69]

Social expenditure growth continued to accelerate and reached 20.8 per cent on an annual basis in the third quarter of 2022.[70] The increased pension amount, effective as of 25 December 2021[71], and the payment of monthly allowances thereto, effective as of 1 July 2022[72], contributed to the social expenditure dynamics. The annual growth of subsidy expenditure accelerated notably over the third quarter of 2022 and came to 282.5 per cent, reflecting mainly the measure for repayment of compensations to non-household end-users of electricity outside the regulated market, introduced due to high electricity prices.[73] The annual growth of government consumption expenditure slowed down to 13.7 per cent in nominal terms in the third quarter of 2022, largely due to intermediate consumption expenditure, whose growth moderated to 23.2 per cent. Government consumption growth also decelerated in real terms and came to 3.8 per cent on an annual basis (from 11.6 per cent in the second quarter of 2022). In the third quarter of 2022, general government fixed capital investment continued to decline year on year in nominal and real terms, despite the

[69] The fiscal measures laid down in the Law on Amendment to the State Budget Law for 2022, adopted by the National Assembly on 30 June 2022, such as the increased amount of tax relief for children, the exemption from excise duty on electricity, liquefied petroleum gas and natural gas, the introduction of a reduced 9 per cent VAT rate for heating and natural gas supplies, the introduction of a zero VAT rate for bread supply, as well as the provision of compensations to natural persons who are end-users of certain transport fuels, also had an additional indirect impact on the economic activity Bulgaria.

[70] Social benefits other than in kind from quarterly non-financial accounts of the general government sector are considered.

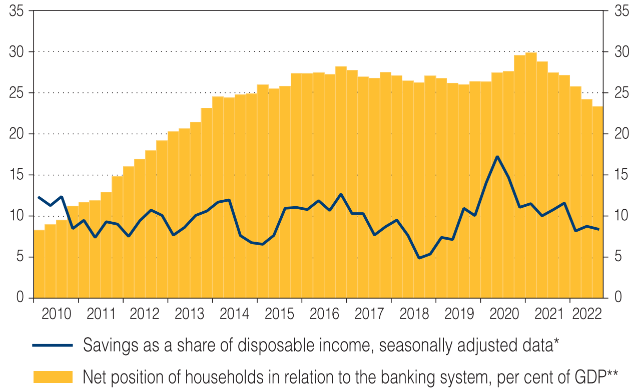
[71] Pensions were raised by increasing the weight of each year of the length of service in the pension formula from 1.2 to 1.35 per cent in 2017 and by increasing the minimum and maximum pension amounts to BGN 370 and BGN 1500 respectively.

[72] The additional increase in the amount of pensions from 1 July 2022 was achieved by increasing the basic pension of all pensioners by 10 per cent and by adding to the increased basic pension amount the monthly allowance of BGN 60 (the so-called COVID-19 allowance), as well as by increasing the minimum and maximum pension amounts to BGN 467 and BGN 2000, respectively.

[73] 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-domestic electricity end-customers in the amount of 100 per cent of the difference between the real average monthly exchange price of the day-ahead segment of the Independent Bulgarian Energy Exchange EAD for the respective month and the base price of BGN 250/MWh, when the real price exceeds the base price, for the 1 July 2022 to 31 December 2022 period.

Household Propensity to Save

(per cent)



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. Based on BNB monetary statistics, 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).

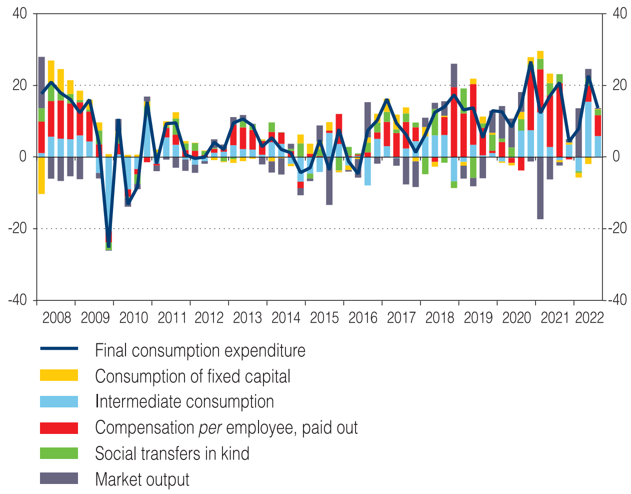
* NSI data. BNB seasonally adjusted data.

** BNB and NSI data. Nominal GDP data for the last four quarters up to and including the third quarter of 2022 are used to calculate the ratio to GDP.

Sources: NSI Household Budget Survey, BNB.

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

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



Sources: NSI, BNB calculations.

reported contraction as compared to the previous quarter. The delay in the implementation of major infrastructure projects due to the political uncertainty in Bulgaria is likely to continue to contribute to the subdued government investment dynamics.

