Monetary Policy Report
Autumn 2022

Czech National Bank —— Monetary Policy Report —— Autumn 2022

CNB CZECH NATIONAL BANK

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This Monetary Policy Report was approved by the CNB Bank Board on 10 November and (with some exceptions) contains the information available as of 21 October 2022. By means of this document, the CNB fulfils its statutory duty to regularly inform constitutional officials and the public about monetary developments. Unless stated otherwise, the sources of the data are the CZSO or the CNB. All the reports published to date, along with the underlying data, are available on our website. A large part of the data we evaluate in our monetary policy decision-making can be found in the Chartbook, which is a parallel publication to the Monetary Policy Report.

Contents

— We maintain price stability

Under the Constitution of the Czech Republic and in accordance with primary EU law, the primary objective of the Czech National Bank is to maintain price stability. The central bank contributes to sustainable economic growth by maintaining a low-inflation environment. We have been pursuing price stability in an inflation targeting regime since 1998.

— We are transparent

Our monetary policy is based on a publicly announced inflation target of 2% and open communication with the public. We believe that by being transparent and predictable, the central bank assists households and companies in their economic decision-making.

— We look to the future

A decision made by the CNB Bank Board today will affect inflation almost two years ahead. The CNB's forecast describes the most likely future path of the economy as seen by our Monetary Department's economists. The Bank Board is also consulted in the forecasting process. The forecast is produced four times a year and, along with a discussion of related risks and uncertainties, is the key, but not the only, input to the CNB Bank Board's monetary policy decisions.

— We decide on rates

The CNB's main monetary policy instrument is the two-week repo rate. The decision on the level of this rate sends an impulse through the financial market to the whole economy, ultimately affecting inflation in such a way as to keep it close to the target. The Bank Board meets eight times a year to discuss monetary policy issues. When making rate decisions, the members of the Bank Board discuss the current forecast and assess the newly available information and the risks and uncertainties of the forecast.

Governor’s foreword

Dear Readers,

It is my pleasure to present the autumn issue of the Monetary Policy Report. The Report is one of the main inputs to the Bank Board’s decision-making on CNB monetary policy.

At our November meeting, my Bank Board colleagues and I kept interest rates unchanged. The two-week repo rate remains at 7%, the highest level since 1999. Five members voted in favour of this decision, and two members voted for increasing rates by 0.75 percentage point. The Czech National Bank will continue to prevent excessive fluctuations of the koruna.

The CNB’s interest rates are at a level that is dampening domestic demand pressures. They are slowing growth in loans to households and firms and hence also in the quantity of money in the economy. The Bank Board states that long-term price stability is also contingent on moderate wage bargaining demands and responsible fiscal policy. The Bank Board will wait for further data and will assess them. It will decide at the next meeting whether rates will remain unchanged or increase.

The decision adopted is underpinned by a new macroeconomic forecast, which is presented in detail in this Report. The monetary policy horizon in the baseline scenario of the forecast is spring 2024, as in the previous forecast. The Bank Board also discussed other scenarios.

At the same time, the Bank Board confirmed its determination to continue fighting inflation until it is fully under control, i.e. stabilised at the 2% target. This means interest rates will remain relatively high for some time.

The Bank Board assures the public that the CNB’s actions will be sufficient to restore price stability in accordance with its statutory mandate. In addition, the Bank Board is ready to react appropriately to any materialisation of the risks of the forecast.

On behalf of the Czech National Bank

Aleš Michl

Governor

The decision, and the current outlook and its risks

At its November meeting, the Bank Board kept the two-week repo rate unchanged at 7%. The decision is based on the CNB's autumn macroeconomic forecast. In the baseline scenario of that forecast, due to the recent extraordinary but not escalating external cost pressures, the central bank is currently looking at a monetary policy horizon 15–21 months ahead, i.e. one quarter closer to the time of the decision than in the previous forecast. It is thus setting interest rates with regard to inflation in the first half of 2024, as in the summer forecast. Consistent with the forecast is a rise in market interest rates, followed by a gradual decline in the course of next year. The Czech economy is beginning to cool down in the context of a global slowdown and a drop in households' real income, but domestic and above all foreign inflation pressures remain strong. Inflation will peak at the end of this year. In the course of next year, it will decline rapidly from double-digit levels, due to diminishing growth in costs, cooling external demand and the previous tightening of domestic monetary policy, which are helping to dampen domestic demand and the labour market. In the first half of 2024, inflation will decline close to the CNB's 2% target. The Bank Board assessed the uncertainties and risks of the baseline scenario of the autumn macroeconomic forecast as being significant and going in both directions.

The Czech economy is facing peaking inflation pressures causing further growth in the inflation rate. Housing-related energy prices continued to rise apace in Q3, reflecting still very high prices on energy exchanges. Growing energy costs and high global agricultural commodity prices and domestic agricultural producer prices fostered a further pick-up in food price inflation. By contrast, core inflation did not rise any further in Q3. The exceptionally large contribution of the cost of owner-occupied housing, which reflects prices in the construction and real estate sectors, started to edge down in Q3. Lower oil prices and margins along the entire value chain also led to lower fuel price growth.

The unprecedented growth in total costs faced by Czech firms peaked in Q2 and then eased slightly. Growth in import prices and domestic intermediate goods prices is slackening. The decline in the growth in costs is also due to a fading of the problems in global value chains. Growth in domestic costs is also slowing somewhat on the back of gradually cooling demand, although wage growth remains solid. The practice of domestic producers, retailers and service providers of incorporating growth in costs into their prices – and, in some cases, improving their profit margins on top of that – will cease to grow in intensity. The rising global prices of electricity and gas are gradually affecting firms. Cost pressures in the corporate sector will remain strong by historical standards for the rest of 2022 but will then weaken fairly quickly.

Inflation will peak at the end of this year, averaging more than 18% in Q4. A rise in administered price inflation caused by renewed growth in housing-related energy bills will be partly offset by a waiver of the fees for renewable energy sources. At the same time, the government will partly compensate households for the growth in gas, electricity and heat prices for the rest of 2022 using the energy savings tariff now in place.

At the start of 2023, the government will cap electricity and gas prices to help with the high energy prices. This will reduce the growth in gas prices for households in particular, and administered price inflation will thus start to moderate. However, the other components of inflation will also cool down. A rapid slowdown in inflation to single figures from mid-2023 will be fostered by a further easing of cost pressures and by a cooling of foreign economic growth, domestic demand and the local labour market, reflecting, among other things, tighter domestic monetary policy. Inflation will decline close to the CNB's 2% target over the monetary policy horizon, which for this forecast lies in the first half of 2024.

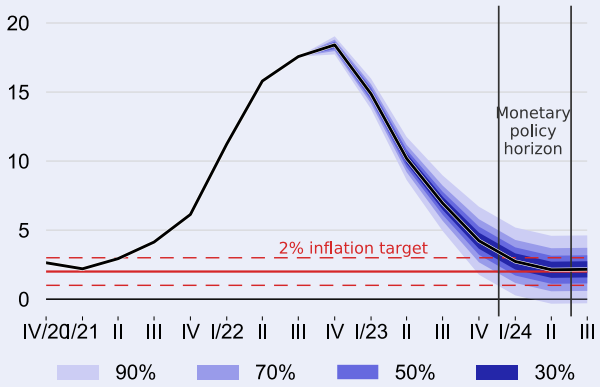
The Czech economy faces persisting problems with global logistics and supplies of materials and components for production, especially in industry. These problems have stopped escalating but remain high in intensity. The forecast assumes that they will keep diminishing and fade out completely in mid-2023. Until then, however, they will drag on Czech exports and total domestic economic activity.

Fiscal policy will dampen economic growth slightly this year. The restrictive effect of the discontinuation of the support measures adopted during the pandemic will be slightly stronger than the pro-growth effect of government expenditure on mitigating the impacts of the high energy prices on households and firms and on supporting refugees. In particular, the extension of some of the energy compensation measures, coupled with growth in social spending, will cause fiscal policy to have a slightly positive effect next year.

Domestic economic activity fell quarter on quarter in Q3. It will switch to a year-on-year decline at the end of the year and keep falling for several quarters. In whole-year terms, the output of the Czech economy next year will be lower than this year. This will be due

Inflation will peak at the end of this year and fall rapidly in the course of next year, declining close to the CNB's 2% target over the monetary policy horizon

headline inflation; y-o-y in %; confidence intervals in colours



In this forecast, the monetary policy horizon is 15–21 months ahead.

The output of the Czech economy will decline next year; economic growth will resume in 2024

y-o-y changes in % (unless otherwise indicated); changes in pp compared to previous forecast in brackets

	2022	2023	2024
Headline inflation (%)	**15.8**	**9.1**	**2.4**
	(-0.7)	(-0.4)	(0.0)
GDP	**2.2**	**-0.7**	**2.5**
	(-0.1)	(-1.8)	(-1.3)
Average nominal wage	**6.3**	**7.7**	**7.0**
	(1.7)	(1.5)	(-0.5)
3M PRIBOR (%)	**6.6**	**7.0**	**5.3**
	(0.4)	(1.8)	(2.2)
Exchange rate (CZK/EUR)	**24.6**	**24.8**	**24.7**
	(-0.2)	(-0.9)	(-0.8)

Green indicates a shift of the forecast to higher levels, or to a weaker koruna exchange rate, compared with the previous forecast. Red indicates a shift in the opposite direction.

to dramatic growth in living costs, a worsening financial situation of households and firms, cooling external demand and persisting global value chain problems. Household consumption will drop owing to falling real income and worsening sentiment. It will be prevented from decreasing more sharply by buoyant wage growth in the private and public sector and by fiscal support in the area of energy prices, repeated pension increases and growth in other social benefits. Faced with great uncertainty and a worse financial situation, firms will rein in investment. By contrast, additions of unfinished products to inventories will remain high in the quarters ahead, amid only slowly fading global logistics problems. Besides these issues, exports will be affected very adversely by a sizeable weakening of euro area demand and an expected renewed rise in energy market tensions at the start of winter 2023/2024. Firms will be able to rapidly complete and export their forced stocks of unfinished products as the production input shortages lessen. The positive contribution of net exports to economic growth will then increase and, together with recovering household consumption, will be the main driver of renewed economic growth in 2024.

The previous overheating of the Czech economy will subside quickly. In an environment of recession, the output of the Czech economy will fall below potential. Labour market tightness will also ease. Job creation will decline and employment will start to fall slightly next year. The current excess demand for labour will thus disappear and the unemployment rate will go up gradually. Despite this, nominal wage growth will be fairly high by historical standards over the next two years. The bargaining position of employees will remain strong for some time. However, the ongoing energy shock, which will hit the currently solid financial situation of firms in late 2022 and early 2023, will limit the room for wage increases. Wages will thus catch up only slowly and partially with the previous growth in prices in the years ahead.

Over the past six months, the koruna has been facing depreciation pressure, which the CNB has countered by intervening occasionally in the foreign exchange market. The exchange rate will stay close to CZK 24.6 to the euro during the autumn and remain broadly flat in the subsequent quarters. Consistent with the forecast is a rise in market interest rates, followed by a gradual decline in the course of next year. In a context of receding inflation pressures in the Czech economy, and with the prospect of inflation falling rapidly to the CNB's 2% target over the subsequent two years, the CNB's interest rates will be able to start decreasing.

The Bank Board assessed the risks and uncertainties of the baseline scenario of the forecast as being significant and going in both directions. The upside risks to inflation include faster-than-forecasted wage growth, more expansionary fiscal policy and a higher outlook for foreign producer prices. The threat of inflation expectations becoming unanchored and the related risk of a wage-price spiral remain significant risks in the same direction. By contrast, the growing likelihood of recession in the Czech Republic and abroad and hence a stronger-than-forecasted slowdown in domestic consumer and investment demand are downside risks. The introduction of additional measures to limit growth in energy prices at the domestic or European level and a faster-than-expected decline in core inflation are additional anti-inflationary risks. The general uncertainties of the outlook include the future course of the war in Ukraine, the availability and prices of energy, and the future monetary policy stance abroad.

I. ECONOMIC DEVELOPMENTS ABROAD

The global economy is losing steam amid unusually high inflation. The expansion of the Chinese economy, which has been the engine of global growth, will slow sharply this year, while the US economy recorded a second consecutive modest decline in GDP in Q2. The effective euro area will also see a slight recession in late 2022/early 2023. The tensions in global supply chains are easing on account of lower growth in global demand. Prices of Brent crude oil and basic metals fell during the summer, mainly on concerns of a decline in global demand. By contrast, natural gas and electricity prices surged on commodity exchanges in Europe during the same period due to the ongoing war in Ukraine. Energy prices are thus the main factor increasing producer and consumer inflation in the effective euro area this year. Inflation is expected to drop next year, but the HICP will remain above the ECB's target for some time. Central banks are expected to continue raising interest rates in the next few months. The euro has recently weakened against the dollar and there are currently no economic or geopolitical reasons for it to strengthen significantly.

The global economy is facing the adverse consequences of the war in Ukraine and the rapid termination of accommodative central bank monetary policies

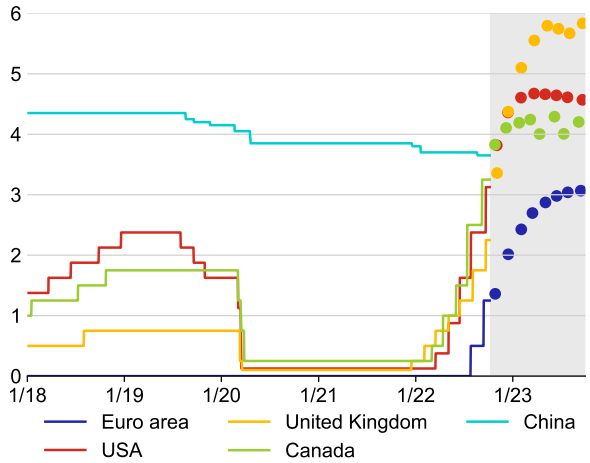
High inflation and extreme growth in living costs are lowering consumers' purchasing power. Central banks are declaring their determination to fight the high inflation by continuing to tighten their monetary policies (see Chart I.1), even at the cost of lower growth or recession. Many advanced countries are preparing government support programmes. However, the sharp rise in debt during the pandemic is causing many governments problems. Emerging countries in particular are also facing problems related to the recent marked appreciation of the dollar. Moreover, European economies are facing high electricity and natural gas prices (see Chart I.2) and a risk of gas shortages during the coming winter. They are also exposed the most to further economic impacts of the war in Ukraine.

The US economy contracted slightly for the second consecutive time in Q2, but employment and industrial production continue to rise robustly. According to Fed Chair Jerome Powell, even a further decline of the economy should not discourage the Fed from raising interest rates further to fight the high inflation. The expansion of the Chinese economy will slow this year (see Table I.1) because of lockdowns of large areas to stop the coronavirus spreading and due to the collapse of the property market, which represents about 20% of economic activity there. A growth plan, including in particular a GBP 60 billion tax cut, was announced in the UK. However, its publication led to financial market nervousness, a weakening of sterling and a rise in government bond yields. The Bank of England had to intervene in the market, the chancellor of the exchequer was replaced and later the prime minister stepped down, and the plan will be revised. The Bank

Chart I.1

Central banks are expected to keep fighting the high inflation and raise their monetary policy rates further

key interest rates of major central banks; outlook based on Overnight Index Swaps; source Bloomberg



Note: Overnight Index Swaps are not available for China.

Table I.1

The Chinese economy is slowing sharply this year; in other countries, the slowdown will happen a year later

real GDP; y-o-y changes in %; source CF, Oxford Economics

	2021	2022 Q1	2022 Q2	2022	2023	2024
Euro area	5.2	5.4	4.1	3.0	0.0	1.3
USA	5.9	3.7	1.8	1.7	0.2	1.6
China	8.0	4.7	0.3	3.2	4.9	5.2
United Kingdom	7.5	10.9	4.4	4.1	-0.3	1.1

of England expects inflation to rise above 10%, to which it will respond by raising rates further.

Global manufacturing is likely to fall into recession in the months ahead, as the JP Morgan PMI index indicates. Manufacture of intermediate goods and capital goods is in the weakest shape. Adverse developments and a drop in industrial production can be expected especially in China, the EU and the UK. By contrast, the employment situation remains favourable. The weakening demand is also causing supply chain tensions to ease, as evidenced, among other things, by a sizeable decline in freight rates.

Despite government support, the weakening global demand and exceptionally high energy prices will lead to a decline in the effective euro area economy at the close of this year

Annual GDP growth in the effective euro area slowed to 3.1% year on year in 2022 Q2 (see Chart I.3). Output meanwhile returned to its pre-pandemic level. A quarter-on-quarter increase in GDP of 0.6% came as a positive surprise. It was due mainly to the rapid opening of economies in the spring after the last Covid wave caused by the less dangerous Omicron variant, a related recovery in demand for services and a boom in tourism. Countries with strong tourism sectors (Spain, Italy and France) thus grew particularly briskly, while industrial and export-oriented Germany and Slovakia lagged well behind the rest of the euro area. Household consumption was the biggest contributor to the growth, followed by investment and government consumption. By contrast, the contribution of net exports was negative.

In contrast to the positive developments in Q2, current leading indicators are sending warning signals. The high inflation associated with the energy crisis in Europe against the backdrop of the war in Ukraine is greatly dampening demand and undermining economic sentiment (see Chart I.4). Employment expectations have dropped less markedly and thus remain above their long-term average. Despite a decrease in job creation, the labour market is characterised by a still low and stable rate of unemployment, which stands at just 3% in Germany. In October, consumer confidence edged up from its historical low but remains lower than during the pandemic. Households are strongly feeling the fall in their real income and the depletion of forced savings created during the pandemic. Real retail sales excluding the automotive segment in the euro area thus declined continuously month on month from June to August (slowing growth was recorded in nominal terms). According to PMI surveys, the weakening demand is fostering a rapid fall in output in both manufacturing and services. New orders and exports have slumped.

Growth in economic activity in the effective euro area is thus expected to cool substantially for the rest of this

Chart I.2

According to market expectations, energy commodity prices will remain elevated at least until 2024

energy commodity prices; index: January 2018 = 100; source Bloomberg, CNB calculation

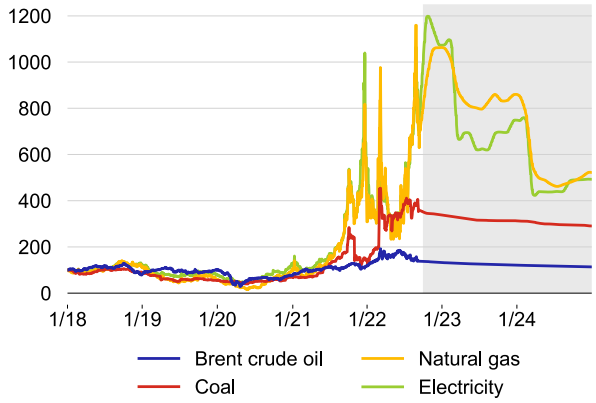


Chart I.3

The European energy crisis and global demand slowdown will cause effective euro area GDP to decline

annual GDP growth in %; contributions in pp; seasonally adjusted

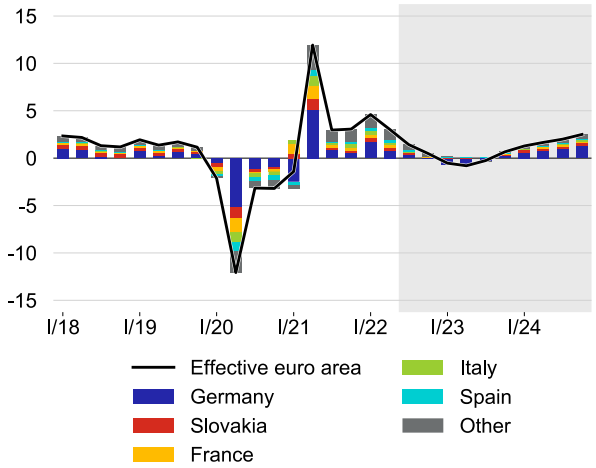
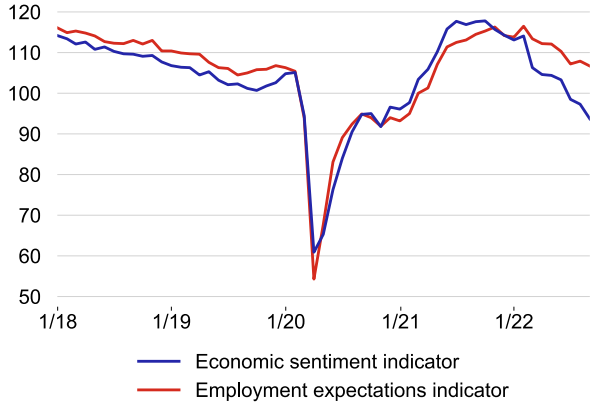


Chart I.4

The euro area economic sentiment indicator has been falling sharply in recent months, while employment expectations have fared better

100 = long-term average; source European Commission



year. According to the forecast, a slight quarter-on-quarter decline in GDP will already occur in Q3,[1] due mainly to developments in Germany. The outlook for economic activity is being pushed down chiefly by an expected marked slowdown in global demand amid tightening monetary conditions, which are worsening the investment conditions. The euro area is at a competitive disadvantage with respect to the rest of the world, as natural gas and electricity prices are several times higher there. The accumulated unsatisfied industrial orders from the pandemic are drying up and the number of new orders is falling. The high energy prices are already leading to reduced production in energy-intensive sectors. The current dramatic fall in consumer confidence will be reflected in a drop in household expenditure.

On the other hand, Germany has published a plan to invest up to EUR 200 billion (5% of German GDP) by spring 2024 to protect its economy from the high energy prices. It can therefore be expected that the adverse impacts of the high energy prices on economic activity will be dampened considerably, especially during next winter and the related heating season (2023/2024). Other countries have also announced support measures, but their budget options are often limited by high accumulated debt. Effective euro area GDP will grow by 2.4% overall this year, slowing markedly in the second half of the year. GDP will fall by 0.2% on average next year. In 2024, economic output will rise by 1.9%. The gradually closing positive output gap will turn negative at the close of this year and remain in negative territory until the end of the forecast horizon.

Diversification of gas sources accelerated markedly during summer and autumn 2022. Above-average gas storage filling rates and savings in gas consumption should make it possible to avoid rationing during the coming winter. The CNB's autumn macroeconomic forecast is based on this assumption. However, the ability to create sufficient gas stocks for the next heating season (2023/2024) remains a risk for some countries.

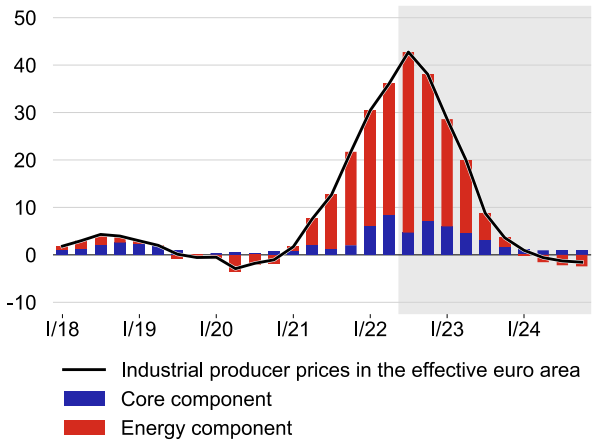
Inflation in the production sector is being pushed up mainly by the further growth in natural gas and electricity prices recorded in the summer months, but concerns of a recession have lowered the outlook for prices of oil, metals and some foodstuffs

Concerns of a complete halt in natural gas supplies from Russia via the Nord Stream 1 pipeline materialised during the summer. This led to a sharp

Chart I.5

The current extraordinary price growth in industry abroad is being driven mainly (but not solely) by the energy component, i.e. by rising prices of gas and electricity

annual industrial producer price inflation in effective euro area in %; contributions in pp



Note: Besides oil, the energy component also includes gas and electricity from 2021 Q3 onwards.

*For most customers, the **price of natural gas in Europe** is currently derived from the market price set at a virtual trading point in the Netherlands (the Dutch Title Transfer Facility, TTF). This is a big difference from the past, when natural gas prices were indexed to oil prices based on long-term contracts. The escalation of the war in Ukraine and falling supplies of Russian gas to Europe caused the market price of gas to surge to 16 times the 2019 average in August 2022. Despite a subsequent decline, it was still about ten times higher in October 2022 than before the pandemic. EU energy ministers therefore authorised the European Commission to create a different, less volatile pricing formula. This will take some time. For now, gas for European households and businesses is trading at almost four times the price on the US market, where the natural gas price has risen much less since 2019. Customers in Asia, where gas supplies are usually based on long-term fixed-price contracts, are also in a better situation than their European counterparts. European businesses are thus at a competitive disadvantage and European households are subject to a sharper decline in real income than elsewhere in the world.*

1 According to Eurostat's flash estimate, GDP in the effective euro area rose by 0.2% quarter on quarter and by 1.7% year on year in 2022 Q3. This figure is not included in the forecast, as it was released on 31 October, i.e. after the closing date of the latter.

rise in natural gas and electricity prices in Europe. However, prices corrected in late August in reaction to EU representatives' determination to resolve the crisis. On the back of favourable news on gas storage filling rates in Europe, natural gas prices trended down in September and October as well. However, sizeable upside risks to prices relative to the forecast persist. They are linked mainly with possible unexpected outages in gas supplies to the EU. The outlook for the Brent crude oil price remains falling in expectation of a global economic downturn (see Chart I.2), despite the recent decision of OPEC+ to cut oil production. Following a temporary increase in August, prices of industrial metals also returned to a downward path due to weak demand.

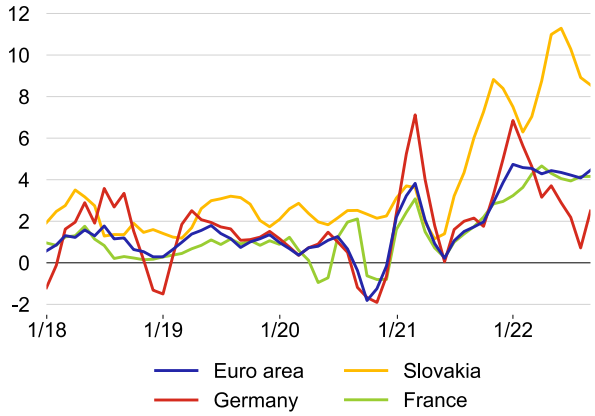
The high annual industrial producer price inflation in the effective euro area will peak this year as the sharp growth in natural gas and electricity prices dissipates. The latter caused a surge in the energy component of the PPI (see Chart I.5). By contrast, core production prices have already turned around. The slowdown in global economic growth is being reflected in lower demand for inputs. This is easing the supply chain tensions and helping to reduce the rate of growth in prices in industry. Industrial producer price inflation in the effective euro area will average 37% in 2022. It will slow to 14% next year unless the energy crisis or the war in Ukraine escalates further. Industrial producer price inflation will turn slightly negative in 2024.

HICP inflation in the effective euro area picked up further to 11.2% in September, driven by rising energy prices and food prices. Consumer prices of energy alone rose by more than 40% year on year. Following the termination of government measures to keep prices down, inflation accelerated in Germany in particular. Core inflation in the euro area also increased year on year. However, its momentum (see Chart I.6) does not indicate any further clear direction. Future developments are nonetheless subject to considerable uncertainty. According to the European Commission survey, inflation expectations rose again in September after having previously fallen. Inflation cannot be expected to go down markedly until 2024.

Chart I.6

Recent core inflation developments in the Czech Republic's main trading partner countries are quite mixed

momentum (change in monthly core HICP inflation over last three months compared with previous three months); %; annualised



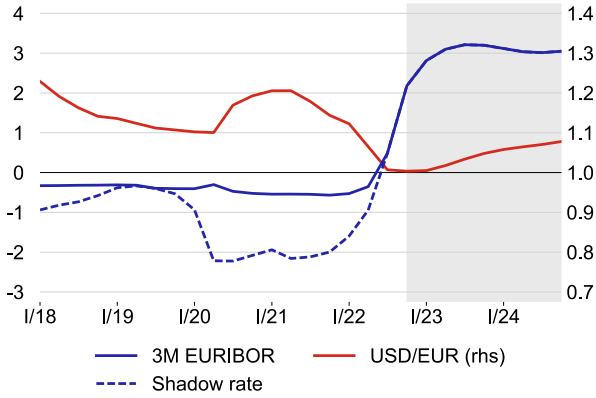
The ECB further tightened its monetary policy, but the key rate in the euro area will be lower than that in the USA

ECB monetary policy is still lagging behind the US Fed's actions. Coupled with the economic and geopolitical uncertainty, this has caused the euro to depreciate below parity against the dollar. However, the market outlook is for renewed slight appreciation of the euro. As expected, the ECB raised interest rates by 0.75 pp at its September meeting. It also announced further quick rate increases over the next several meetings – according to ECB President Christine Lagarde, even at the cost of a negative impact on the economy. At its October meeting, the ECB raised

Chart I.7

The market outlook for rising interest rates reflects the expected substantial tightening of monetary policy by the ECB in reaction to the increasing inflation pressures

3M EURIBOR and shadow interest rate in %; USD/EUR nominal exchange rate



interest rates by another 0.75 pp.[2] The 3M EURIBOR market outlook is thus rising (see Chart I.7), standing above 3% at the one-year horizon. The ECB is giving high priority to indebted southern countries when it comes to reinvesting purchased assets. It is thus taking advantage of the announced flexibility aimed at reducing the fragmentation of government bond yields. The planned Transmission Protection Instrument (TPI) has not been activated yet. On the contrary, there are discussions about possibly commencing quantitative tightening after the current process of raising interest rates is completed.

COMPARISON WITH THE PREVIOUS FORECAST: Economic developments abroad

		2022	2023	2024	
GDP (in the effective EA)	y-o-y changes in %	**2.4**	**-0.2**	**1.9**	The worse outlook for growth in the effective EA is due to more quickly weakening global demand amid unexpectedly high energy prices and worse household sentiment.
	pp	(0.3)	(-1.5)	(-0.6)	
Consumer prices (in the effective EA)	y-o-y changes in %	**9.1**	**5.5**	**1.8**	The consumer price inflation outlook is higher mainly because of stronger-than-expected growth in energy and food prices.
	pp	(0.9)	(1.6)	(0.0)	
Producer prices (in the effective EA)	y-o-y changes in %	**37.0**	**14.4**	**-0.6**	The higher producer price outlook mainly reflects higher electricity and gas prices in Europe.
	pp	(6.1)	(8.8)	(-0.5)	
Brent crude oil price	USD/barrel	**99.1**	**81.5**	**75.5**	The oil price outlook is lower, while remaining sharply falling; the decrease next year reflects a larger global growth slowdown compared to the previous forecast.
		(-4.0)	(-8.8)	(-7.9)	
3M EURIBOR	%	**0.4**	**3.1**	**3.1**	The expected 3M EURIBOR market interest rate is markedly higher due to the stronger reaction to the faster-rising inflation announced by the ECB compared to the previous forecast.
	pp	(0.2)	(1.6)	(1.5)	
Exchange rate	USD/EUR	**1.05**	**1.03**	**1.07**	The euro-dollar exchange rate outlook is slightly weaker due to faster monetary policy tightening in the USA than at the ECB and greater concerns about the economic situation in Europe.
		(-0.03)	(-0.06)	(-0.06)	

Note: Changes compared to the previous forecast in brackets (a green label indicates an increase in value or a shift to a weaker dollar, while a red label indicates a decrease in value or a shift to a stronger dollar)

2 At its October monetary policy meeting, the ECB also decided to adjust the TLTRO III liquidity support programme, i.e. to increase interest rates on this instrument. Banks can thus be expected to prepay their liabilities, which will lead to a reduction in liquidity in the banking system.

II. THE REAL ECONOMY AND THE LABOUR MARKET

The Czech economy will switch to a year-on-year decline at the end of 2022 and keep falling for most of next year. This will be due to a drop in household consumption and investment. Households will face a further decline in real income as a result of rapid growth in living costs. The significantly weakened domestic demand will prevent firms from passing their rising costs through to prices as strongly as before and their financial situation will worsen. In an environment of great uncertainty, firms will rein in fixed investment. Additions to inventories will conversely remain high, as only slowly fading problems in value chains will continue to slow export growth, which will also be dampened by a decline in euro area demand. This will also reduce the positive contribution of net exports. The previous overheating of the Czech economy will subside quickly. The labour market tightness will ease further because of subdued domestic economic activity. The unemployment rate will start to go up gradually. Wage growth in market sectors and, in turn, in the economy as a whole will pick up again, but will continue to lag behind inflation over the next few quarters. Investment growth will recover next year, due in part to efforts to make increased use of renewable energy sources amid continued automation of production. Growth in household consumption will also rally, reflecting improved consumer sentiment and renewed growth in households' real income.

Czech economic growth will be dampened in the coming quarters by a further deterioration in the financial situation of Czech firms and households, a cooling of external demand and persisting problems in global value chains

The problems in global value chains are not escalating further despite the ongoing war, but they remain elevated in intensity and are still being felt strongly in the industrial Czech economy. Material shortages – mostly in industrial production – will drag on the economy at the end of this year, too (see Chart II.1). The forecast assumes that the problems in global value chains will ease gradually and disappear entirely in mid-2023. The worse financial situation of households and firms will significantly dampen private consumer and investment demand for the rest of this year.

Economic activity will thus contract in quarter-on-quarter terms in 2022 Q3 and Q4 and the economy will also switch to a decline in year-on-year terms by the year-end.[3] GDP growth will slow to 2% this year in whole-year terms (see Chart II.2). Economic activity will decrease slightly in 2023 and return to growth of around 2.5% in 2024.

Household consumption will be adversely affected by a sharp fall in real income and a record deterioration in sentiment, while fiscal

Chart II.1

Material and component shortages continue to significantly limit domestic industrial production but are gradually receding

share of domestic industrial firms in % reporting shortages of material or equipment as factor limiting production; smoothed by HP filter (lambda = 1); source CZSO business survey

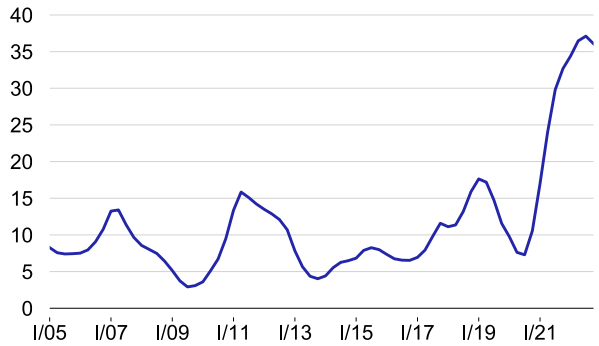
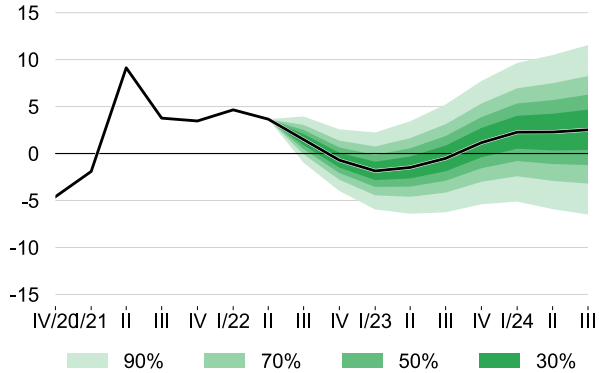


Chart II.2

The economy will contract in the period ahead, with year-on-year growth not recovering fully until 2024

y-o-y changes in %; seasonally adjusted; confidence interval



3 According to a preliminary CZSO estimate, Czech GDP decreased by 0.4% quarter on quarter and increased by 1.6% year on year in 2022 Q3. This is in line with the CNB forecast. This figure was published on 1 November 2022.

policy – including financial compensation for costly energy – will have the opposite effect

Household consumption will start to fall significantly in year-on-year terms from 2022 Q3 (see Chart II.3). The current adverse appetite to buy[4] will worsen further owing to the falling purchasing power of households. Fast-growing essential housing-related expenditure (especially on energy) will drain the remaining forced savings created by households during the pandemic, or the part thereof earmarked for spending in the form of deferred consumption (see Chart II.4). Household spending will also be hampered by higher interest rates. Household consumption will be broadly flat in whole-year terms this year.

Brisk growth in households' nominal gross disposable income will be driven this year primarily by the contribution of wages and salaries (see Chart II.5), which reflects the still strong labour market. Another increase in pensions and a range of fiscal support measures, including an "energy savings package", will also help keep households' income rising at a solid pace.

Like retail sales and sales in services, household consumption will continue to rise quickly in nominal terms due to high income growth. In real terms, though, private consumption will keep falling for most of 2023. Real household income will decline until mid-2023 due to high inflation, despite partial relief in the form of an energy price cap. Households' purchasing power will later improve as inflation drops significantly. Renewed real wage growth will then trigger growth in private consumption. However, the latter will not increase in whole-year terms until 2024.

The saving rate will remain close to the pre-pandemic level

The saving rate has been close to its pre-pandemic level since mid-2022. It declined last year due to improving consumer sentiment following the post-Covid reopening of the economy. This year, households are gradually spending the rest of their forced savings – partly on higher energy bills. The saving rate will remain close to its steady-state level for the rest of the forecast horizon.

The cooling of external demand and persisting shortages of components and materials will be reflected in lower export growth and high additions to inventories

The export-oriented part of the domestic economy (especially the automotive industry) continues to face input supply problems (see Chart II.1). These difficulties have gradually been lessening but are still having a negative effect. Moreover, domestic exporters

Chart II.3

Household consumption will decline for most of next year, while general government consumption will start to grow steadily again after a temporary halt

household and government consumption; y-o-y changes in %; constant prices; seasonally adjusted

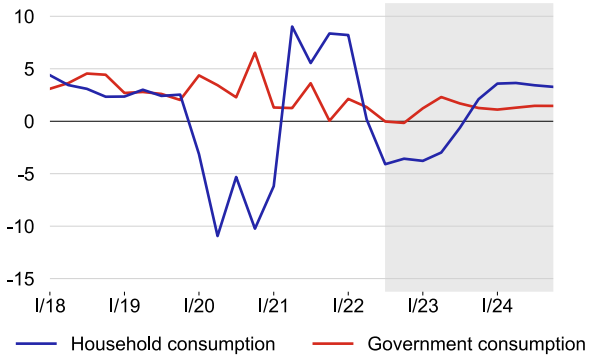
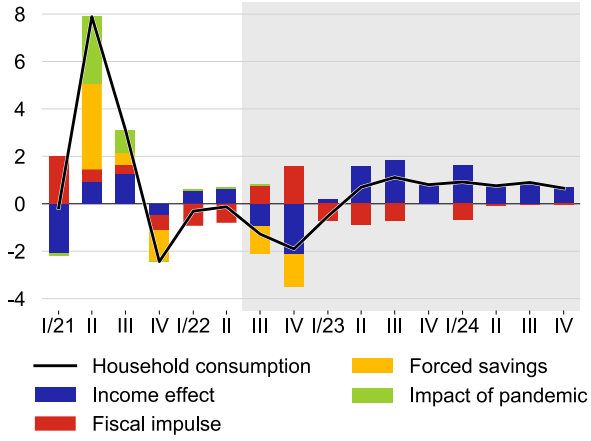


Chart II.4

The current pace of growth of household consumption is being adversely affected by a sharp fall in households' real income and depletion of forced savings; the decline in consumption is being dampened by fiscal policy

household consumption; q-o-q changes in %; contributions in pp; constant prices; seasonally adjusted



Note: "Income effect" reflects real income (including wages and salaries) and energy commodity prices. "Impact of pandemic" embodies the effect of shutdowns and the subsequent reopening of the economy and the return to normal consumer behaviour, for example in terms of how often people go to the cinema, eat out and so on.

4 According to the October business cycle survey data, consumer sentiment reached a historical low. Business sentiment dropped below its pre-pandemic level.

cannot rely on any major redirection of their activities to new export territories within the EU, as growth in global demand will slow markedly throughout Europe and worldwide in the coming quarters. In addition, the promising, but fragile, recovery of tourism (exports of services) will slow on concerns of a global economic slowdown. This will be yet another heavy blow to the industry after the impacts of the pandemic.

Under the national accounts methodology, export growth will also be boosted this year by spending by Ukrainian refugees in the Czech territory, as they are deemed non-residents (de facto tourists) for these purposes. Their purchases in the Czech Republic are thus recorded as a Czech export, not as household consumption (as is the case with residents). The forecast assumes that their spending on a quarterly basis will amount to around CZK 11 billion from summer 2022 to the end of the forecast horizon.

External demand will drop at the start of 2023. This will be reflected in slower growth in Czech exports. Their growth will pick up after the problems in global value chains fade away (see Chart II.6), but renewed tensions on the energy market related to the onset of the next winter will prevent exports from expanding.

Despite a drop in import-intensive fixed investment and a fall in household consumption, import growth will remain higher than export growth in year on year terms. The contribution of net exports to GDP growth will thus be negative. Exports of goods and services will increase by 3.5% next year and pick up further in 2024. In 2023 and 2024, the contribution of net exports will be strongly positive owing to a recovery in the export performance of the economy (see Chart II.6).

Growth in fixed investment will halt in early 2023 due to a decline in external demand and a deterioration in firms' financial situation

The financial situation of firms remains solid despite the skyrocketing energy prices (see Box 1 at the end of this section). However, the situation in the corporate sector will worsen in late 2022 and early 2023. This will again be due to rapidly rising energy prices and falling domestic and external demand. Investment in renewing and expanding production will be postponed on concerns of a global recession, amid extraordinary uncertainty linked with the ongoing war. The high domestic and gradually rising foreign interest rates will also dampen the investment appetite of firms for some time. Persisting value chain disruptions will have the same effect, but it will gradually fade. Fiscal support aimed at mitigating the impact of the high energy prices will have the opposite effect. Overall, private fixed investment growth will remain positive this year but will slow gradually. By contrast, general government investment will be subdued in real terms throughout this year despite financial support from EU funds and NGEU programmes (see Chart II.7).