Annual growth of total expenditure under the consolidated fiscal programme (CFP) remained high, but slowed to 17.5 per cent at the end of December 2022 (19.7 per cent as of September 2022). Subsidy expenditure, which went up by 32.8 per cent mainly as a result of the disbursements of energy subsidies to firms, and social expenditure, which rose by 10.3 per cent due to the increase in the amount of pensions paid, contributed most to the annual growth of total expenditure as of December 2022.[74] By the end of December 2022, annual growth of payroll, operating and capital expenditure accelerated on the end of September 2022. These developments indicate that government consumption and government investment are likely to have supported the economic activity in Bulgaria in the fourth quarter of 2022.

At the end of December 2022, total Consolidated Fiscal Programme revenue grew by 23.7 per cent on an annual basis, with accelerating growth compared to the end of September (18.9 per cent) largely due to the first tranche of BGN 2.6 billion under the National Recovery and Resilience Plan received in December.[75] As of December 2022 tax revenue contributed most to the total Consolidated Fiscal Programme revenue, driven mainly by the strong increase in VAT revenue from imports.

The CFP budget balance for 2022 was negative: BGN 1347.3 million (0.9 per cent of GDP[76]). The realised CFP balance at the end of the year reflected the disbursement of BGN 1.2 billion for pension allowances reported as cash expenditure in December 2021 and for energy subsidies in 2022, which are not reflected as cash-based budget expenditure.

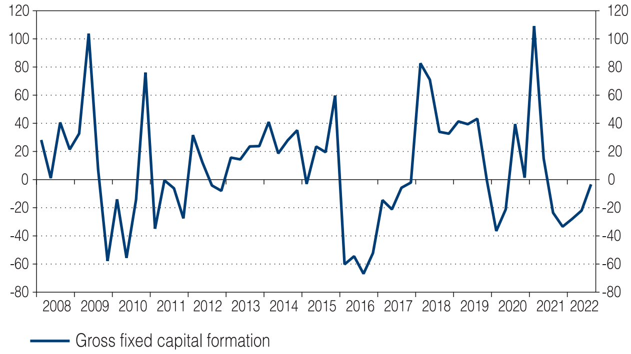
[74] As of 1 October 2022, an additional recalculation of pensions and an increase of the maximum amount of pensions to BGN 3400 have entered into force. For more information, see the Determination of the Amount for Granting and Recalculation of Old-age Pensions section on the National Social Security Institute website.

[75] For more information, see the press release of 16 December 2022 published on the Ministry of Finance website

[76] Nominal GDP data for the last four quarters up to the third quarter of 2022 are used in calculating the ratio.

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

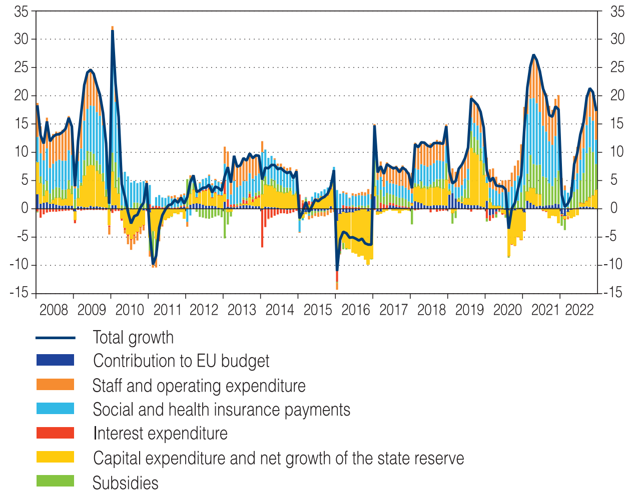
(per cent; on an annual basis)



Source: 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: MF, BNB calculations.