Chart II.5

Nominal disposable income growth will slow in late 2022 and early 2023, due mainly to a decline in the contribution of entrepreneurs' income, while wages and salaries and social benefits will continue to increase steadily

household consumption and gross disposable income; y-o-y changes in %; contributions in pp; current prices; seasonally unadjusted

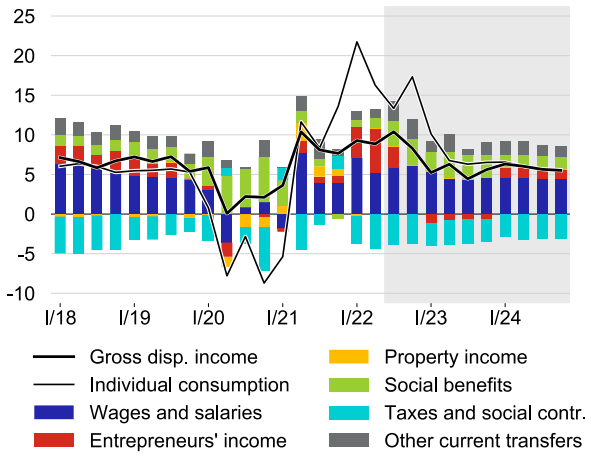
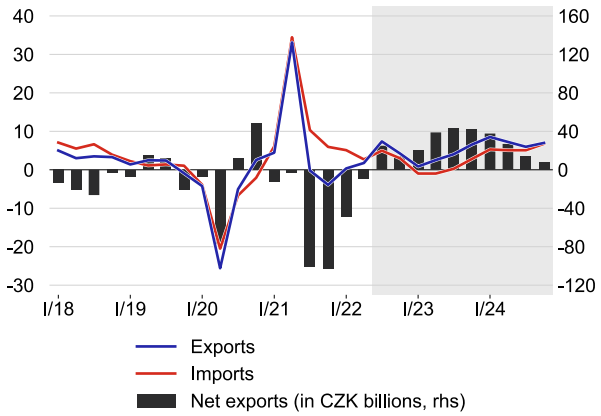


Chart II.6

Export and import growth will slow next year due to a downturn in external and domestic demand

real exports and imports; y-o-y changes in % and CZK billions; seasonally adjusted



Growth in private fixed investment will recover next year as the difficulties in global value chains fade away and external demand starts to grow again. Investment will be spurred by efforts to switch quickly to alternative energy sources amid a long-term shift to automation, robotisation and digitalisation. General government investment will also rise markedly again, supported by absorption of EU funds and a purchase of military helicopters.[5] Total fixed investment will grow by around 1.5% in 2023. In 2024, its growth will exceed 4%.

Additions to inventories will remain above their long-term level until mid-2023, amid continued bottlenecks on the supply side of the economy (see Chart II.8). Firms will later be able to complete and export all their forced stocks of unfinished products as the supply disruptions fade out definitively in the second half of 2023. Total gross capital formation growth will thus stay positive this year due to growth in fixed investment and additions to inventories made in the first half of the year. It will later turn negative as the release of accumulated inventories picks up pace.

Fiscal policy will dampen GDP growth slightly this year, despite expenditure linked with the arrival of Ukrainian refugees and the energy savings package

Real government consumption growth will slow below 1% this year in whole-year terms (see Chart II.3). Its continued, albeit subdued, growth will be fostered by an increase in health and education expenditure linked with the arrival of Ukrainian refugees. Moreover, nominal general government consumption will reflect the expected increase in wages and salaries (see below for details).

The fiscal impulse will slightly dampen GDP growth this year (see Chart II.9). This is due to the termination of many of the pandemic-related support programmes that supported the economic recovery for most of last year. However, the restrictive impact associated with their phasing out is partly offset this year by a large number of measures on both the revenue and expenditure sides of public budgets relating to assistance provided to refugees, the rise in inflation and energy prices.[6] The contribution of fiscal policy to GDP growth will be imperceptibly positive next year,

Chart II.7

Growth in total gross investment will be affected predominantly by additions to inventories

investment activity; y-o-y changes in %; contributions in pp; constant prices; seasonally adjusted

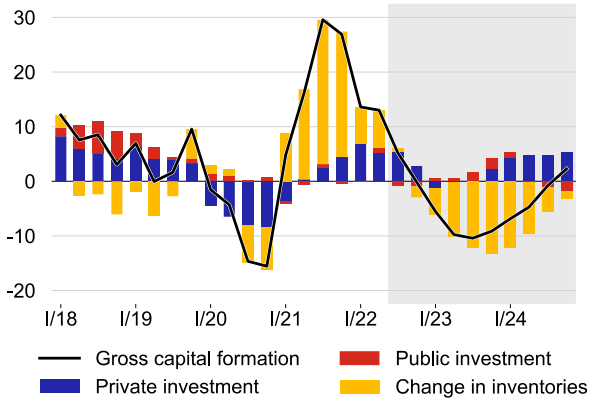


Chart II.8

Additions to inventories will remain at high levels until mid-2022 and then fall sharply

change in inventories in CZK billions; constant prices; seasonally adjusted

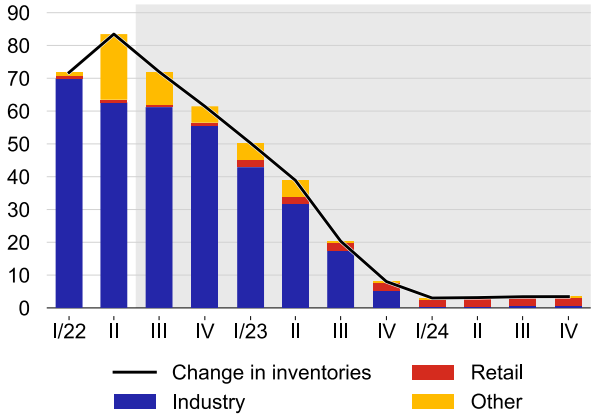
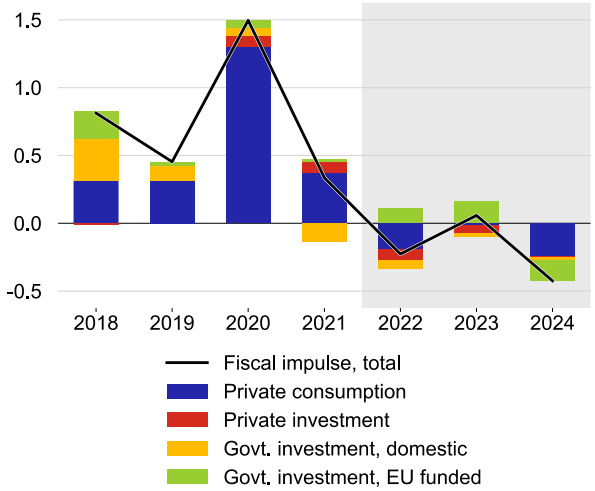


Chart II.9

Despite extraordinary refugee and energy crisis-related expenditure, fiscal policy will dampen GDP growth slightly this year; next year, by contrast, it will stimulate it imperceptibly

fiscal impulse; contributions to GDP growth in pp



5 The investment will amount to CZK 14 billion, distributed evenly across the whole of 2023.

6 These measures include a further increase in the deductible bonus, a temporary decrease in excise duty on diesel and petrol, a reduction in road tax due to rising fuel prices, an above-average increase in pensions in January, faster absorption of EU funds, expenditure on assistance for Ukrainian refugees, energy compensation for households (the "energy savings tariff"), a subsidy programme for firms for increased energy costs, and a "family assistance package". It includes a one-off benefit payment of CZK 5,000 for children in households with an annual income of less than CZK 1 million, faster payment of family allowance and support for part-time work and children's groups.

due mainly to the effects of an extended reduction in excise duty on diesel, an increase in the VAT registration threshold and a bigger increase in pensions.[7] The abolition of the energy savings tariff, the discontinuation of the subsidy programme for firms and the phasing out of the refugee support measures will have the opposite effect. The full discontinuation of the temporary support measures and a fall in absorption of EU funds due to a slow start to drawdown in the new programme period will significantly dampen GDP growth in 2024.

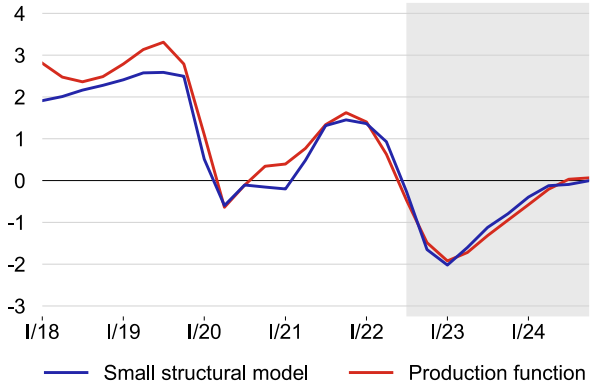
The output gap will turn negative in the second half of 2022 and remain so over most of the forecast horizon

The economic slowdown this year will lead to rapid closure of the previously positive output gap, and the economy will then fall temporarily below its potential with the onset of the recession (see Chart II.10). This will also reflect a cooling of the labour market. All this will go on amid only slowly abating supply constraints, which will slow potential output growth again this year. Potential output growth will start to return slowly to its steady-state level as domestic demand recovers and the problems in global chains fade away in mid-2023. The negative output gap will meanwhile start to close gradually.

Chart II.10

The previous overheating of the economy will fade away quickly in the second half of 2022 and the economy will be below its potential

output gap in % of potential output



7 The ruling coalition expects the extraordinary state expenditure relating to the capped energy prices to be offset by expected windfall tax revenue, so the resulting effect on the general government deficit and economic activity will be broadly neutral.

COMPARISON WITH THE PREVIOUS FORECAST: The real economy and the labour market

		2022	2023	2024	
GDP	y-o-y changes in %	**2.2**	**-0.7**	**2.5**	The GDP growth outlook is broadly unchanged for this year; economic growth will be considerably lower in the next two years due to a greater cooling of domestic and external demand.
	pp	(-0.1)	(-1.8)	(-1.3)	
Household consumption	y-o-y changes in %	**0.0**	**-1.4**	**3.5**	The household consumption outlook is higher this year due to better developments in H1; next year, by contrast, its fall will be deeper due to worse sentiment and higher interest rates.
	pp	(2.0)	(-0.5)	(-0.3)	
Government consumption	y-o-y changes in %	**0.8**	**1.6**	**1.3**	The government consumption forecast is lower for this year due to lower non-wage expenditure relating to Ukrainian refugees; it is only slightly lower in the following years.
	pp	(-1.2)	(-0.2)	(-0.3)	
Gross fixed capital formation	y-o-y changes in %	**4.8**	**1.4**	**4.3**	The lower growth in fixed investment is due mainly to a worse outlook for external demand.
	pp	(-0.2)	(-2.5)	(1.4)	
Net exports	contr. to GDP growth	**-0.3**	**2.4**	**1.5**	The contribution of net exports has been revised downwards over the entire forecast horizon compared to the summer forecast due to weaker external demand.
	pp	(-1.0)	(-1.0)	(-0.9)	
Employment	y-o-y changes in %	**1.8**	**0.0**	**-0.2**	The higher growth in employment in 2022 is due mainly to a methodological change (the 2021 Census); the lower outlook for economic activity will be felt in the following years.
	pp	(0.7)	(-0.7)	(-1.0)	
Unemployment (ILO)	%	**2.5**	**3.2**	**3.7**	The outlook for the general unemployment rate is significantly higher in the second half of the forecast horizon due to lower expected economic activity.
	pp	(0.0)	(0.4)	(1.0)	
Average monthly nominal wage	y-o-y changes in %	**6.3**	**7.7**	**7.0**	The higher wage growth this year and the next mainly reflects the stronger figures observed in 2022 H1; the worse condition of firms and lower demand for labour will be felt in 2024.
	pp	(1.7)	(1.5)	(-0.5)	

Note: Changes compared to the previous forecast in brackets (a green label indicates an increase in value and a red label a decrease)

The tightness in the labour market will ease further

From the perspective of the LUCI, the labour market will cool significantly over the entire forecast horizon. This will be due mainly to developments in its real part (see Chart II.11). A halt in employment growth and a gradual rise in unemployment will be a major factor. The excess demand for labour will decrease. This will also be reflected in a continued significant decline in vacancies. The significant decline in real wages is reduced by persisting tightness in the labour market at the start of the forecast. The LUCI will converge close to its steady-state level at the end of 2024.

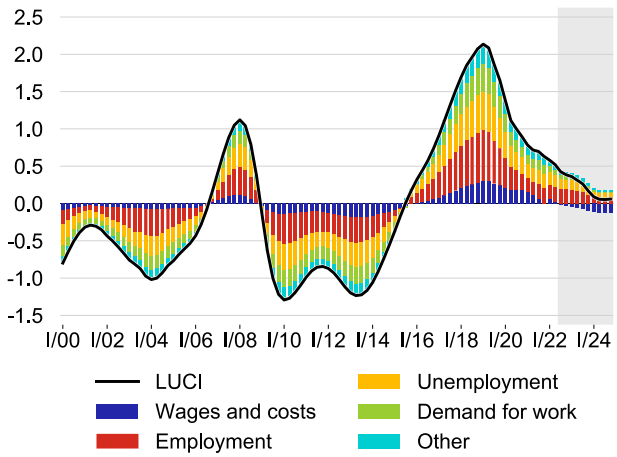
Real income will fall sharply this year, as nominal wage growth will lag behind inflation

It can be expected that year-on-year wage growth in market sectors will no longer be significantly affected by the one-off factors and base effects[8] that made

Chart II.11

From the perspective of the LUCI, the labour market will cool further this year and converge to equilibrium in 2024

LUCI; vertical axis shows standard deviations



8 These include in particular the statistical effects of a drop in the wages of employees drawing attendance allowance or wage compensation in the event of quarantine in 2021. Employees who did not work as a result of pandemic-related obstacles to work also saw a partial drop in wages, and some of them received only partial wage compensation. In addition, extraordinary "Covid" bonuses were paid in the health care

annual wage growth highly volatile until mid-2022 (the statistical effects in the year-on-year growth will drop out fully at the start of next year). In terms of the economic interpretation of year-on-year wage growth, it will thus gradually make no sense to construct an estimate of fundamental wage growth (see Chart II.12).

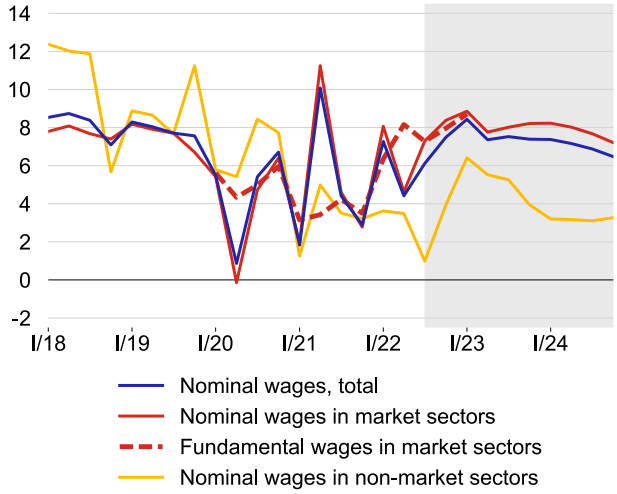
Nominal wage growth will be partly affected by high inflation for the rest of this year. The strong bargaining position of employees, who are still in short supply on the market, will be reflected in pressures stemming from the demands of employees and unions to raise wages due to the dramatically rising cost of living. However, the scope to raise wages will be limited, as firms are simultaneously facing high input prices and persisting problems in value chains while looking to the future with concern, as there is an imminent threat of recession in Europe and worldwide. As a result, they will not raise employee wages by the full current rate of inflation. Wage growth will fluctuate around 7% for the rest of this year and throughout 2023, so the real wage will drop significantly. In 2024, after all the problems associated with value chains and the energy crisis subside, inflation will decrease further and economic growth will resume. This will lead to solid growth in real wages despite slowing growth in nominal wages, partially offsetting the drop in employees' income in 2022 and 2023. The forecast assumes a CZK 1,000 increase in the minimum wage on 1 January 2023 following the ongoing tripartite negotiations.

Wages in non-market sectors will grow at a more modest pace than in the private sector in the years ahead. The state budget for 2022 stipulates a 2% increase in the salaries of teachers in regional education systems and an increase in the wages of employees of integrated rescue system units and social services workers by a flat amount of CZK 700. The forecast also takes into account the 10% increase in the wages of the lowest-income workers in public administration and public services (non-teaching staff in education, non-civil service employees, culture workers, etc.) which took effect on 1 September 2022, involving around 370,000 workers. Wages of all other state administration employees should be frozen until the end of the year. For 2023 and 2024, the forecast incorporates information from the draft state budget for 2023, which anticipates a broader increase in the pay of the majority of state administration employees. The effect of the extraordinary increase in the wages of selected lowest-income workers this September will simultaneously fade next year.

Chart II.12

Nominal wage growth will accelerate appreciably in market and non-market sectors; this will be partly offset by a decline in wages in real terms

nominal wages; y-o-y changes in %



Note: Until 2019 Q4 and again from 2023 Q2, the fundamental wage coincides with the officially reported wage in market sectors.

***The fundamental market wage** is obtained from the officially reported wage adjusted for certain one-off pandemic-linked statistical effects (attendance allowance, quarantine and partial wage compensation) and for extraordinary bonuses in health care and social services. Given the expected full drop-out of these past effects, the fundamental wage will coincide with the officially reported wage in market sectors in the next few quarters of the forecast.*

—

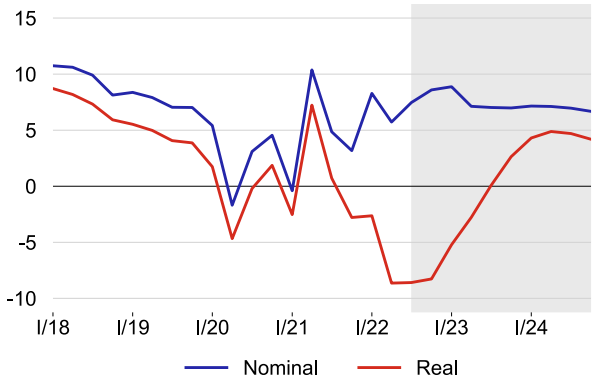
sector in spring 2021 (similarly as at the end of 2020 and 2021). These effects were visible mainly in 2021 Q2, when year-on-year wage growth in market sectors as recorded in the statistics surged due to the unwinding of negative statistical effects from 2020 combined with the payment of the aforementioned extraordinary bonuses in health care.

Growth in the wage bill is also being affected primarily by the increased wage growth observed and expected this year and the next. By contrast, a halt in the growth in the full-time equivalent of employees, which does not reflect the arrival of Ukrainian nationals very strongly, will have the opposite effect. Growth in the full-time equivalent of employees will turn slightly negative over the outlook horizon in response to a contraction in economic activity and a drop in demand for labour. This will result in broadly stable growth in the wage bill at a slightly higher pace. In real terms, the wage bill will drop sharply in 2022 (see Chart II.13). This will be due to nominal wage growth lagging well behind inflation. The real purchasing power in the economy will start to grow again in the second half of next year, due mainly to significantly slowing inflation and an improvement in the overall economic situation.

Chart II.13

Growth in the real wage bill will be deeply negative in the next few quarters due to high inflation and will thus lead to subdued growth in household consumption

wage bill; y-o-y changes in %



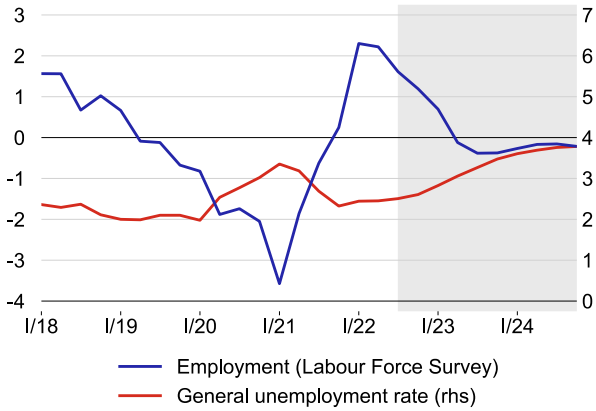
Employment will peak this year and then gradually fall in response to declining economic activity

Employment growth will slow this year and later switch to a moderate decline (see Chart II.14). The already observed sharp drop in the number of reported new vacancies and the total number of vacancies is consistent with this. The until recently very strong corporate recruitment is thus now flat or even slightly falling amid growing uncertainty about future economic developments. In terms of internal structure, the evolution of total employment will be determined mainly by a falling number of employees, while the number of entrepreneurs will be broadly flat. The decline in economic activity and firms' worse financial situation will be reflected in moderate layoffs, with firms dismissing less productive staff. The arrival of Ukrainian nationals is not reflected in the LFS statistics, as the nature of this survey practically precludes this.[9] Some high-frequency and leading indicators and the European Commission survey are also indicating flat or slightly falling employment in the coming months.[10]

Chart II.14

Employment growth will halt and unemployment will start to increase gradually due to a worse macroeconomic situation

employment, y-o-y changes in %; general unemployment rate in %; seasonally adjusted



The general unemployment rate will remain broadly flat this year and start to rise gradually at the end of the year. It will then return to the range not indicating an overheating labour market at the end of the forecast horizon. The forecast also expects a similar trend in the share of unemployed persons.

9 The LFS is conducted in the form of interviews in households and at other accommodation facilities. The frequency of contact with foreign respondents is much lower than that with Czech ones.

10 The ManpowerGroup index of expected employment for 2022 Q4 fell sharply. By contrast, the Google Trends scores for "unemployment" and "unemployment benefit" are relatively low.

BOX 1 Business performance and pricing amid the continuing energy shock

The Czech and European economies have been grappling with dramatically rising energy prices for more than a year now. This growth escalated with Russia's invasion of Ukraine, and a reduction in gas supplies from Russia has exacerbated the situation. Prices of energy – especially gas and electricity – have reached previously inconceivable levels and are strongly affecting household budgets, corporate performance and government finances. This box examines the financial situation of firms and sole traders and the intensity with which these sectors are passing the rapid growth in their production costs through to end prices. It also tries to answer the question of how businesses' profits are evolving in relation to their long-term trend, that is, whether producers are raising their profits more than is usual even in an environment of rapid growth in costs.

Businesses can increase their profits in several ways: by cutting costs (which, however, is hard to do in the current highly inflationary environment), by selling more products and services, or by raising their unit price. As the quantity of goods and services demanded by Czech consumers (their real consumption) has not risen over the last three quarters, any growth in profits would evidently be due to sharp price hikes.[1] This would create inflationary pressure, which is undesirable for monetary policy amid the current double-digit inflation.

Price pressures in the economy can be gauged in more detail by decomposing the GDP deflator and the gross value added (GVA) deflator. The GDP deflator (see Chart 1)[2] can be decomposed on the basis of the decomposition of nominal GDP, which in income terms is the sum of gross operating surplus, compensation of employees and net taxes and subsidies. Dividing all the terms in this equation by real GDP gives us the breakdown of the GDP deflator by components. The gross operating surplus per unit of output (unit profit) can be further broken down by sector into households, non-financial corporations and others.

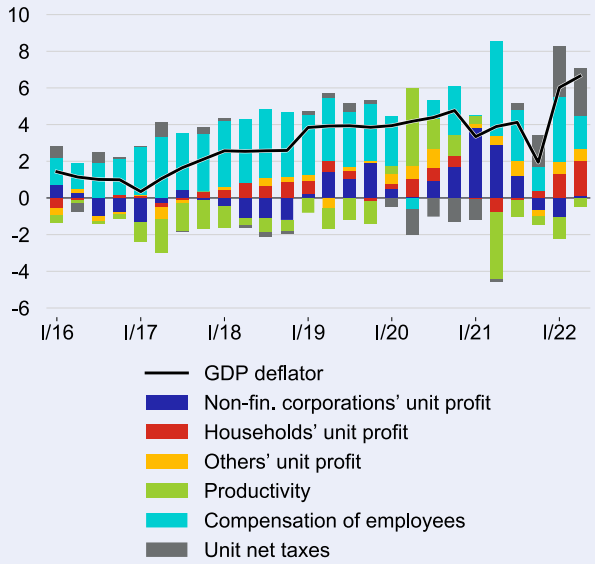
From the recent perspective, the increased contribution of the unit profit of entrepreneurial households (the self-employed – entrepreneurs and sole traders) deserves particular attention. Following the Covid shock, the self-employed have made up for some of their lost profits. This is signalled in the GVA deflator (see Chart 2) by the dominant contributions of trade, including transport and restaurant services, i.e. the sectors that were hit hardest by the pandemic lockdowns and in which small businesses (sole traders and entrepreneurs) are strongly represented.

The contributions of unit net taxes – the difference between taxes and subsidies per unit of output – are also significant in the GDP deflator decomposition.

Chart 1

Compensation of employees, profits of entrepreneurial households (sole traders and entrepreneurs) and net taxes were the biggest contributors to growth in the GDP deflator in the first half of this year

GDP deflator; y-o-y growth in %; contributions in pp

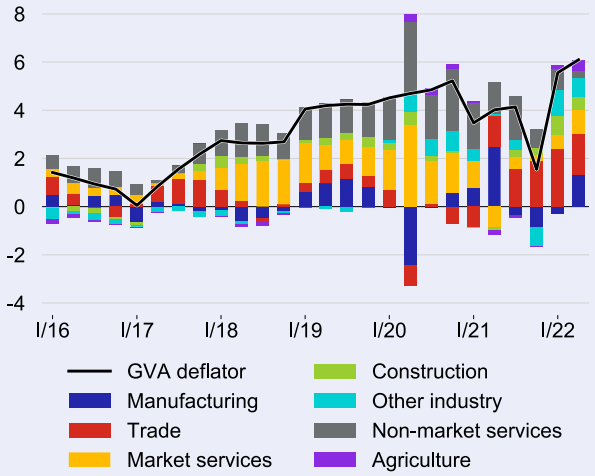


Note: The sum of the contributions of productivity and compensation of employees is roughly equal to the contribution of nominal unit labour costs.

Chart 2

The price pressures in the economy are broad-based, being most visible in trade, transport and restaurant services, where small businesses (sole traders and entrepreneurs) are strongly represented

GVA deflator; y-o-y changes in %; contributions in pp



Note: Trade includes hotels, restaurants and transport.

This reflects the phasing-out of Covid support programmes. The contributions of compensation of employees – an indicator of labour costs – are also sizeable, although they are generally below the pre-pandemic levels. The unit profit of non-financial corporations (medium-sized and large firms) is roughly inflation-neutral.

The current gross operating surplus (profit) of sole traders is linked with the current double-digit inflation. It was therefore adjusted for price effects using the GDP deflator. Chart 3 shows the trend-cycle decomposition of the adjusted time series. It is evident that sole traders have recently been able to generate higher real profits than the trend level would imply. This signals higher-than-usual real profits, which are probably the result of rising product prices against the backdrop of (until recently) solid household demand for the goods and services produced by the business sector. Had consumers been unwilling to accept high prices, businesses would conversely have had to reduce their profits.

In terms of profit volumes, non-financial corporations are the most important sector for the Czech economy, generating more than half of its earnings. The trend-cycle decomposition of their real gross operating surplus, presented in Chart 4, shows that the volatility of profit generation after the pandemic has been within the usual range seen in recent years. To obtain a more detailed sectoral breakdown, we used granular data on around 2,000 of the largest domestic companies.[3] Owing to the high volatility of the data, however, the trend-cycle decomposition gave no clear answer. In Chart 5, therefore, we describe the economic condition of firms using the profit rate, defined as the ratio of profit to book value added. In all sectors, the profit rate is at least equal to the pre-pandemic level. The highest rate was recorded by telecommunications. However, the situation in this sector is significantly distorted by the latest observations in one large telecoms corporation. Profitability in the mining and energy sector is also high. This is probably linked with the rise in energy prices over the last 12 months. Manufacturing, which has been hit by problems in global value chains since the pandemic and by the current energy shock, is maintaining a solid profit rate. The profit rates in other important sectors of the domestic economy – trade, transport and restaurant services – are increasing.[4]

The hypothesis that firms are in solid condition as a result of higher mark-ups is supported by the estimate of the gap in mark-ups in the consumer sector in the g3+ core forecasting model. Mark-ups in the consumer sector are the difference between observed prices and the estimated marginal unit costs of producers of final consumer goods. The gap in mark-ups shows the deviation of current mark-ups from their steady-state level. A positive gap in mark-ups thus implies a higher-than-usual "profit margin" and

Chart 3

Sole proprietors' profits are currently above the trend level

households' gross operating surplus in CZK billions; constant prices; HP filter (lambda = 1,600)

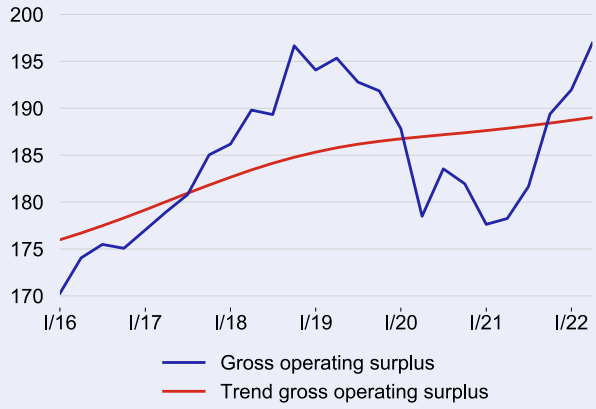


Chart 4

Except for a sharp drop during the pandemic, corporate profits have stayed close to the trend

non-financial corporations' gross operating surplus in CZK billions; constant prices; HP filter (lambda = 1,600)

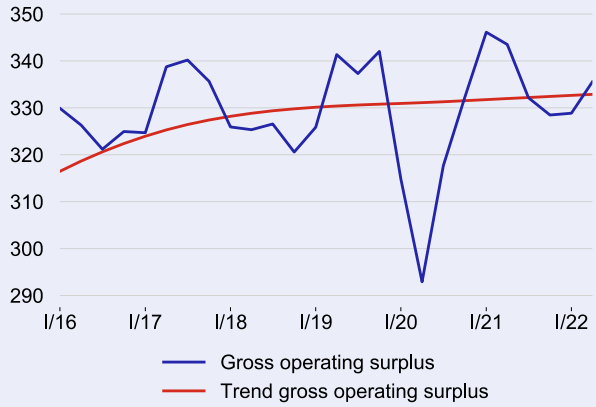
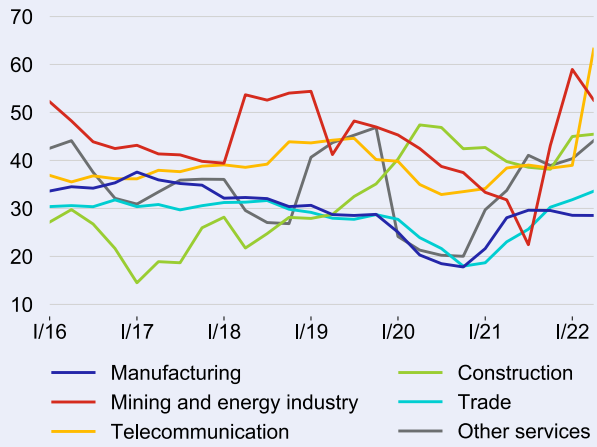


Chart 5

The profit rate of large firms is solid across sectors

profit rate in %; annual moving average



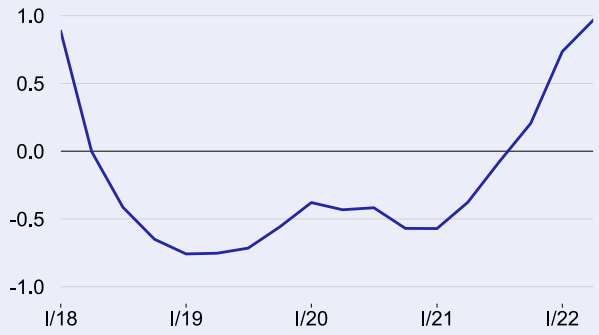
Note: Trade includes hotels, restaurants and transport.

a negative gap a lower-than-usual one. If the gap increases (decreases) over time, it gives rise to an additional inflationary (anti-inflationary) effect, i.e. upward (downward) pressure on consumer prices going beyond the increase (decrease) in costs. As Chart 6 shows, the slightly negative gap in mark-ups started to close at the start of last year and turned positive last autumn. The gradual growth of the gap in mark-ups reflected the gradual retreat of the pandemic and persisting strong consumer appetite, reflecting the realisation of deferred demand and spending of forced savings. In addition, the post-Covid demand for goods and services, amid still disrupted global value chains, caused demand to considerably exceed supply, opening up space for growth in producers' and retailers' margins.

Chart 6

The gap in mark-ups in the consumer sector has turned highly positive in the last year

gap in mark-ups on consumer goods in %; CNB calculations



1 Overall demand for firms' and entrepreneurs' production does not consist only of household consumption, but largely also of the other expenditure components of GDP, such as exports. However, we focus primarily on the demand situation in the domestic environment, for which household consumption is the most suitable proxy.

2 The presented decomposition of the GDP deflator is based on the Lithuanian central bank's Analysis of profit indicators calculated from national accounts, Lithuanian Economic Review, December 2015. This paper contains a very detailed and readable description of the calculation methodology. In addition to this source, we drew on Economic and Monetary Developments, Autumn 2022, Box 2, National Bank of Slovakia. In preparing this text, we were also inspired by three analytical boxes published by the ECB: How do profits shape domestic price pressures in the euro area?, ECB Economic Bulletin, Issue 6/2019, What accounts for the recent decoupling between the euro area GDP deflator and the HICP excluding energy and food?, ECB Economic Bulletin, Issue 6/2016, and Using national accounts data to gauge price pressures in the euro area, ECB Monthly Bulletin, December 2006.

3 The data are taken from respondents' answers in the CZSO P6-04 questionnaire covering the largest companies by asset size.

4 The profit rate of non-financial corporations according to the CZSO's aggregate data (i.e. including small and medium-sized enterprises) reached 44.7% in 2022 Q2. It was thus the same as in the previous quarter but 2 percentage points lower than a year earlier.

III. INFLATION

The current high inflation will rise slightly further. In Q4, it will increase above 18% on average, with all its components contributing. Core inflation will slow but will continue to reflect strong producer price inflation both at home and abroad and peaking profit margins of domestic producers, retailers and service providers. The upcoming further rise in administered price inflation due to ongoing growth in housing-related energy bills will be partly offset by a waiver of the fees for renewable energy sources. At the same time, the government will also partly compensate households for the growth in gas, electricity and heat prices for the rest of 2022 using the energy savings tariff now in place. High agricultural commodity prices will cause food prices to rise further. On the other hand, the until recently record-high cost pressures, driven by both import prices and the domestic economy, will decrease at the year-end. Amid an economic downturn, wage growth will not escalate significantly and the currently high margins of domestic producers, retailers and service providers will fall. This will also be fostered by the previous tightening of monetary policy. Next year, the cost pressures will ease further, with all components contributing, and inflation will fall quickly. In 2024, both headline and monetary policy-relevant inflation will decline close to the CNB's 2% target. Growth in interest rates at the end of this year in the forecast will also contribute to this decline.

The strong overall cost pressures peaked in the summer and will ease as the rapid growth in import prices subsides, but they will remain elevated until the end of next year

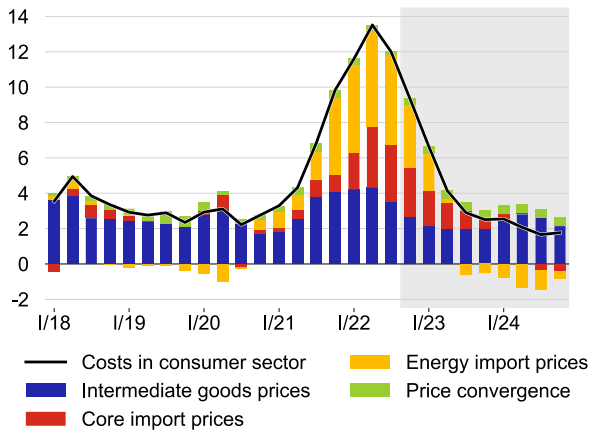
Growth of total costs in the consumer sector fell in 2022 Q3, owing to lower growth in import prices and prices of domestic intermediate goods (see Chart III.1). The contribution of the core component of import prices decreased, due to a decline in the high growth in core foreign industrial producer prices. Its decreasing pace reflected an easing of the problems in global value chains. The contribution of energy import prices also decreased temporarily, despite a surge in growth of the energy component of foreign producer prices, as, due to price rigidities, this will be reflected in total domestic costs mostly with a lag in the quarters ahead. The lower growth in total costs was also due to the domestic economy.

The cost pressures will continue to ease rapidly in the coming quarters. This will be due to falling growth in import prices and prices of domestic intermediate goods. In the second half of next year, the growth in costs will start to be gradually dampened by a negative contribution of energy import prices linked with an expected partial correction of the high prices of gas and electricity on commodity exchanges. In addition, growth in core import prices will slow as the problems in global value chains abate. However, renewed moderate growth in domestic costs will have the opposite effect. The overall cost pressures will thus remain elevated in the second half of next year. In 2024, their growth will stabilise at the steady-state rate of 2%, despite a temporary rise in domestic costs, which will offset

Chart III.1

The exceptionally strong cost pressures will ease, due mainly to the weakening effect of import prices

costs in consumer sector; q-o-q changes in %; contributions in pp; current prices; annualised



a drop in import prices fuelled by renewed appreciation of the koruna.

Domestic cost pressures will remain elevated in 2023 after easing slightly at the end of this year

The faster growth in domestic costs (see Chart III.2) in the first half of this year was largely due to brisk wage growth. The latter continued into Q3, driving growth in domestic costs. By contrast, the effect of the contribution of the price of capital turned negative due to a gradual cooling of economic activity during the summer. Labour efficiency meanwhile decreased modestly.

The domestic cost pressures will ease slightly further at the end of this year, as economic activity will decline markedly quarter on quarter due to a continued cooling of domestic demand, which has been hit by a sharp drop in real household income as a result of high inflation. This will further increase the negative contribution of the price of capital to growth in costs. By contrast, a further substantial worsening of labour efficiency will have an inflationary effect.

From the beginning of 2023, growth in domestic costs will remain elevated. The contribution of wages to growth in domestic costs will strengthen gradually due to efforts to make up at least partly for this year's drop in real income. Wage costs will also reflect the CZK 1,000 increase in the minimum wage on 1 January 2023 assumed in the forecast. Economic performance will gradually recover despite potential tensions in the energy market during the heating season. The contribution of the price of capital will thus gradually turn positive again. Due to a cooling of the labour market in the course of next year, growth in labour efficiency will start to more than offset the contributions of the price of capital and hence dampen the rise in domestic costs. The unemployment rate will increase slightly next year as employers adjust the composition of their work teams to their productivity. Economic growth will visibly recover in 2024, when the previously overheated labour market will cool further. This will also lead to some slowdown in the growth in cost pressures and overall domestic cost pressures.

Growth in mark-ups, which has so far been supporting inflation, will halt in late 2022/early 2023 due to weakening demand

The previously strongly positive and increasing gap in mark-ups, reflecting growth in prices outpacing growth in the costs of domestic producers, retailers and service providers, will start to turn around at the start of next year (see Chart III.3). This will be due not only to a considerable cooling of private consumption, reflecting households' lower purchasing power, but also to the previous tightening of monetary policy. These effects will suppress consumer appetite, and retailers will have to gradually lower their profit margins amid lower demand. This will help slow inflation. The current inflation is

Chart III.2

Domestic cost pressures will ease somewhat at the end of this year but will remain elevated, due largely to wage growth

costs in intermediate consumption sector; q-o-q changes in %; contributions in pp; current prices; annualised

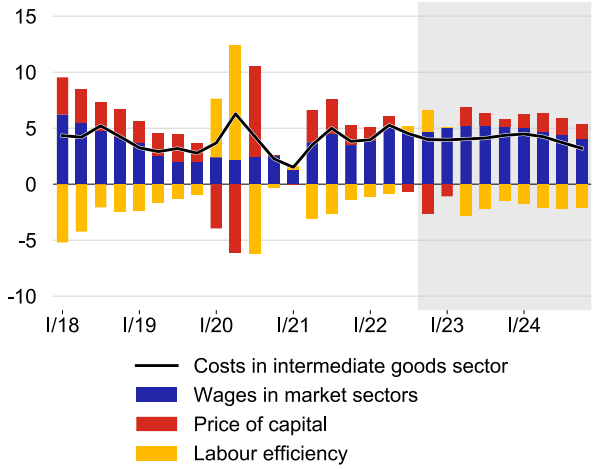
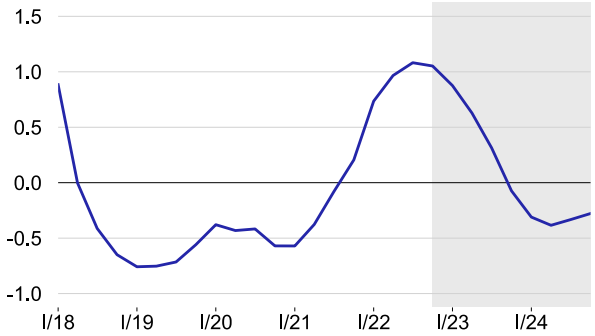


Chart III.3

The highly positive gap in mark-ups will close over the forecast horizon as domestic demand cools, aided by monetary policy tightening

gap in mark-ups on consumer goods in %



Mark-ups in the consumer sector *represent the difference between the prices and marginal unit costs of producers of final consumer goods. The gap in mark-ups shows the deviation of current mark-ups from their steady-state level. A positive gap in mark-ups thus implies a higher-than-usual "profit margin", while a negative gap represents a lower-than-usual one. If the gap increases (decreases) over time, it gives rise to an additional inflationary (anti-inflationary) effect, i.e. upward (downward) pressure on consumer prices going beyond the increase (decrease) in costs.*

analysed from the perspective of demand and other factors in Box 2 at the end of this section.