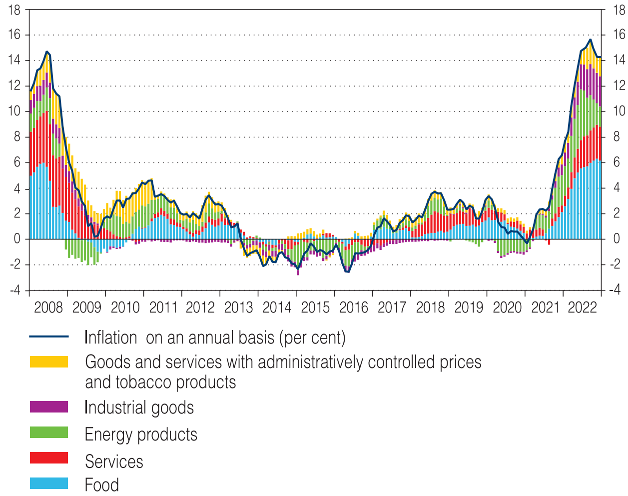
5. Price Developments

5.1. Consumer Prices

Following a substantial acceleration in annual consumer price growth in the first nine months of 2022 (to 15.6 per cent in September), inflation slowed somewhat in the fourth quarter and stood at 14.3 per cent in December 2022. These developments reflected mainly direct effects of the significant deceleration in annual oil and gas price growth in international markets recorded at the end of 2022. Food inflation stood at a high level in the fourth quarter of 2022 and continued to contribute most substantially to headline inflation. Concurrently, inflation in services accelerated further by the close of 2022. In December 2022 approximately 65 per cent of the groups of goods and services in the consumer basket experienced double-digit inflation (compared to 14 per cent of the groups at the end of 2021). These developments show that inflationary pressures in the economy remained strong at the end of 2022, despite the weakening of the pro-inflationary influence of the external environment due to energy prices. Factors related to the internal macroeconomic environment contributing to high inflation throughout 2022 involved growth in unit labour costs[77] and the increase in household final consumption expenditure. Fiscal policy has had a divergent impact on inflation across HICP groups. In 2022 a number of discretionary measures in the form of subsidies on individual products and reductions in indirect taxes (excise rates and VAT), focused mainly on energy commodities and food, were launched to mitigate the pro-inflationary impact of the international

Inflation and Contribution of Major Commodity and Services Groups to It

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



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

Sources: NSI, BNB calculations.

[77] In the first nine months of 2022 the overall economy exhibited accelerated annual growth of nominal unit labour costs to 14.9 per cent, and this trend is likely to be sustained in the fourth quarter of 2022. For details, see the Labour Market Section in Economic Activity Chapter 4.

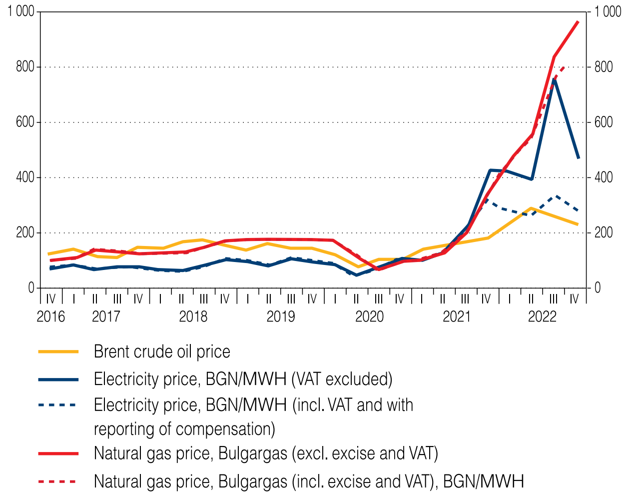
environment.[78] Concurrently, higher annual net fiscal transfers to households and higher wages in the budget sector supported private consumption growth and were a prerequisite for accelerated inflation in more demand-sensitive HICP components, such as services. Monetary conditions in the country were another factor with a potential pro-inflationary effect, as the strongly negative real deposit and loan rates supported further private consumption growth.

Energy Products Prices

The upward trend in inflation of energy products (excluding those with controlled prices) was reversed in the second half of 2022, with annual price growth in this group amounting to 15.9 per cent in December (against 35.0 per cent in December 2021). This dynamics was mainly driven by transport fuel prices, which were impacted by slowing annual growth of oil prices in international markets, as well as by the extension until the end of 2022 of the compensation measure launched by the government in July 2022 (in the amount of 0.25 BGN/litre) for the most widely used motor fuels.[79] Similar to transport fuels, prices of gaseous fuels (LPG gas) for households also showed a downward trend in annual inflation to 6.5 per cent at the end of 2022, from 29.9 per cent in December 2021. Concurrently, inflation of solid heating fuels remained relatively high at the end of 2022 (54.2 per cent) and this sub-group continued to make a significant positive contribution to energy product inflation despite its small weight in the consumer basket.

Primary Energy Commodity Prices

(index, Q4 2020 = 100)

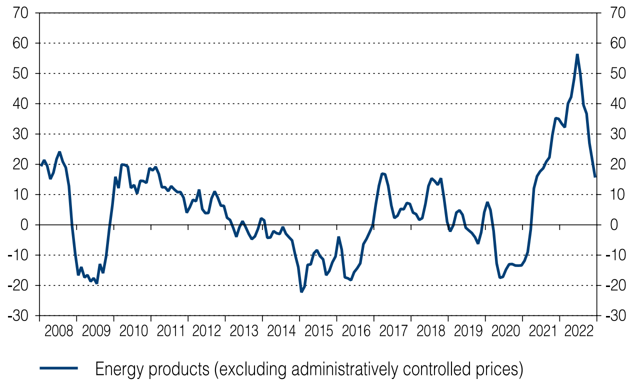


Notes: The electricity price refers to the day ahead segment of the Independent Bulgarian Energy Exchange EAD (IBEX).
The price of natural gas sold by Bulgargas EAD does not include prices for access and transmission through the gas transmission networks.

Sources: ECB, IBEX, EWRC.

Rate of Change of Energy Commodity Price Index

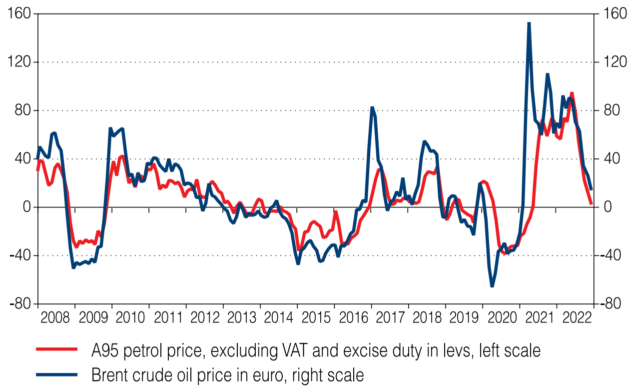
(per cent, on an annual basis)



Sources: NSI, BNB calculations.

Rate of Change in Brent Crude Oil and A95 Petrol Prices

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



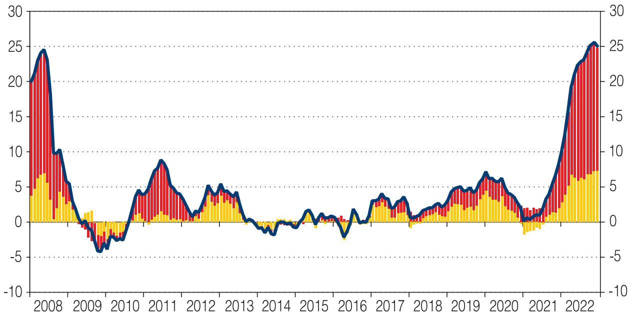
Sources: ECB, NSI, BNB calculations.

[78] According to Eurostat HICP data 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 was 0.6 percentage point lower annual inflation as of December 2022. However, the actual effect is likely to be lower, as detailed data from the consumer basket provide indications of incomplete cary-over of fiscal measures on consumer prices of certain goods.

[79] The compensation scheme was extended until the end of 2022 by Decree on the approval of additional expenses under the 2022 budget of the Ministry of Finance (in Bulgarian only).

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

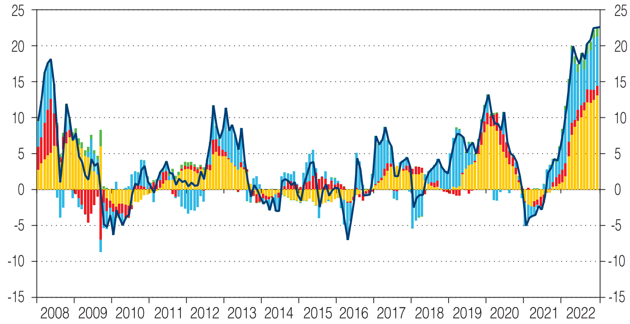
(per cent, on an annual basis)



Sources: NSI, BNB calculations.

Contribution of Major Sub-groups to Unprocessed Food Inflation

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



Sources: NSI, BNB calculations.

Food Prices

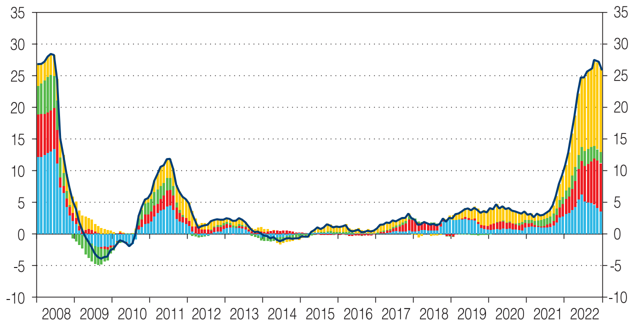
Food inflation rose to 25.0 per cent in December 2022 (8.1 per cent at the end of 2021). This group made the largest positive contribution to headline inflation, which was attributable both to processed and unprocessed food.

Unprocessed food prices posted year-on-year growth of 22.3 per cent in December 2022 (6.0 per cent in December 2021). The sub-groups of meat and meat products and fruit and vegetables contributed most to the price rise in unprocessed food, which can be explained by higher import prices of these products[80], as well as by increased expenditure on domestic production due to higher prices of products and services used for intermediate consumption in agriculture.

Annual inflation in the group of processed food reached 26.3 per cent in December 2022 (compared with 9.2 per cent at the end of 2021). The sub-group of milk, dairy products and eggs made the largest positive contribution followed by bread and cereals, and sugar and sugar confectionery sub-groups. The price hikes of these food products were prompted by the upward dynamics of import prices[81], as well as by the increase in producer prices in manufacturing amid substantially higher prices of agricultural produce in Bulgaria and firms' higher costs on wages, electricity, fuels and other materials.