Inflation will temporarily accelerate slightly further in 2022 Q4; it will return to single figures in the second half of next year

Further moderate growth in headline inflation (see Chart III.4) at the end of this year will be fostered mainly by faster growth in administered prices and food prices. By contrast, the contribution of core inflation will decrease compared to the previous quarter. Fuel price inflation will also go down. Headline inflation will rise above 18% in Q4 (see Chart III.5).

Within core inflation, there is still rising growth in prices of tradables, while growth in non-tradables prices has started to slow

Core inflation remained stable during Q3 due to the opposite effects of rising growth in prices of goods and falling growth in prices of services. Core inflation will start to slow in Q4 (see Chart III.5). This will be due mainly to a declining contribution of imputed rent (see Chart III.6), which is an important item of core inflation. Imputed rent is starting to fully reflect the previous interest rate increases, which have slowed growth in house purchase loans and house prices.

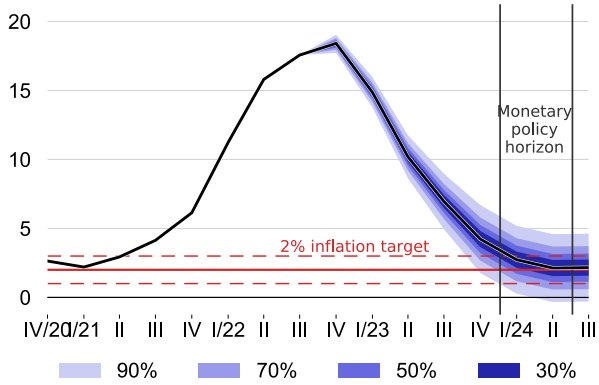
More specifically, growth in imputed rent is being slowed by weakening year-on-year growth in prices of new properties (from almost 30% to 25% in 2022 Q2 after two and a half years of strengthening year-on-year growth), sharply falling demand for new mortgages and decreasing growth in construction materials prices. The latter fell over the summer, from 26.5% in May to 18.3% in September. Construction work prices have been rising at a rate of around 13% for two consecutive quarters. According to the latest available data, the year-on-year growth of house prices as a whole (new and existing flats and houses, including land) also started to slow to around 23% in 2022 Q2.[11] This slowdown will continue in the second half of this year, due, among other things, to an increase in mortgage interest rates.

Core inflation will start to fall in 2022 Q4. However, the decline from the previous high levels will be gradual. This will be due mainly to slowly fading growth in industrial producer prices abroad, which is spilling over noticeably into domestic industrial and consumer prices. A reduction in domestic demand will act in the same direction. Core inflation will continue to slow in 2023 and 2024, aided by tightened domestic monetary conditions, a cooling labour market and the impending recession.

Chart III.4

Inflation will rise above 18% in 2022 Q4 and then start to fall, returning close to the 2% target in the first half of 2024

headline inflation; y-o-y in %; confidence interval

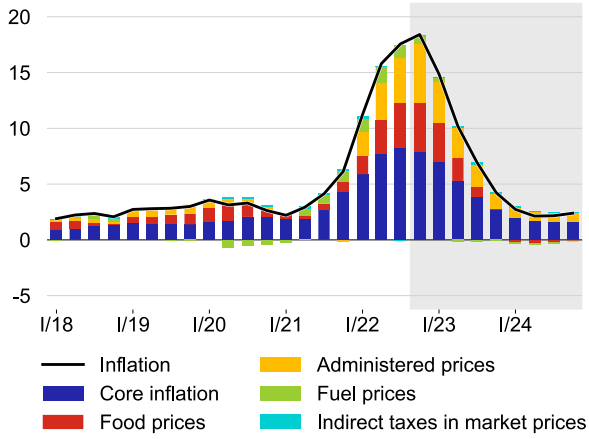


Note: In this forecast, the monetary policy horizon is 15–21 months ahead, i.e. in the first half of 2024.

Chart III.5

Consumer price inflation will continue to be dominated by core inflation, but growing contributions of administered prices and rising food prices will also be significant

structure of inflation; y-o-y changes in %; contributions in pp



11 Measured by the CZSO House Price Index. This index does not directly enter the cost of owner-occupied housing in the CPI (imputed rent).

Administered price inflation will peak at the end of this year

Annual administered price inflation will slow slightly in October due to a waiver of the fees for renewable energy sources.[12] Conversely, it will pick up considerably in November and December, due both to the base effect of last year's temporary waiver of VAT on electricity and gas and to further growth in housing-related energy prices (electricity, natural gas, heating). This is related to the escalating exchange prices of energy at the end of the summer. Overall, administered price inflation will peak at around 40% in 2022 Q4 (see Chart III.7).

At the start of 2023, the government will cap electricity and gas prices to help with the high energy prices.[13] This will reduce the growth in gas prices for households in particular. For most suppliers, gas prices are now above this price cap, so its introduction will lead de facto to a reduction in gas prices from January. On the other hand, electricity prices for households are still below the cap in most of the contracts covered by the consumer price statistics. Therefore, the cap will in fact not lead to cheaper electricity, and prices will instead tend to increase towards it. In 2023, administered price inflation will slow considerably owing to a decline in exchange prices of energy commodities. However, it will remain high. Growth in administered prices is not expected to ease until 2024.

Growth in food prices will peak in 2022 Q4

Elevated prices of global agricultural commodities and domestic agricultural producer prices amid rising energy costs will continue to foster a slight increase in food price inflation in Q4 (see Chart III.5). These costs are being reflected in price increases by domestic agricultural producers and food producers. A rise in prices can be expected across all food categories in the months ahead, especially in the case of pork, due to insufficient supply in Europe. Growth in food prices will slow distinctly in 2023 owing to a correction of world agricultural commodity prices and a cooling of domestic demand, and will turn into a decline at the end of 2023.

Chart III.6

The until recently increasing contribution of imputed rent started to decrease in the summer, due also to the previous interest rate increases; this will foster a drop in core inflation in the quarters ahead

y-o-y changes in %; contributions in pp

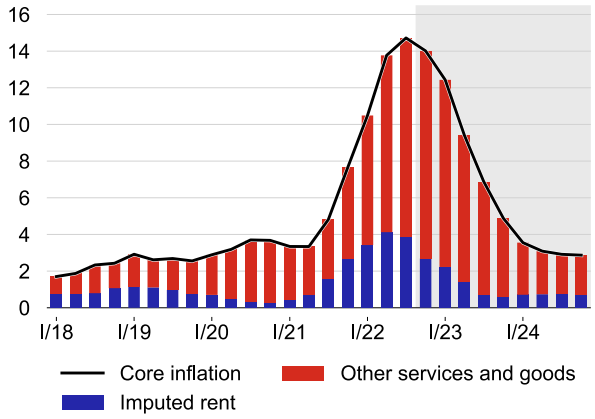
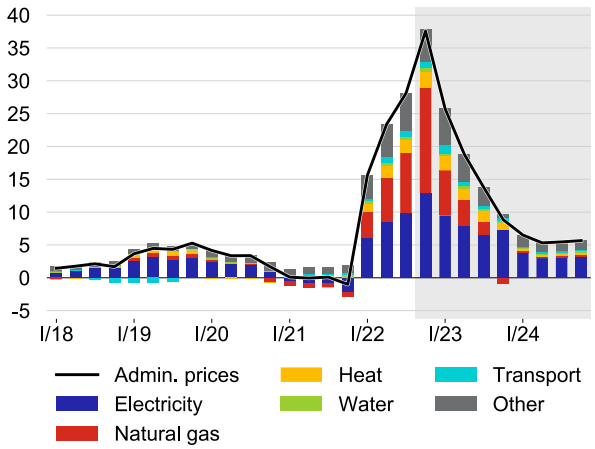


Chart III.7

Administered price inflation will be extremely high in 2022–2023 despite the dampening effects of government measures; it is not expected to ease significantly until 2024

administered prices; y-o-y changes in %; contributions in pp; including taxes



12 The waiver of the fees for renewable energy sources approved by the Czech government will be in effect from October 2022 to December 2023. Another government measure to help with the high energy prices is the energy savings tariff effective from October 2022. Under this measure, households will receive a contribution of CZK 2,000 or CZK 3,500, depending on their energy consumption. The immediate effect of the energy savings tariff on unit housing-related energy prices, i.e. the prices of the relevant items in the consumer price index, is uncertain. Therefore, it is not taken into account in administered price inflation per se in the autumn forecast and is treated as a fiscal compensation measure.

13 The price cap will be set at CZK 6.05 per kWh including VAT for electricity and CZK 3.025 per kWh including VAT for gas and will be applied to supplies in January–December 2023. The measure is intended to protect households, public institutions and small and medium-sized enterprises from the effects of significant energy price increases.

Fuel price inflation will be broadly stable at the end of this year

Fuel prices (adjusted for a temporary decrease in excise duty; see below) decreased markedly in 2022 Q3 owing to a drop in oil prices and margins along the entire value chain.[14] However, prices at filling stations started to rise again in October following the announcement by OPEC+ that it would cut oil production. Year-on-year growth in fuel prices will be broadly stable in the months ahead. Prices at filling stations will then decrease year on year in the first half of 2023 due to weakening demand and a high base.

The gap between headline and monetary policy-relevant inflation will temporarily widen

Changes to indirect taxes will affect consumer price inflation in both directions. Excise duty on tobacco was increased again in January this year. A reduction in excise duty on petrol and diesel of CZK 1.50 a litre in June then led to a temporary negative contribution of changes to indirect taxes to inflation of 0.14 pp (see Chart III.8).[15] Excise duty on petrol returned to its original level in October, but the reduction in excise duty on diesel was extended until the end of 2023. The temporary waiver of VAT on electricity and gas in the last two months of 2021 will widen the gap between headline and monetary policy-relevant inflation for a short time at the end of this year, due to base effects. Excise duty on cigarettes will go up by 5% at the start of 2023. These changes do not affect monetary policy-relevant inflation, so the CNB does not respond to them. This is because they are one-off changes in the price level caused by the corresponding pass-through of changes to indirect taxes. The central bank usually disregards such changes, especially if, as in this case, they do not have clear long-term second-round effects on inflation.

Monetary policy-relevant inflation will fall close to the inflation target over the monetary policy horizon (15–21 months ahead, i.e. in the first half of 2024, in the baseline scenario of the autumn forecast), due in part to a forecasted brief increase in interest rates (see Chart III.9).

*We distinguish two types of price effects in relation to **changes to indirect taxes** – first-round and second-round. The first-round effects are the calculated price changes due to the indirect tax changes implied by full (accounting) pass-through of the tax changes to prices of the relevant items of the consumer basket. The second-round effects capture the price changes due to indirect tax changes going beyond their first-round effects. The second-round effects may be positive or negative. In the case of an indirect tax increase (decrease), they are positive if the prices of the items concerned rise (fall) more (less) than implied by mechanistic pass-through of the tax changes. Conversely, they are negative if prices rise (fall) less (more) than the tax increase (decrease) would imply. The CNB applies escape clauses to the first-round effects of indirect tax changes.*

Chart III.8

The first-round effects of changes to indirect taxes will reflect changes in excise duty on tobacco and fuel, and the base effect of the waiver of VAT on energy at the end of 2021

first-round and second-round effects of tax changes; contributions to annual inflation in pp

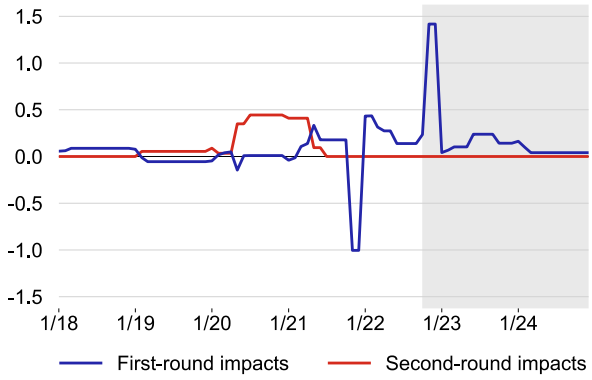
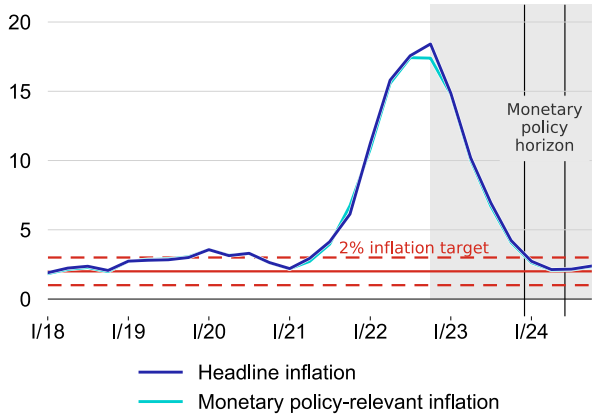


Chart III.9

Monetary policy-relevant inflation will decrease close to the 2% target at the monetary policy horizon; headline inflation will be above it over the entire outlook

headline and monetary policy-relevant inflation; in %



14 The fall in petrol prices was larger due to the gradual normalisation of refinery margins, while prices of diesel and heating oil remained high, as demand from power stations (seeking to replace expensive natural gas with oil products) increased.

15 Unlike in the summer forecast, the waiver of the fees for renewable energy sources (RES) has been excluded from the first-round effects of changes to indirect taxes, as the taking into account of this waiver in tax changes is surrounded by considerable uncertainty. The waiver of RES fees nonetheless affects consumer prices over the forecast horizon under administered energy prices per se.

COMPARISON WITH THE PREVIOUS FORECAST: Price developments

		2022	2023	2024	
Consumer prices	y-o-y changes in %	**15.8**	**9.1**	**2.4**	The downward revision of the inflation forecast in 2022 and 2023 is due to all its components.
	pp	(-0.7)	(-0.4)	(0.0)	
Administered prices	y-o-y changes in %	**26.2**	**16.8**	**5.7**	The decrease in the administered price outlook for 2023 is due mainly to the cap on housing-related energy prices.
	pp	(-0.5)	(-3.2)	(-0.6)	
Core inflation	%	**13.2**	**8.4**	**3.1**	The downward revision of the core inflation forecast in 2022 and 2023 is due to a faster declining contribution of imputed rent and lower domestic demand.
	pp	(-0.5)	(-0.2)	(0.6)	
Food prices (incl. alc. bev. and tobacco)	y-o-y changes in %	**12.3**	**6.3**	**-0.9**	The food price forecast for this year is lower due to lower observations; the growth in 2023 is higher due to a later peak in food prices.
	pp	(-1.0)	(1.4)	(-1.4)	
Fuel prices	y-o-y changes in %	**35.1**	**-1.0**	**-3.4**	Fuel price inflation is markedly lower than in the summer forecast due to its more rapid slowdown in Q3 and a lower outlook for oil prices.
	pp	(-6.3)	(-5.5)	(1.8)	

Note: Changes compared to the previous forecast in brackets (a green label indicates an increase in value and a red label a decrease)

BOX 2 Inflation through the lens of demand factors

Headline inflation started to rise substantially last summer, moving out the tolerance band around the CNB's 2% target. Both demand factors and cost and other factors contributed to this. Under their price stability mandates, central banks respond mainly to surges in demand pressures. However, they cannot neglect the fight against second-round effects of cost pressures either, especially if the anchoring of long-term inflation expectations is threatened.

In this box, we present the results of two approaches to the decomposition of domestic consumer price inflation into demand and other factors. The first is based on the fact that the labour market plays a crucial role in the identification of demand pressures in the economy. Under this approach, we thus estimate the intensity of demand factors using the LUCI,[1] which expresses the condition of the labour market.[2]

Our analysis of demand-driven inflation based on labour market information reveals that the surge in headline inflation recorded since the start of this year has been driven mainly by costs and other factors (see Chart 1) on the back of a dramatic rise in energy prices. At the same time, it is apparent that demand-driven inflation is also considerably elevated this year. Strong demand since the middle of last year has been mainly affecting the two components of core inflation – prices of goods and market services (see Chart 2). At the start of this year, demand pressures showing up in prices of non-market services and food prices also started to contribute significantly. Until then, they had been relatively moderate. By contrast, demand pressures were not identified in fuel prices.

The intensity of the effect of demand factors on inflation decreased a little in 2022 Q3 but remains high from the long-term perspective.[3] At the same time, the reduction in quarter-on-quarter headline inflation in 2022 Q3 was largely a result of a slower increase in inflation driven by costs and other factors (such as a sizeable fuel price correction during the summer holidays). The inflation slowdown originating in demand factors was weaker.

The second approach presented in this box analyses selected core inflation items. It is inspired by a recent analysis by Federal Reserve economist Adam Shapiro, which was subsequently also used at the ECB.[4] Under this approach, inflation is identified as demand-driven if prices move in the same direction as the real quantities of goods and services. Conversely, if prices and quantities move in opposite directions, it is identified as a supply factor. So, with this method it is crucial to link the individual price indices and indices of real sales in retail and services at the level of the consumer price index categories and the corresponding NACE classes.[5]

This analysis, too, suggests that demand factors have had an increased impact on core inflation since the end of last year (see Chart 3). In qualitative terms, this approach offers a similar picture of the intensity of demand factors in inflation as the first one presented above. According to both approaches, demand explains around 50% of the price growth in core inflation. The data for Q3 (only data for July and August

Chart 1

Headline inflation this year has primarily reflected costs and other factors, but demand-driven inflation has also been significantly elevated

q-o-q changes in %; seasonally adjusted; source CZSO; CNB calculations

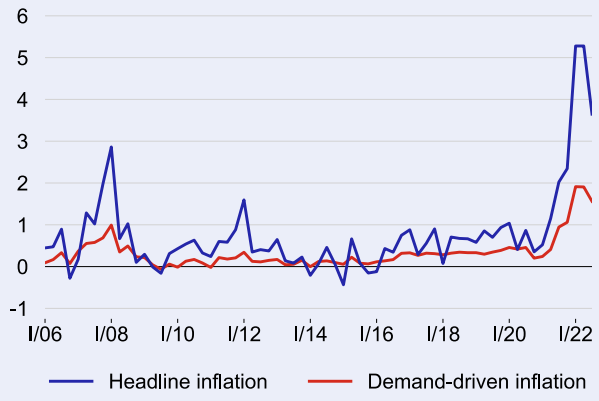
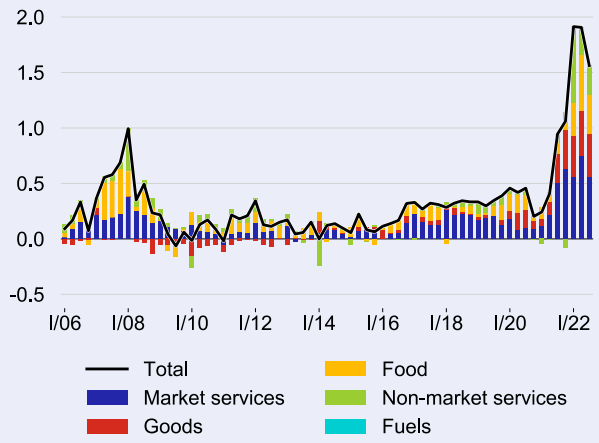


Chart 2

Demand inflation pressures are apparent in the prices of all the main consumer basket categories (except fuel prices)

q-o-q in %; seasonally adjusted; contributions in pp; source CZSO; CNB calculations



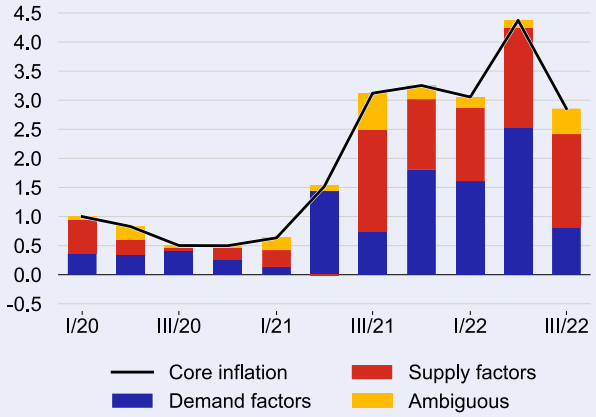
are included in this quarter due to the unavailability of data on sales) indicate that demand-driven inflation has eased according to this method as well.

The significant representation of demand pressures in current inflation shows that the monetary policy tightening cycle started last year was the right step towards achieving price stability. At the same time, it is clear that despite the easing of demand pressures in 2022 Q3, their effect on inflation remains strong – at least from the longer-term perspective.