Contribution of Major Sub-groups to Processed Food Inflation

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



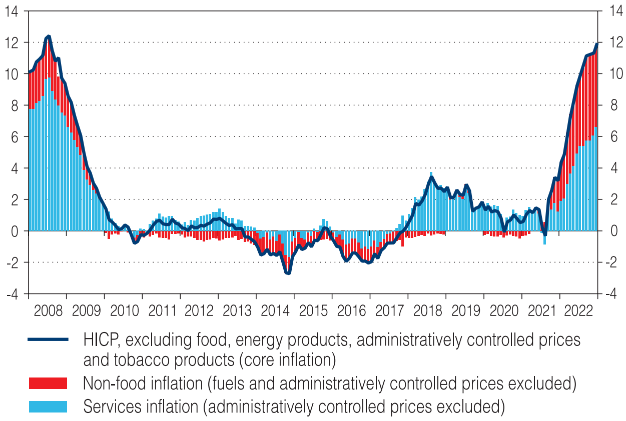
Sources: NSI, BNB calculations.

[80] The analysis employs Eurostat monthly data available until October 2022.

[81] The analysis employs Eurostat monthly data available until October 2022 and the Commodity Exchange and Wholesale Markets State Commission public data until December 2022.

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

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



Sources: NSI, BNB calculations.

Core Inflation

Core inflation, which includes prices of services and non-food goods, followed a trend toward a steady acceleration throughout 2022, reaching 11.9 per cent in December (compared to 3.2 per cent at the end of 2021). Price increases in both non-food goods and services contributed to these developments.

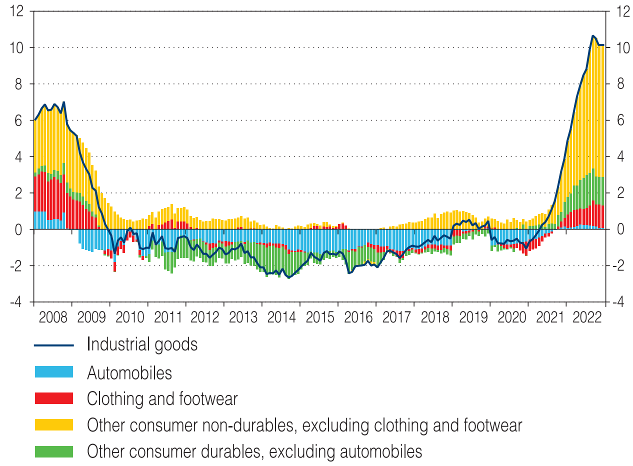
Non-food inflation stood at 10.1 per cent in December 2022 compared with 3.9 per cent at the end of 2021. These developments were mainly driven by the sub-group of non-durable goods, including articles and products for personal care, spare parts and automobile accessories, clothing and footwear, household goods, materials for the maintenance and repair of the dwelling. Furniture and furnishing and major household appliances had the largest positive contribution to the price increase in the group of durable goods. Increased prices in these HICP sub-groups were a result of growth in household final consumption expenditure[82], 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 13.9 per cent in December 2022 compared to 2.5 per cent at the end of 2021. The major factor behind the dynamics in this group was the impact of higher food and fuel prices on catering and transport services prices. Other sub-groups with a significant positive contribu-

[82] According to NSI data, in November 2022 real volumes of retail trade in non-food goods (excluding trade in motor fuels and lubricants) increased by 8.8 per cent year on year (13.8 per cent in December 2021).

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

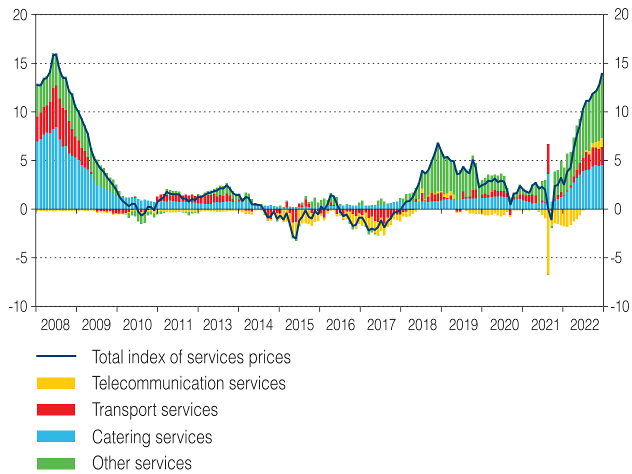
(per cent, percentage points, on an annual basis)



Sources: NSI, BNB calculations.

Contribution of Major Sub-groups to Inflation in Services

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



Sources: NSI, BNB calculations.

tion to price growth involved package holidays and accommodation, communication, short-stay accommodation services, motor vehicle repair and maintenance services, financial services and house rentals. Potential factors with a pro-inflationary effect on the dynamics of these prices were the strong consumer demand of households, rising unit labour costs and increased prices of major energy sources.

Goods and Services with Administratively Controlled Prices and Tobacco Products

Inflation in goods and services with administratively controlled prices and tobacco products accelerated to 6.9 per cent in December 2022, from 3.0 per cent by end-2021. This was mainly due to the price rise of medicinal products[83], which had the highest positive contribution to inflation in the group of administratively controlled prices at the end of 2022. Other goods and services with regulated prices which indicated a steadily accelerating price rise throughout 2022 and contributed substantially to inflation in December 2022 were water supply, waste collection and sewerage services, heating[84], postal services and inland public transport. Central gas supply prices also recorded year-on-year growth in December 2022, but this sub-group's contribution to headline inflation declined significantly from the end of 2021 in line with developments in natural gas prices in international markets in the fourth quarter of 2022. Factors limiting the increase in regulated energy prices for households in the second half of 2022 were the VAT reduction of heating and natural gas supply prices from 1 July 2022 (effective until 31 December 2023), as well as the excise duty exemption for electricity, liquefied petroleum gas and natural gas (effective until 30 June 2025).

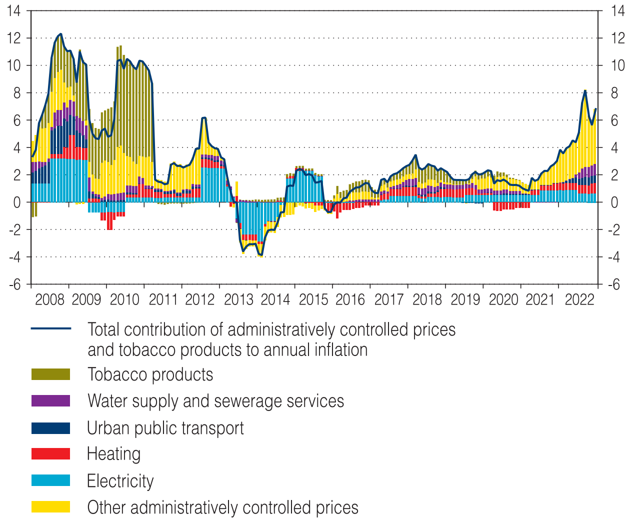
In December 2022 the diffusion index, showing the share of groups of goods and services with rising prices on an annual basis, came to 89.5 per cent. With regard to the amount by which prices rose, the share of of goods and services with inflation of over 5 per cent on an annual basis stood at 80.2 per cent in December 2022, from 37.2 per cent at the end of 2021.

[83] Medicines included in the so-called positive drug list posted the strongest price increase. These are medicines with prices administratively set by the National Council on prices and reimbursement of medicinal products based on the lowest producer price in the European Union and percentage overcharge.

[84] For further information, see the EWRC's decisions of July 2022 on prices of heating and electricity for households.

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

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

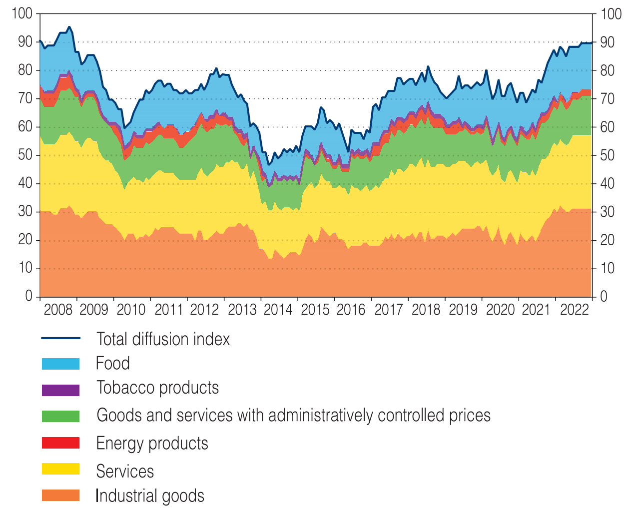


Sources: NSI, BNB calculations.

Diffusion Index

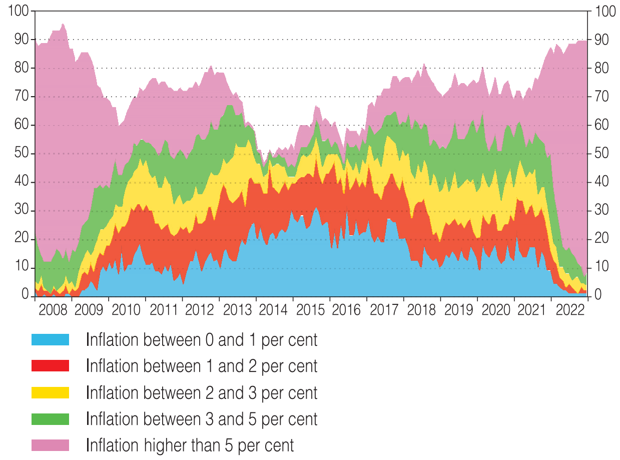
a) relative shares of increasing HICP sub-indices on an annual basis by major group of goods and services

(per cent)



b) relative shares of increasing HICP sub-indices on an annual basis by 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: NSI, BNB calculations.