Chart 3

In the past year, core inflation has been driven by both demand and supply factors; the demand factors weakened this summer

q-o-q in %; seasonally adjusted; contributions in pp; source CZSO; CNB calculations



Note: Ambiguous covers inflation expectations and other factors which cannot be assigned unambiguously to supply or demand.

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1 This regularly published index aggregates information from numerous labour market time series. For details, see the box The extended LUCI in Inflation Report IV/2019.

2 This approach was described in more detail in the box To what extent are the domestic demand environment and the labour market contributing to the current growth in consumer prices? in MPR – Autumn 2021.

3 If we abstracted from cost and other factors, the resulting demand-driven inflation would accelerate further year on year, reaching close to 7% in September 2022.

4 The decomposition of inflation using this method is described in Economic Bulletin Boxes, European Central Bank, vol. 7: The role of demand and supply in underlying inflation – decomposing HICP inflation into components.

5 There are certain limitations to the methodology used, as the inflation data need to be linked to data on real sales in retail and services. This can be done – with some degree of simplification – for selected core inflation items. The items used in this analysis account for around 90% of core inflation.

IV. MONETARY POLICY

At its November monetary policy meeting, the CNB Bank Board kept interest rates unchanged. The two-week repo rate thus remained at 7%, the discount rate at 6% and the Lombard rate at 8%. The Bank Board assessed the uncertainties and risks of the baseline scenario of the new forecast as being significant and going in both directions. Consistent with the baseline scenario of the autumn forecast is a rise in market interest rates followed by a gradual decline. The forecasted rise in rates reflects the determination to lower inflation close to 2% at the monetary policy horizon, amid tightening ECB monetary policy. The interest rate path also reflects the fact that the strong external cost pressures have stopped escalating. When setting interest rates, the central bank is currently looking at a monetary policy horizon 15–21 months ahead, i.e. one quarter closer to the time of the decision than in the previous forecast. As in the summer forecast, this period is the first half of 2024. There are numerous substantial risks and uncertainties associated with the forecast. The upside risks to inflation include faster-than-forecasted wage growth, more expansionary fiscal policy and a higher outlook for foreign producer prices. The threat of inflation expectations becoming unanchored and the related risk of a wage-price spiral remain significant risks in the same direction. By contrast, the growing likelihood of recession in the Czech Republic and abroad and hence a stronger-than-forecasted slowdown in domestic consumer and investment demand are downside risks. The introduction of additional measures to limit growth in energy prices at the domestic or European level and a faster-than-expected decline in core inflation are additional anti-inflationary risks. The general uncertainties of the outlook include the future course of the war in Ukraine, the availability and prices of energy, and the future monetary policy stance abroad.

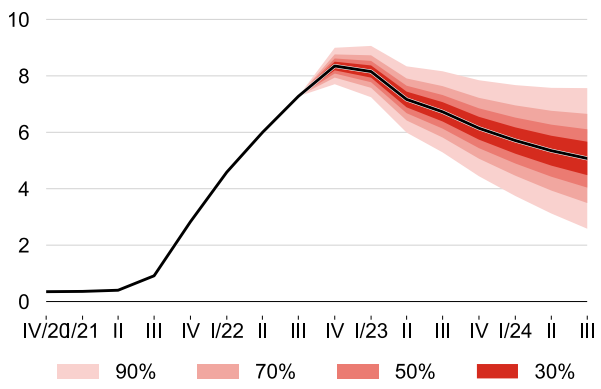
Consistent with the baseline scenario of the autumn forecast is a rise in market interest rates followed by a gradual decline

Consistent with the baseline scenario of the forecast is a rise in short-term market interest rates to just above 8% initially (see Chart IV.1). This monetary policy response corresponds to the central bank's determination to achieve the 2% target at the monetary policy horizon, i.e. in the first half of 2024. A gradual fading of cost price pressures, combined with a continued tightening of domestic monetary policy, will result in inflation falling close to the target in the first half of 2024. Interest rates will thus be able to start decreasing gradually in the course of next year.

Chart IV.1

Consistent with the forecast is a rise in market interest rates initially, followed by a gradual decline in the course of next year

3M PRIBOR in %; confidence interval



The baseline scenario of the forecast assumes that the central bank sets interest rates in order to achieve the 2% target at a monetary policy horizon 15–21 months ahead

In a context of persisting high inflation, which is having a significant adverse effect on firms' performance and households' purchasing power, it is relevant to continue taking into account the fact that this is largely a consequence of strong external price shocks lying outside the control of domestic monetary policy. In the baseline scenario of the forecast, the central bank therefore continues to abstract from the inflation that is

due directly to strong exogenous price shocks showing up in inflation up to 15 months ahead.

The strong external cost pressures are gradually fading and the need to exempt them is lower than in the previous forecast. The central bank is thus now looking at a monetary policy horizon 15–21 months ahead, which, as in the summer forecast, covers the first half of 2024.

Another important assumption of the baseline scenario is still that medium-term inflation expectations stay anchored to the 2% target, thereby helping inflation return close to it.

__The confidence intervals of the forecasts__ for key macroeconomic variables reflect the predictive power of past forecasts. They are symmetric and linearly widening. In the case of headline inflation, they widen only for the first five quarters and then stay constant. This is consistent with both the past predictive power and the stabilising role of monetary policy. For interest rates and the koruna exchange rate, the exchange rate commitment period is not included in the confidence interval calculation.

Abstracting from part of the inflation pressures by the CNB, as embodied by the current monetary policy horizon, is only temporary

The baseline scenario featuring the current monetary policy horizon is justified, among other factors, by the gradual pass-through of the extreme rise in global energy prices on exchanges to domestic consumer prices, amid extraordinarily heightened uncertainty. Administered price inflation will thus peak at around 40% at the end of this year, but will remain very high next year. According to the forecast, foreign producer price inflation peaked in Q3 but will come down only gradually. Both these factors will thus significantly affect inflation next year, too. This remains a valid argument for more forward-looking monetary policy compared to the standard setting. New data, and also the new government stabilisation measures, confirm the narrative of the previous forecast that the strongest external price shocks have already occurred and the situation will not escalate further. It is therefore possible to move the monetary policy horizon one quarter closer compared to the previous forecast.

__The monetary policy horizon__ is the future time period which the CNB focuses on when making its monetary policy decisions and which reflects the lag in the transmission of monetary policy. By concentrating on inflation at this horizon, the central bank also abstracts from short-term inflation shocks, whose impact monetary policy can control to only a minimal extent.

The koruna exchange rate was in line with the summer forecast

The exchange of the koruna against the euro fluctuated within a narrow band of CZK 24.4–24.7 to the euro in Q3 and in October, in line with the summer forecast, which had expected an average rate of CZK 24.7 to the euro in Q3. The stability of the currency was affected by occasional foreign exchange interventions by the CNB. Among other things, the sale of international reserves in these interventions created a counterweight to the large current account deficit, due partly to high energy prices, and the outflow of short-term capital from the Czech Republic.

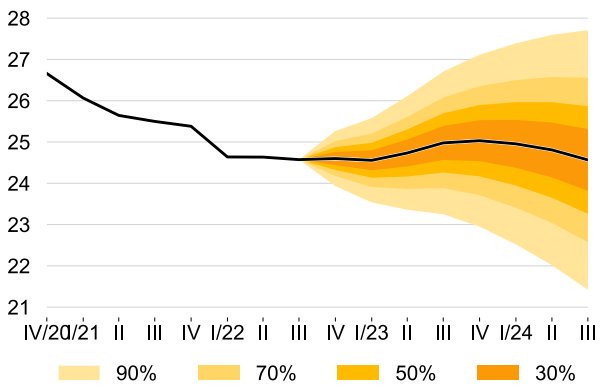
The koruna will be broadly stable in the coming quarters

The forecast expects the koruna to average CZK 24.6 to the euro in Q4 and stay at similar levels over the next few quarters (see Chart IV.2). However, the exchange rate will later be affected by a gradually narrowing interest rate differential. It will thus tend to depreciate

Chart IV.2

The koruna will be broadly stable in the coming quarters

CZK/EUR exchange rate; confidence interval



slightly next year. After the negative impacts of disrupted global value chains and the direct impacts of the war in Ukraine fade out, the balance of trade will return to a surplus and global sentiment will improve. This will in turn be reflected in moderate appreciation of the koruna during 2024.

The market interest rate outlook for the near future is below the CNB forecast; the exchange rate path expected by analysts is marginally stronger than the central bank's forecast

The market outlook for short-term FRA rates has been fluctuating with no clear direction in recent weeks and months. The market currently expects the 3M PRIBOR to be broadly stable at the one-year horizon (see Chart IV.3). This outlook is lower than the CNB forecast until the start of 2023. Almost all the respondents in the FMIE survey were expecting the 2W repo rate to be left at its current level at the monetary policy meeting in November, with only one foreseeing an increase of 0.25 pp. The analysts expect the CNB's key interest rate to be in a very wide range of 4.5%–7% (5.9% on average) at the one-year horizon.

On average, the analysts in the FMIE and FECF surveys expect the koruna to weaken imperceptibly from its current level at the one-year horizon (see Table IV.1). Their forecasts expect a marginally stronger exchange rate than the central bank's outlook. The current geopolitical tensions linked with the war in Ukraine, coupled with the unfavourable evolution of the balance of payments, may in the analysts' view cause the exchange rate of the koruna to deviate to a weaker level. The analysts expect the koruna to return to a gradual appreciation trend in the medium term (if the current energy crisis is resolved). This will be based on renewed convergence of the Czech economy. According to the analysts, a recovery in foreign trade, a reduction in the overboughtness of the koruna and an improvement in market sentiment will also foster appreciation. The expected narrowing of the interest rate differential vis-à-vis the rest of the world will have the opposite effect. The difference between the minimum and maximum expected exchange rate against the euro at the one-year horizon in the two surveys is CZK 2 and CZK 3 respectively.

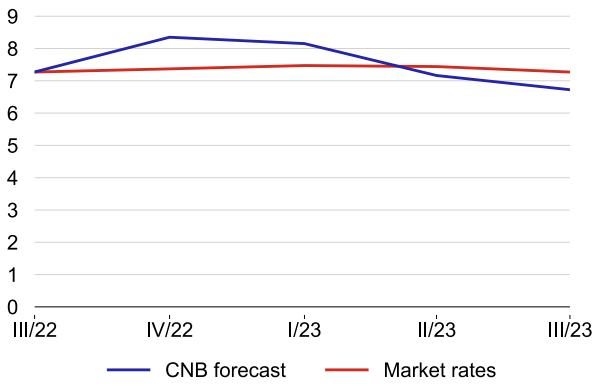
The Bank Board members' communications regarding future rates sent a mixed message

In recent weeks, a majority of the Bank Board members have been emphasising that the current inflation is due mainly to cost pressures, which the central bank is unable to influence. Moreover, some of the members believe that the current interest rate level is having a sufficiently restrictive effect on domestic demand. By contrast, others have indicated a need to raise the CNB's interest rates further. In their view, the central bank's duty in the current highly inflationary environment is to fight elevated inflation expectations

Chart IV.3

The market outlook suggests broad stability of rates; it is temporarily lower than the CNB forecast

3M PRIBOR; FRA in %



Note: Market rates represent for 2022 Q3 the 3M PRIBOR and for 2022 Q4–2023 Q3 the average values of the FRA 1*4, 3*6, 6*9 and 9*12 rates for the last 10 trading days as of 31 October 2022.

*The **3M PRIBOR market interest rate** is a money market reference rate with a maturity of three months which is closely linked to the CNB's monetary policy rates. The CNB's key rate is the **two-week (2W) repo rate**, paid on commercial banks' excess liquidity as absorbed by the CNB in two-week repo operations. The difference between the 3M PRIBOR and the 2W repo rate fluctuates over time and reflects, among other things, expectations regarding the future path of monetary policy interest rates. This difference has been 0.3 pp since the end of June.*

Table IV.1

Analysts' inflation expectations at the three-year horizon have been well above the inflation target for several months, while those of firms currently even exceed 7%

sample of approximately 18 analysts and 150 corporations; 1Y horizon; annual percentage changes unless otherwise indicated

	6/22	7/22	8/22	9/22	10/22
FMIE:					
CPI	6.0	6.2	6.7	6.7	6.2
CPI, 3Y horizon	2.5	2.5	2.5	2.8	2.7
Real GDP in 2022	1.9	1.9	2.4	2.4	2.4
Real GDP in 2023	2.3	2.2	1.3	1.2	0.7
Nominal wages in 2022	7.0	7.2	6.9	6.8	7.0
Nominal wages in 2023	7.0	7.0	7.5	7.7	8.0
CZK/EUR exchange rate (level)	24.9	24.9	24.8	25.0	25.1
2W repo rate (%)	6.2	6.3	6.0	6.0	5.9
1Y PRIBOR (%)	6.3	6.4	6.1	6.0	6.0
Corporations:					
CPI	9.4			10.3	
CPI, 3Y horizon	7.1			7.5	
CF:					
Real GDP in 2022	2.2	2.2	2.4	2.4	2.4
Real GDP in 2023	2.7	2.1	1.6	0.8	0.4
Nominal wages in 2022	7.3	7.3	7.6	7.2	6.7
Nominal wages in 2023	7.2	7.0	7.4	7.6	8.1
CZK/EUR exchange rate (level)	24.8	24.9	24.9	24.9	24.9
3M PRIBOR (%)	5.9	5.8	5.8	5.5	6.1

and confirm its determination to steer inflation to the target as soon as possible. Some members feel there is risk associated with the monetary policy tightening by major central banks, which will foster a decrease in the interest rate differential and hence put depreciation pressure on the koruna. In their opinion, an increase in domestic interest rates would be required in this case. The Bank Board has also declared that it would raise rates if a wage-price spiral were to start. The risk of such a spiral emerging is not seen as equal in size by all the members. In addition, some members do not see any signs of a spiral emerging at the moment. Some members have also mentioned a risk of too expansionary fiscal policy.

COMPARISON WITH THE PREVIOUS FORECAST: Interest rates and the exchange rate

Chart IV.4

The interest rate path has moved higher over the entire horizon

decomposition of changes in 3M PRIBOR forecast in pp

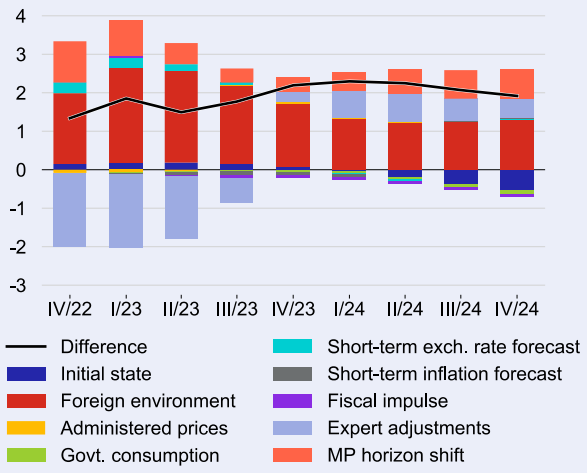
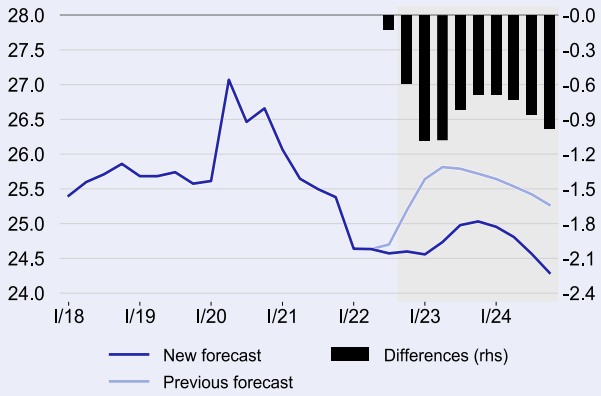


Chart IV.5

The koruna will be stronger than in the previous forecast over the outlook horizon

change in CZK/EUR exchange rate forecast; differences in CZK – right-hand scale



- The **foreign** outlook fosters higher rates over the entire forecast horizon. This is due mainly to a significantly stronger expected tightening of ECB monetary policy. A weaker outlook for the euro-dollar exchange rate has the same effect. The outlook for energy prices acts slightly in the opposite direction due to a stronger expected correction in 2024.
- **The shift of the monetary policy horizon** by one quarter closer to the present compared with the summer forecast fosters higher interest rates along the entire forecasted path.
- **The initial state** fosters slightly higher rates in 2023. This mainly reflects faster wage growth and a smaller decline in domestic economic activity in 2022 Q3.
- **The short-term exchange rate forecast** also leads to slightly higher rates this year. By contrast, **the short-term inflation forecast** and the outlook for slower growth in **administered prices** foster slightly lower interest rates than in the previous forecast.
- **Expert adjustments** foster lower rates at first. This mainly reflects an expert reduction of the effect of the narrowing interest rate differential on the exchange rate and expertly reduced domestic economic activity. From next autumn, by contrast, the overall effect of expert adjustments is positive, as rates will be pushed up in the medium term mainly by a downward expert adjustment of labour productivity growth. Growth in wages and household consumption will not slow as much over the forecast horizon as implied by the lower productivity.

- **The exchange rate of the koruna** will be stronger over the entire forecast horizon than in the previous forecast.
- The shift in the exchange rate to stronger levels at the nearer end of the forecast horizon is due to its **observed levels**. The assumption of a limited pass-through of the rapidly rising interest rates abroad to the koruna's exchange rate via the **interest rate differential** in the coming quarters also acts in the same direction. The revision of the future exchange rate path to stronger levels is a result of domestic interest rates staying at higher levels than in the previous forecast, which will support the koruna's tendency to strengthen particularly in 2024.

The previous increases in monetary policy interest rates have passed through to domestic market interest rates

Money market interest rates have been flat since June, when the CNB last raised its key rates. Rates with longer maturities showed mixed trends in Q3. Overall, they increased slightly at most maturities (by up to 0.2 pp for IRS rates and 0.5 pp for government bond yields). Interest rates on foreign markets went up much more, amid high volatility and in a context of monetary policy tightening (see Chart IV.6). Rates in the Czech Republic and abroad continued to rise in October, particularly at longer maturities. The negative slope of the domestic IRS and government bond yield curves therefore decreased (see Chart IV.7), causing long-term financing conditions to tighten autonomously.

Client loan rates reflect the movements of market rates

The rate on loans to corporations increased further in Q3, though less so than in the previous period, and reached 8.4% in September (see Chart IV.8). Its movement reflects the previous changes in the CNB's repurchase rate, the spread between these rates being broadly unchanged. The rate on genuinely new mortgages rose to 5.9% in September, due to the gradual transmission of the previous growth in long-term market rates. The rate on new deposits with agreed maturity increased to around 6%. This was reflected in continuing migration of deposits to these higher-interest-rate products. The rate on overnight deposits, which still account for a large part of household deposits, remains relatively low. This rate responded to the previous increases in the CNB's key rate to only a limited extent. Box 3 at the end of this section focuses on the effects of the growth in interest rates on households' and firms' balance sheets via changes in their interest payments and income.

The rise in interest rates is reflected mainly in falling demand for housing loans

Growth in housing loans slowed further in 2022 Q3. This reflected a large year-on-year decline in new mortgages (of almost 82% in September).[16] High interest rates, the tightening of macroprudential credit limits in spring and increased living costs contributed to the drop in demand for mortgages. Generally high house prices, weaker consumer confidence and falling household savings also weighed on demand. The forecast expects growth in loans for house purchase to slow further this year and the next. This slowdown will be fostered by higher interest rates amid a cooling economy and labour market (see Chart IV.9).