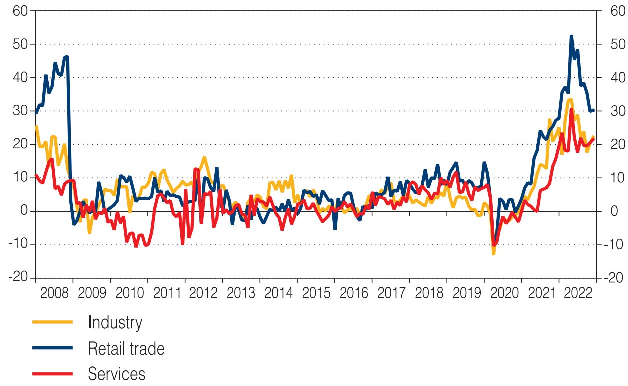
Inflation Expectations

Regular NSI surveys on the business environment in Bulgaria show that in the fourth quarter of 2022 the share of managers, who expect a stagnation in selling prices over the coming three months, has increased and the share of managers who expect a rise has decreased from the third quarter of 2022. Concurrently, in the fourth quarter of 2022 retail trade managers forecasting price hikes reported attitudes towards a slowdown in the growth rates of prices compared to those observed in the previous quarter, which is a prerequisite for similar dynamics also in food and non-food goods inflation over the following months.

Based on managers' expectations of selling prices and the assumptions about changes in international commodity prices and labour market developments, inflation in the first half of 2023 is projected to gradually slowdown. Projected substantial growth in unit labour costs and private consumption, high industrial goods inflation in Bulgaria's main trading partners, as well as the removal of some of the fiscal measures[85] introduced by the government are expected to remain factors with a pro-inflationary effect.

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

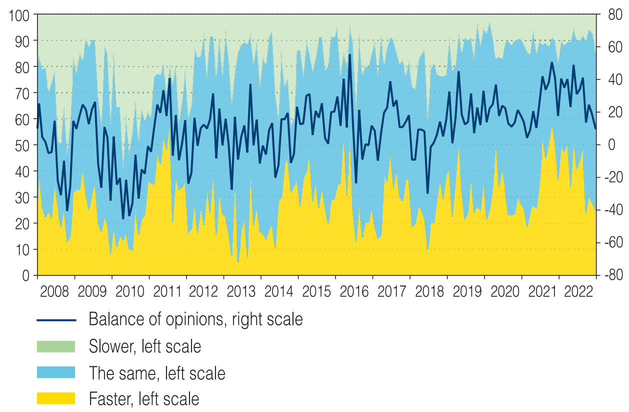
(balance of opinions)



Source: NSI.

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

(share of managers, per cent) (balance of opinions)



Source: NSI.

[85] This refers to the compensation of consumers for the price of motor fuels (0.25 BGN/litre). For further details, see the BNB Macroeconomic Forecast, December 2022.

Key Indicators of the Housing Market Developments in Bulgaria

(per cent; year-on-year change)

Indicators	2018	2019	2020	2021	2021	2022		
					IV	I	II	III
Price developments								
House price index, total	6.6	6.0	4.6	8.7	9.4	11.5	14.6	15.6
New dwellings	5.7	8.5	2.2	7.7	8.4	8.7	12.3	12.6
Existing dwellings	7.0	4.8	6.0	9.2	10.0	13.3	16.0	17.4
Inflation (HICP)	2.6	2.5	1.2	2.8	6.0	8.9	13.4	15.2
House rentals, paid by tenants (HICP)	1.9	3.3	2.5	1.7	1.9	4.3	6.2	7.1
Lending								
New housing loans	14.9	12.4	18.1	24.0	37.4	47.0	36.5	30.8
Annual percentage rate of charge on new housing loans (per cent, at the end of the period)	3.9	3.5	3.2	3.0	3.0	2.9	2.9	2.8
Housing loans balances	19.4	0.0	-15.5	14.4	17.6	17.1	17.0	16.9
Construction and investment								
Permits issued for the construction of new residential buildings (square meters)	39.0	-7.9	-9.0	0.0	23.7	13.9	43.3	55.5
Value added in construction (at average annual prices for 2015)	1.1	3.7	-1.0	0.0	-28.8	-4.2	-12.1	-17.7
Constriction Production Index, building construction	2.6	8.4	-8.3	0.8	3.0	5.1	2.7	0.3
Fixed investment; residential buildings	-3.3	-10.3	102.1	19.2	-13.0	-0.6	-4.4	6.1
Construction cost index for new buildings	2.9	5.1	2.1	12.2	18.5	24.2	56.7	67.8

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 rate of new home purchase loans, cumulative data for the last 12 months were used.
The strong growth of Fixed Investment; Residential Buildings item, in 2020 is explained by repayments under the National Programme for Energy Efficiency of Multi-family Residential Buildings.

Sources: NSI, BNB, Eurostat.

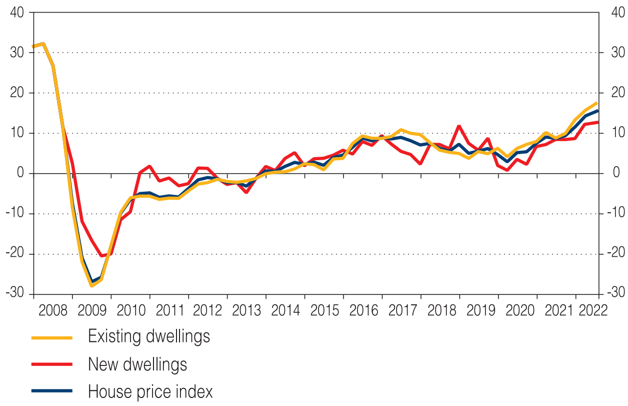
5.2. Housing Prices

In the third quarter of 2022 the annual growth rate of the house price index (HPI) was 15.6 per cent, which was also accompanied by an increase in the volume of concluded sale and purchase transactions (by 7.1 per cent on an annual basis). Price increases were broad-based across regional cities and reflected the simultaneous price hikes of existing (17.4 per cent) and new (12.6 per cent) housing. Factors still 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, further acceleration of annual growth in the construction cost index[86] to 67.8 per cent in the third quarter of 2022, which corresponded to the retained shortage of some construction materials and the increase in their prices, was

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.

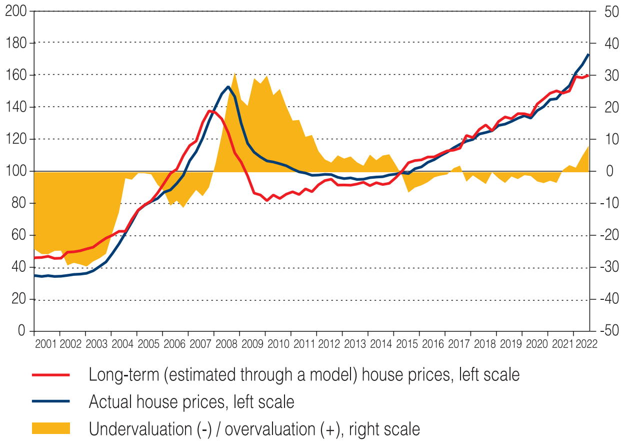
Source: NSI.

[86] Eurostat data are used.

a significant supply-side pro-inflationary factor[87]. Over the third quarter of 2022 the price-to-rent ratio, which is a frequently used indicator of undervaluation/overvaluation of houses, continued to exceed significantly (by 35.2 per cent) its long-term (historical) average value.[88] This signals that household decisions to purchase a home were driven by reasons other than ensuring an immediate financial benefit by letting newly acquired properties. Such reasons could be the expectations of a continuing increase in house prices (and realised capital gains after 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 model[89] suggest a significantly lower positive deviation of current residential property prices in Bulgaria from their long-term equilibrium level (about 8.4 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 within the model.

Actual and Equilibrium Housing Prices

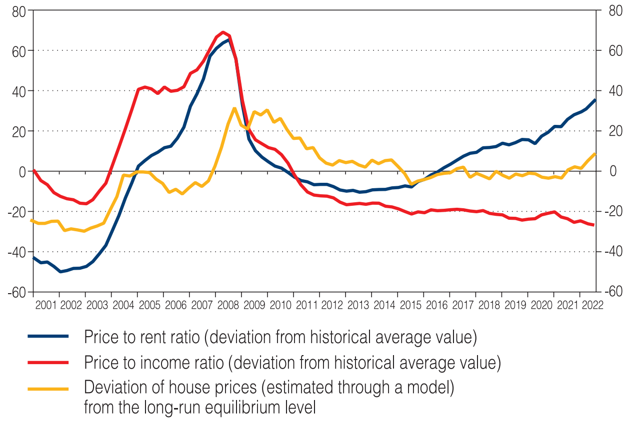
(index 2015 = 100) (per cent)



Sources: NSI, BNB calculations.

Indicators of Undervaluation/Overvaluation of Housing

(per cent)



Sources: NSI, BNB calculations.

[87] According to NSI business situation survey data for Bulgaria.

[88] Calculations for the period from the first quarter of 2000 to the third quarter of 2022.

[89] 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.