Chart IV.6

Interest rates with longer maturities have generally increased in the Czech Republic and abroad in recent months

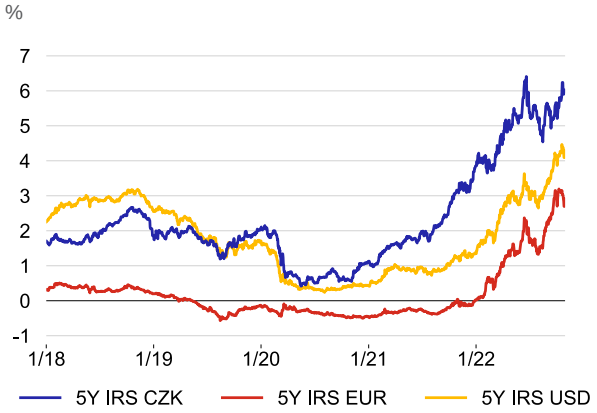


Chart IV.7

The Czech government bond yield curve shifted upwards; it still has a negative slope

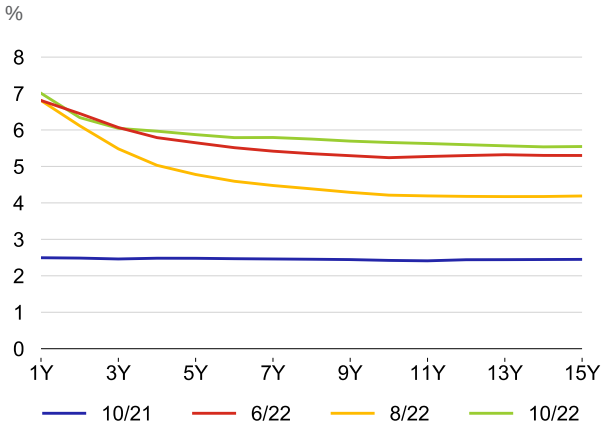
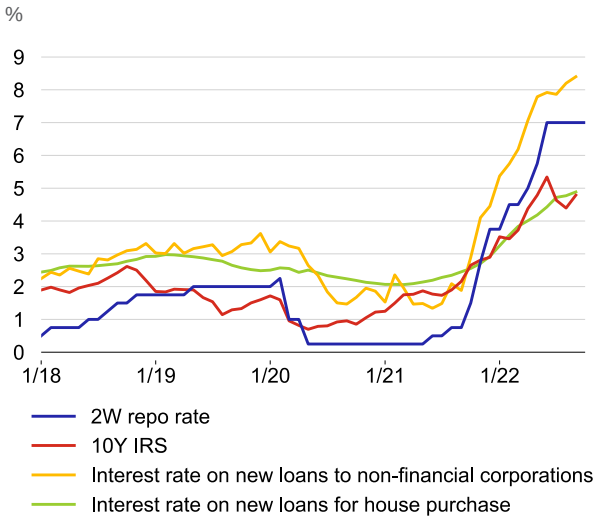


Chart IV.8

The interest rate on loans to corporations is close to 8%, while the rate on housing loans increased further



16 Last year was exceptional in terms of the amount of new mortgages, owing to expectations of future interest rate increases. The comparison base for this year is thus very high.

The importance of foreign currency loans is increasing markedly for firms

Growth in corporate loans remains relatively high in nominal terms, due among other things to an increased need for operational funding, i.e. loans for the purchase of inputs and inventories in an environment of high prices. There has been a sharp increase in short-term loans as a result of a greater need to finance firms' working capital. The high interest rate differential with respect to the rest of the world has been reflected in a continued increase in foreign currency corporate loans. Their share in total corporate loans reached a historical high of almost 45% in September. Overall, banks perceived a decline in corporate demand for loans, especially for financing fixed investment. According to the forecast, growth in loans to firms will slow in response to the high interest rates and the expected cooling of economic growth.

Growth in the quantity of money in the economy is lower than during the pandemic

Following a previous slowdown, M3 growth averaged 6.4% in 2022 Q3. As regards the sources of money creation, growth in loans to the private sector fostered M3 growth, with loans to households contributing less. The contribution of government debt issuance was lower, after having risen sharply during the coronavirus pandemic. Conversely, net external assets fell, amid high energy prices accompanied by a worsening trade balance. The rise in interest rates is being reflected in a decrease in the highly liquid M1 and in migration of deposits to products with higher interest rates.

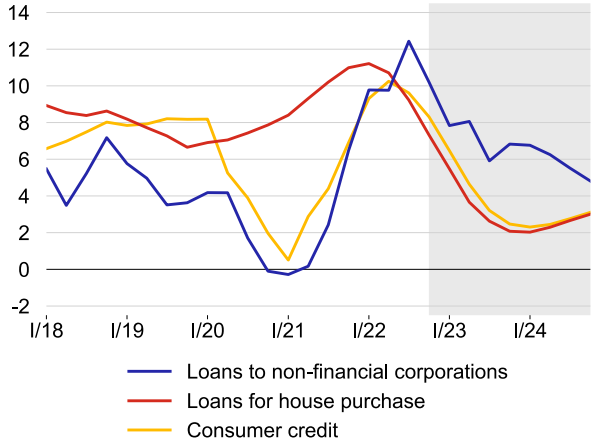
The risks and uncertainties of the baseline scenario of the forecast are balanced overall

Given the protracted high inflation, which will stay in double figures until mid-2023, there is still a substantial risk of inflation expectations becoming unanchored from the CNB's 2% target. We will discuss this in more detail below. This is associated with a risk of a wage-price spiral, as the high observed and expected inflation may be reflected in wage growth to a greater extent than foreseen in the forecast. Another upside risk to inflation is electricity and gas prices on European exchanges.[17] Prices could rise again, due mainly to potential unexpected disruptions to gas supplies to the EU. The possibility of more

Chart IV.9

According to the forecast, growth in loans to households and firms will slow in the quarters ahead

annual rates of growth in %



17 The spot price of natural gas at the Dutch virtual trading point (TTF) fell from its record high of EUR 330/MWh in late August to less than EUR 40/MWh in two months due to a growing surplus of LNG on the physical market. Demand has dropped due to relatively rapid gas storage filling rates and mild weather in Europe, while the number of unsold tankers anchored off the coast of Europe has increased. However, this is a temporary phenomenon and the price of natural gas can be expected to go up again in November (the start of the heating season). This is confirmed by futures with delivery of gas in the winter months, for which the decline in prices relative to spot prices has been much more moderate.

expansionary fiscal policy next year is also an upside risk; the uncertainties in this area are high (see below). Conversely, a deeper-than-forecasted decline in economic activity both inside and outside the domestic economy is a downside risk with a potentially strong impact.

There are considerable uncertainties relating to some areas of the forecast

The main uncertainty is the future course of the war in Ukraine.

As indicated above, many question marks hang over the fiscal measures adopted to counter the high energy prices. The forecast assumes that expenditure related to capped energy prices will be offset by revenue from taxation of the extraordinary profits of the energy sector, refineries and banks (a windfall tax and an EU solidarity contribution). However, the actual quantification of these measures on the revenue and expenditure sides is highly dependent on market energy prices in 2023, which are surrounded by much uncertainty. Possible tax optimisation by businesses subject to the windfall tax represents a potential risk of a smaller tax take and a larger general government deficit.

Similarly, foreign monetary policy is a source of uncertainty. The Fed and the ECB are likely to continue raising interest rates rapidly in response to the mounting inflation pressures. However, given the weakening global demand and negative household sentiment, it is not certain how quickly they will tighten and where their interest rates will peak. The ECB has postponed discussions of the parameters of future quantitative tightening until December. Analysts expect them to be held in the second half of 2023 at the earliest.

Further growth in inflation expectations and an unanchoring of expectations from the CNB's inflation target are a significant inflationary risk to the forecast

The anchoring of inflation expectations ensures that shocks to inflation (due, for example, to growth in energy prices or a weakening of the exchange rate) tend to fade relatively quickly. However, if inflation expectations are not sufficiently anchored, major price shocks can have persistent effects on inflation. A general marked rise in inflation expectations in the longer term would greatly complicate the return of inflation to the CNB's 2% target.

The available indicators are signalling that the relevance of this risk is not declining. Inflation expectations are visibly rising among non-financial corporations, whose inflation expectations at the three-year horizon have increased further. According to the September survey conducted by the Confederation of Industry of the Czech Republic and the CNB, firms on

average expect inflation of more than 7% at the three-year horizon (see Chart IV.10). The European Commission's business surveys show that the share of firms expecting the prices of their products and services to go up in the near term remains high, with rising prices expected across all sectors (industry, construction, retail and services).

Concerns about rising prices also persist among households. The indicator of inflation perceived by households in the European Commission survey is close to an all-time high. The indicator of the inflation rate expected at the one-year horizon has fallen in recent months but is still high (see Chart IV.11). According to the CZSO's business survey, consumers also remain pessimistic about the future economic situation. The outlook for their financial situation has worsened since the spring, due mainly to rapid growth in housing-related energy prices.

The analysts expect inflation of 2.7%, well above the CNB's 2% target, at the three-year horizon. This section of the public is very familiar with the central bank's monetary policy regime and its inflation target.

The unanchored inflation expectations scenario now uses FMIE survey data[18]

The updated approach to modelling the unanchoring of inflation expectations uses data from the Financial Market Inflation Expectations (FMIE) survey. Analysts' expectations regarding inflation at the one-year and three-year horizons are used as the source of information for inflation expectations in the g3+ model.

In the event of a gradual unanchoring of inflation expectations, a larger increase in interest rates would be needed to return inflation to the 2% target than in the baseline scenario of the forecast

The scenario (see Chart IV.12) simulating the potential impacts of an unanchoring of inflation expectations using this new approach assumes that in a prolonged period of high inflation the central bank partly loses credibility regarding its ability to achieve the target. This is reflected in inflation expectations gradually rising above the target. Economic agents incorporate the higher inflation into their decisions, which in turn generates additional inflation pressures in the economy. To return inflation to the target, the central bank must quell the elevated inflation expectations with an even greater rise in interest rates than in the baseline scenario (up to 9%).

Chart IV.10

Inflation expectations rose further among non-financial corporations at the three-year horizon

sample of approximately 18 analysts and 150 corporations; %

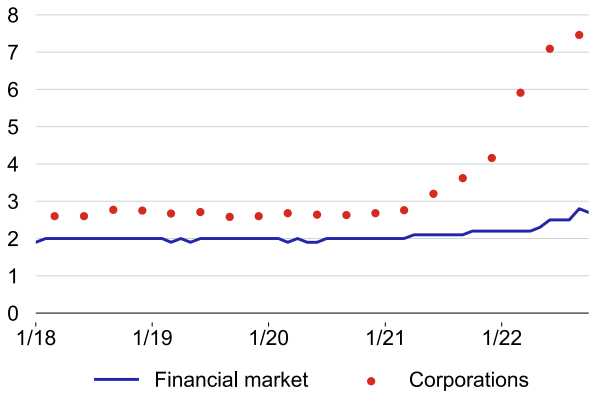
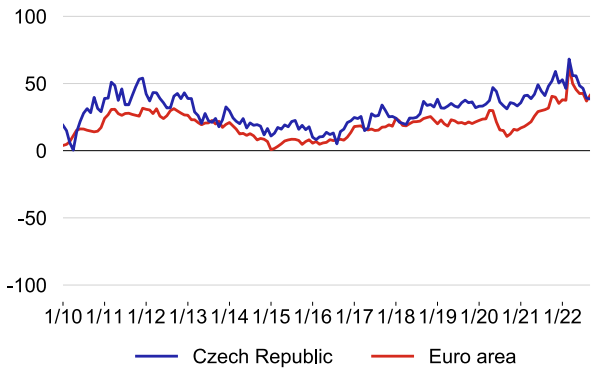


Chart IV.11

The inflation expectations of Czech and euro area households remain high

households' inflation expectations in the next 12 months according to European Commission Business and Consumer Survey; sample of approximately 1,000 households; balance of answers; expectations can take values from -100 to 100



***The inflation expectations of households, firms and the financial markets** fundamentally affect their behaviour and decision-making, and hence also the overall economic situation and the resulting inflation rate. As expectations can be largely self-fulfilling, it is important that central banks monitor them and try to keep them close to their inflation target.*

18 The survey is conducted among analysts at large banks and investment firms. For details, see https://www.cnb.cz/en/financial-markets/inflation-expectations-ft/

Unanchored inflation expectations simulation using FMIE survey data

The unanchored inflation expectations scenario uses data from the September 2022 Financial Market Inflation Expectations (FMIE) survey. Analysts' expectations regarding inflation at the one-year and three-year horizons are used as the source of information for inflation expectations in the g3+ model.

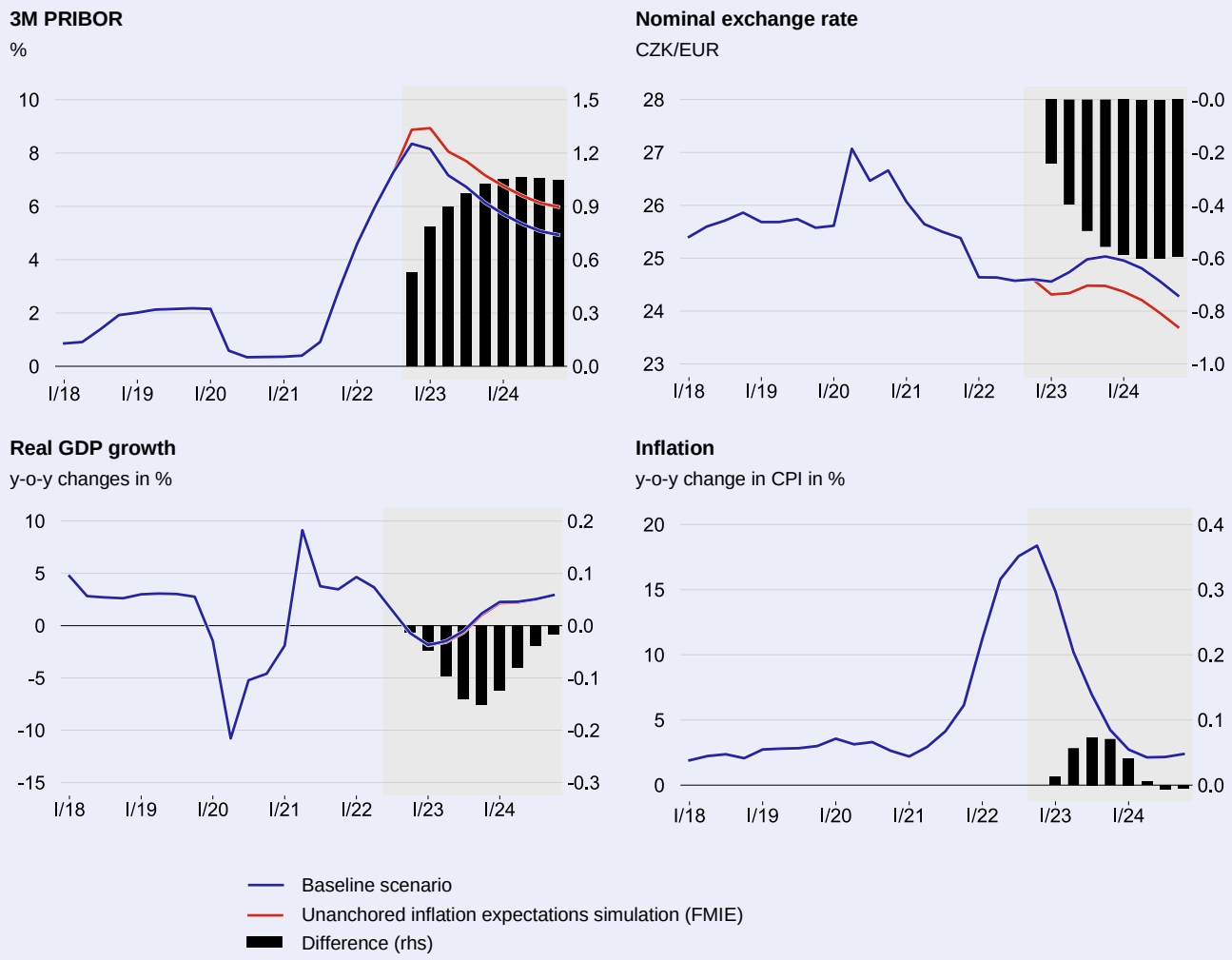
At the one-year horizon, analysts' inflation expectations were 0.4 pp above the model expectations in the baseline scenario. At the three-year horizon, analysts' expectations were at 2.8%. By contrast, the model expectations in the baseline scenario of the forecast are at the 2% target. In the unanchored inflation expectations simulation, the model inflation expectations were therefore increased by 0.4 pp at the one-year horizon and 0.8 pp at the three-year horizon compared with the baseline scenario.

The simulation assumes that the period of high inflation is reflected in inflation expectations gradually rising above the CNB's 2% target. Economic agents incorporate higher inflation into their decisions, which generates additional inflation pressures in the economy. To return inflation to the target, the central bank must quell the elevated inflation expectations with an even greater rise in interest rates than in the baseline scenario (up to 9%). A wider interest rate differential vis-à-vis the euro area leads to a stronger koruna exchange rate – about 50 hellers stronger on average over the outlook.

Chart IV.12

Increased inflation expectations would require a more significant tightening of monetary policy

comparison of baseline scenario with unanchored inflation expectations simulation



The tight monetary conditions in both the exchange rate and interest rate components offset the negative effects of the unanchoring of inflation expectations and ensure that inflation returns close to the 2% target at the monetary policy horizon.

The central bank's response differs depending on the monetary policy horizon selected

Additional monetary policy simulations were drawn up to capture the effect of the distance of the monetary policy horizon on the message of the forecast. The simulations map out how the required response of the central bank differs depending on the selected distance of the monetary policy horizon (see Chart IV.13). In all variants, monetary policy maintains full credibility and medium-term inflation expectations remain anchored to the 2% target.

The strongest central bank response is required in the simulation with the "nearest" monetary policy horizon 12–18 months ahead, as the central bank endeavours to steer inflation to the 2% target in a year to a year and a half.

The simulation with the "farthest" monetary policy horizon 18–24 months ahead implies broadly stable rates until the start of next year, followed by a gradual decline. The exchange rate remains weaker than in the baseline scenario over the entire outlook. The easier monetary conditions in both the interest rate and exchange rate components lead to somewhat higher inflation, which remains close to the 3% upper boundary of the tolerance band over the monetary policy horizon.

Simulation featuring different monetary policy horizons

The monetary policy simulations presented for comparison with the baseline scenario illustrate how the appropriate central bank response differs depending on the selected distance of the monetary policy horizon. In the simulations, the central bank sets interest rates so as to achieve the 2% target at monetary policy horizons 12–18 months and 18–24 months ahead. Both simulations assume that monetary policy maintains full credibility and medium-term inflation expectations remain anchored to the 2% target.

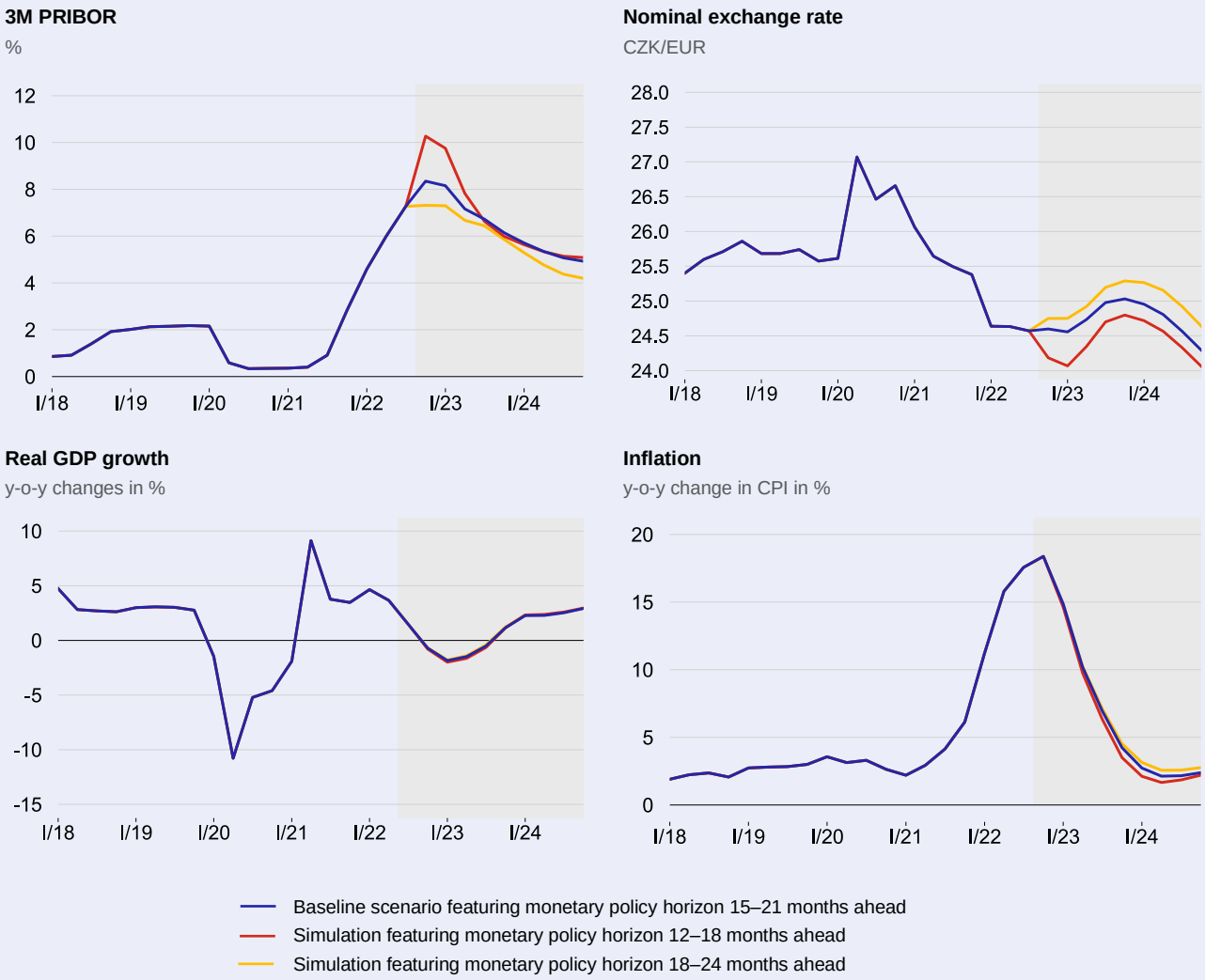
The first version (red in the charts) captures the situation where the central bank targets inflation at a monetary policy horizon 12–18 months ahead and reacts to inflation pressures that manifest themselves in inflation at this horizon. Interest rates thus rise to more than 10%, well above the levels in the baseline scenario of the autumn forecast. Owing to the initial sharp increase in interest rates, the koruna is stronger than in the baseline scenario over the entire outlook. The tighter monetary conditions in both components are reflected in lower inflation.

In the second version of the simulation (yellow in the charts), the central bank looks at a monetary policy horizon 18–24 months ahead and thus abstracts from the inflation that is directly affected by price shocks showing up in inflation 12–18 months ahead. The market interest rate path is lower than in the baseline scenario this year. Rates remain broadly stable until the start of next year and then decline gradually. Owing to a narrower interest rate differential, the koruna depreciates and remains weaker than in the baseline scenario over the entire forecast horizon. The lower interest rates together with the weaker exchange rate lead to higher inflation than in the baseline scenario.

Chart IV.13

The strongest monetary policy response is implied by the simulation with a monetary policy horizon 12–18 months ahead

comparison of baseline scenario featuring monetary policy horizon 15–21 months ahead with simulations featuring other horizons



BOX 3 The effects of the growth in interest rates on households' and firms' budgets

This box focuses on the effects of the growth in interest rates on households' and firms' balance sheets via changes in their interest payments and income.

The effects of the increase in interest rates on households' budgets

In 2022 Q2, total household debt stood at CZK 2,163 billion, more than three-quarters of which was housing loans. The growth in monetary policy and long-term market interest rates led to a rise in rates on new mortgages of 3.8 pp to 5.9% between June 2021 and September 2022 (see Chart 1). The higher price of loans was reflected in a drop in new mortgages and lower demand for property. This in turn is dampening growth in house prices, which enter inflation via the cost of owner-occupied housing.

The lower demand for housing loans has also caused households' debt-to-income ratio to fall. Following significant increases in the past, in 2022 Q2, year-on-year growth in household debt slowed more than that in income and the debt ratio fell to 62%. Even so, the ratio of debt to disposable income is much higher than at the end of 2019.

Households' housing-loan-related interest payments increased only slowly in the first half of this year (see Chart 2).[1] This is because rates on a large proportion of existing mortgages are fixed for several years in advance and an increase in client rates will only affect them when the fixed-rate period changes in the near or more distant future.

The ratio of households' total debt repayment costs (comprising payments of interest and principal on housing loans and consumer credit) to income changed little so far in the first half of 2022 (see Chart 3). Principal repayments have long been increasing in the debt servicing costs of households. This is due, among other things, to growth in the prices of the properties on which mortgages were taken out. The ratio of interest payments to income is close to an all-time low. However, the importance of interest payments is likely to increase as a result of the gradual refixing of mortgage rates at higher levels.

Until mid-2022, households' interest income was rising considerably faster than their interest payments in response to the increase in interest rates. This contributed on the aggregate level to a reduction in net interest payments. The increase in income reflected, among other things, migration of deposits to products with higher interest rates, especially deposits with agreed maturity. However, a large proportion of household deposits still have low interest rates; in their

Chart 1

Rates on new mortgages and household deposits have risen in response to the CNB's rate hikes

%

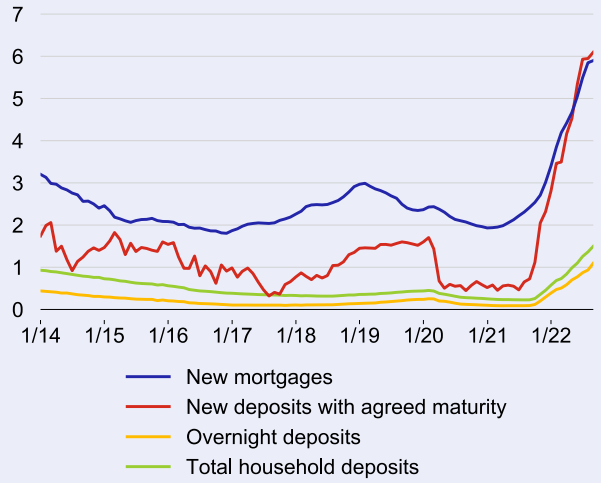


Chart 2

Interest payments have risen slightly, but growth in interest income has been slightly greater, so the net interest paid by households has fallen

annual moving totals (sum of quarterly transactions) in CZK billions

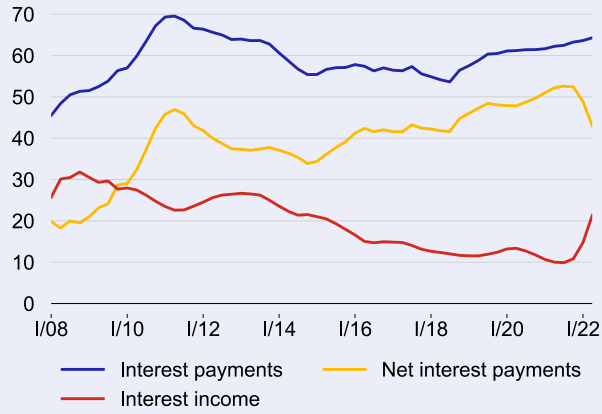
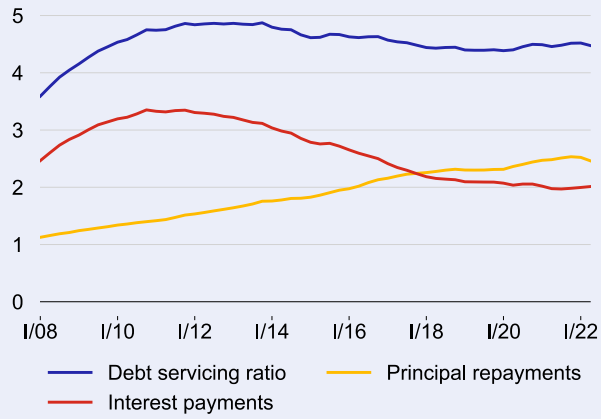


Chart 3

Households' total debt servicing costs have so far remained virtually unchanged relative to income

ratios to gross disposable income in %; CNB calculations



case, client rates have responded to the increase in monetary policy rates to only a limited extent so far. The rate on the total deposits of households has thus risen only slightly recently (see Chart 1).

The effects of the increase in interest rates on firms' budgets

The increase in monetary policy rates has been reflected in a faster and larger rise in the rate on new koruna loans to firms than in the case of households. Between June 2021 and September 2022, it went up by around 7 pp to 8.4%. A large proportion of corporate loans are negotiated with floating or short-term rates derived from money market rates. A change in interest rates thus shows up relatively quickly in firms' interest payments. The rise in rates on koruna loans has also been reflected in increased demand of firms for euro-denominated loans, due to the high differential between domestic and euro rates.

The ratio of debt to gross operating surplus of firms increased moderately in late 2021 and early 2022 on the back of rising interest rates and slowing earnings growth. Continued significant growth in interest rates then fostered a slight decrease in firm debt in 2022 Q2 (see Chart 4). Firms' debt-to-earnings ratio reached 74% in the case of bank loans and 201% for total debt (including non-bank financing and loans from abroad). The economic uncertainty, accompanied by limited investment activity and elevated interest rates, amid a persisting increased need to finance operating capital and inventories, started to manifest itself in a reduction in corporate debt.

The growth in interest rates caused the interest payments of firms to rise in the first half of 2022 (see Chart 5). However, firms' interest income increased even more sharply, so the net interest paid by firms thus fell more than that paid by households on the aggregate level. This is because firms are more active in moving their assets into higher-interest deposits and have a better bargaining position in relation to banks.

The changes in interest costs have also been reflected in the debt service of firms. The ratio of debt servicing costs – comprising payments of principal and interest (on koruna and euro-denominated loans) – to gross operating surplus has increased (see Chart 6). This has been fostered by a rise in interest payments associated with the repayment of koruna loans, as a change in market interest rates is immediately reflected in rates on new and existing corporate loans. The ratio of interest payments to gross operating surplus is therefore at its highest level since 2009. By contrast, principal repayments have recently decreased.

Conclusion

Overall, for households, the increase in the CNB's key interest rates has been reflected in a decrease in new mortgages and hence a reduction in their debt. Households' interest payments on existing loans have so far been increasing slowly. Firms' interest payments

Chart 4

Firms' loan debt is below the pre-pandemic level, while their debt servicing costs are higher

ratios to gross operating surplus in %; bank loans; CNB calculations

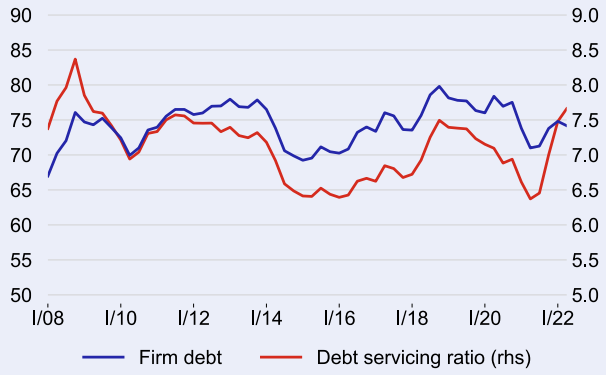


Chart 5

The growth in firms' interest income has outweighed the rise in their interest payments; the net interest payments of firms are therefore falling

annual moving totals (sum of quarterly transactions) in CZK billions

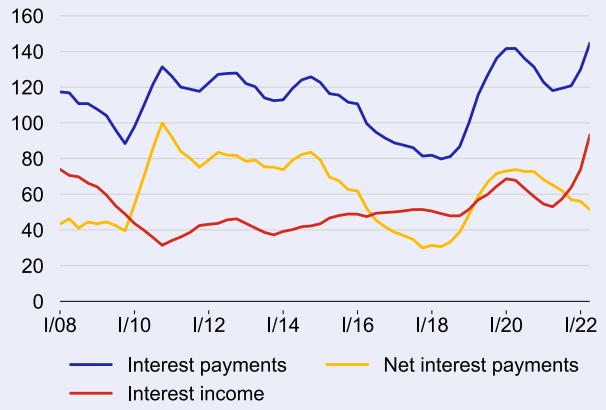
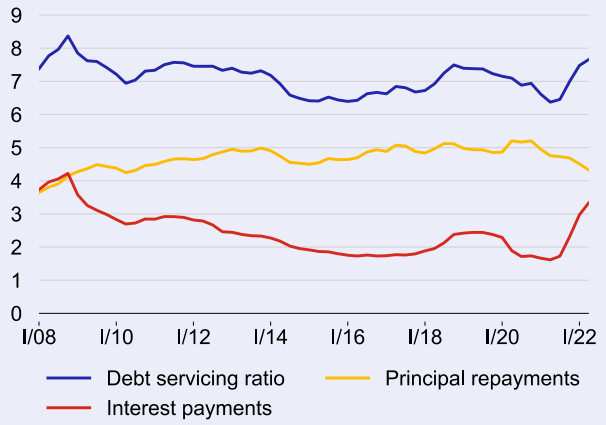


Chart 6

Firms' ratio of total debt servicing costs to earnings is increasing; principal repayments are falling

ratios to gross operating surplus in %; cost of total bank loans; CNB calculations



and total borrowing expenses have increased and their debt has fallen moderately. For both sectors, the rise in interest payments has been more than offset on the aggregate level in terms of balance sheet impact by higher interest income, so the net interest payments of firms and households have decreased. However, this income effect is secondary. From the point of view of monetary policy transmission, the decrease in demand for consumption and investment due to the increase in interest rates is the important effect.

More information on this topic can be found in a blog article on the CNB website: Klientské úrokové sazby z úvěrů a vkladů v kontextu zvyšování měnověpolitických sazeb (Client loan and deposit rates in a context of increasing monetary policy rates; available in Czech only).

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1 The latest available data on households' and firms' interest payments and income and debt service are available in the sector accounts for 2022 Q2. Interest payments and income are presented in the charts before adjustment for financial intermediation services indirectly measured (FISIM).

Abbreviations

AEIS	Average Earnings Information System
BoE	Bank of England
BoJ	Bank of Japan
CF	Consensus Forecasts
CNB	Czech National Bank
CPI	consumer price index
CPIH	experimental consumer price index incorporating prices of older properties
CZK	Czech koruna
CZSO	Czech Statistical Office
DSTI	debt service-to-income
DTI	debt-to-income
ECB	European Central Bank
EEA	European Economic Area
EIA	US Energy Information Administration
EIA	Environmental Impact Assessment
EIU	Economist Intelligence Unit
ESA	European System of Accounts
ESCB	European System of Central Banks
ESI	Economic Sentiment Indicator
ESR	electronic sales registration
EU	European Union
EUR	euro
EURIBOR	Euro Interbank Offered Rate
FDI	foreign direct investment
FECF	Foreign Exchange Consensus Forecasts
Fed	US central bank
FMIE	Financial Market Inflation Expectations
FOMC	Federal Open Market Committee
FRA	forward rate agreement
GDP	gross domestic product
GNP	gross national product
GVA	gross value added
GVCs	global value chains
HP filter	Hodrick-Prescott filter
HPI	house price index
ICT	information and communications technology
IEA	International Energy Agency
Ifo	index of economic confidence in Germany
ILO	International Labour Organization
IMF	International Monetary Fund
IR	Inflation Report
IRI	Institute for Regional Information
IRS	interest rate swap
JPY	Japanese yen
LFS	Labour Force Survey
LIBOR	London Interbank Offered Rate
LTV	loan-to-value
LUCI	Labour Utilisation Composite Index
M1, M3	monetary aggregates
MFI	monetary financial institutions
MLSA	Ministry of Labour and Social Affairs
m-o-m	month-on-month
MPR	Monetary Policy Report
NAIRU	non-accelerating inflation rate of unemployment
NBS	National Bank of Slovakia
OECD	Organisation for Economic Co-operation and Development
OPEC+	The OPEC member countries and another ten oil-exporting countries (the most important being Russia, Mexico and Kazakhstan)
PMI	Purchasing Managers Index
pp	percentage points
PPI	producer price index
PRIBOR	Prague Interbank Offered Rate
q-o-q	quarter-on-quarter
repo rate	repurchase agreement rate
rhs	right-hand scale
USD	US dollar
VAT	value added tax
WTI	West Texas Intermediate
y-o-y	year-on-year

Key macroeconomic indicators

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
DEMAND AND SUPPLY												
Gross domestic product												
GDP (CZK bn, constant p. of 2015, seas. adjusted)	4290.8	4387.8	4627.4	4740.8	4994.2	5154.3	5307.2	5014.3	5189.2	**5305.5**	**5269.5**	**5401.4**
GDP (CZK bn, current p., seas. adjusted)	4141.9	4344.6	4627.4	4794.9	5116.8	5416.4	5793.9	5710.7	6106.7	**6801.3**	**7434.3**	**7647.5**
GDP (%, y-o-y, real terms, seas. adjusted)	0.0	2.3	5.5	2.5	5.3	3.2	3.0	-5.5	3.5	**2.2**	**-0.7**	**2.5**
GDP (%, q-o-q, real terms, seas. adjusted)	-	-	-	-	-	-	-	-	-	**-**	**-**	**-**
Household consumption (%, y-o-y, real terms, seas. adjusted)	0.9	1.4	3.9	3.7	4.0	3.3	2.6	-7.4	4.0	**0.0**	**-1.4**	**3.5**
Government consumption (%, y-o-y, real terms, seas. adjusted)	2.4	1.0	1.8	2.5	1.8	3.9	2.5	4.2	1.5	**0.8**	**1.6**	**1.3**
Gross capital formation (%, y-o-y, real terms, seas. adjusted)	-4.2	7.1	13.1	-3.9	6.5	7.7	4.5	-9.2	18.9	**7.7**	**-8.7**	**-2.6**
Gross fixed capital formation (%, y-o-y, real terms, seas. adjusted)	-2.2	3.3	9.8	-3.1	5.1	10.0	5.9	-6.0	0.6	**4.8**	**1.4**	**4.3**
Exports of goods and services (%, y-o-y, real terms, seas. adjusted)	0.3	8.7	6.2	4.1	7.6	3.7	1.3	-8.1	6.8	**3.4**	**3.5**	**7.2**
Imports of goods and services (%, y-o-y, real terms, seas. adjusted)	0.1	10.0	7.0	2.7	6.5	5.8	1.5	-8.2	13.2	**3.9**	**0.3**	**5.6**
Net exports (CZK bn, constant p. of 2015, seas. adjusted)	295.5	283.3	276.7	337.5	401.7	338.1	338.4	315.6	96.8	**77.5**	**221.8**	**307.8**
PRICES												
Main price indicators												
Consumer Price Index (%, y-o-y, average)	1.4	0.4	0.3	0.7	2.5	2.1	2.8	3.2	3.8	**15.8**	**9.1**	**2.4**
Administered prices (14.21%)* (%, y-o-y, average)	2.2	-3.0	0.0	0.2	0.0	1.8	4.4	3.1	-0.2	**26.2**	**16.8**	**5.7**
Food prices (incl. alcoholic beverages and tobacco) (26.50%)* (%, y-o-y, average)	3.1	1.8	0.1	0.2	3.6	1.6	2.6	4.2	2.1	**12.3**	**6.3**	**-0.9**
Core inflation (56.14%)* (%, y-o-y, average)	-0.5	0.5	1.2	1.2	2.4	2.1	2.7	3.4	4.8	**13.2**	**8.4**	**3.1**
Fuel prices (3.15%)* (%, y-o-y, average)	-2.1	0.2	-13.5	-8.5	6.7	6.3	-0.4	-11.4	16.7	**35.1**	**-1.0**	**-3.4**
Monetary policy-relevant inflation (%, y-o-y, average)	0.6	0.2	0.2	0.5	2.5	2.1	2.9	3.2	3.9	**15.3**	**8.9**	**2.3**
Partial price indicators												
Industrial producer prices (%, y-o-y, average)	0.8	-0.8	-3.2	-3.3	1.8	2.0	2.6	0.1	7.1	**24.8**	**10.5**	**1.8**
Agricultural prices (%, y-o-y, average)	-12.1	4.7	-6.2	-6.0	7.4	-0.2	5.7	-3.2	5.9	**33.5**	**-0.6**	**-10.3**
LABOUR MARKET												
Average monthly wage (%, y-o-y, nominal terms)	-0.1	2.9	3.2	4.4	6.7	8.2	7.9	4.6	4.7	**6.3**	**7.7**	**7.0**
Average monthly wage in market sectors (%, y-o-y, nominal terms)	-0.3	3.0	3.2	4.3	6.7	7.7	7.6	4.1	5.1	**7.1**	**8.2**	**7.8**
Average monthly wage (%, y-o-y, real terms)	-1.6	2.6	2.8	3.8	4.3	6.0	5.0	1.5	0.9	**-9.4**	**-1.2**	**4.6**
Unit labour costs (%, y-o-y)	0.9	1.6	-0.4	3.1	3.9	6.2	4.7	5.9	2.2	**7.4**	**8.1**	**4.4**
Aggregate labour productivity (%, y-o-y)	-0.4	1.7	3.9	0.9	3.6	1.9	2.8	-3.8	3.1	**0.2**	**-0.8**	**2.7**
ILO general unemployment rate (%, average, age 15–64, seas. adjusted)	7.0	6.2	5.1	4.0	2.9	2.3	2.0	2.6	2.9	**2.5**	**3.2**	**3.7**
Share of unemployed persons (MLSA) (%, average, seas. adjusted)	7.7	7.7	6.5	5.5	4.2	3.2	2.8	3.6	3.8	**3.4**	**4.3**	**5.1**
Employment (ILO) (%, y-o-y)	0.9	0.7	1.3	1.8	1.5	1.2	-0.1	-1.6	-1.5	**1.8**	**0.0**	**-0.2**
Full-time employment (%, y-o-y)	-1.0	1.1	2.1	1.8	2.2	1.5	-0.3	-1.7	-0.3	**1.1**	**-0.2**	**0.0**
PUBLIC FINANCE												
Government budget balance (ESA2010) (CZK bn, current prices)	-53.2	-90.2	-29.8	34.1	76.7	48.3	16.7	-329.2	-311.5	**-250.7**	**-285.1**	**-165.5**
Government budget balance/GDP** (%, nominal terms)	-1.3	-2.1	-0.6	0.7	1.5	0.9	0.3	-5.8	-5.1	**-3.7**	**-3.8**	**-2.2**
Government debt (ESA2010) (CZK bn, current prices)	1840.2	1818.9	1836.0	1754.7	1749.7	1734.6	1740.3	2149.8	2566.8	**2824.0**	**3127.4**	**3308.6**
Government debt/GDP** (%, nominal terms)	44.4	41.9	39.7	36.6	34.2	32.1	30.0	37.7	42.0	**41.5**	**42.0**	**43.2**
EXTERNAL RELATIONS												
Current account												
Trade balance (CZK bn, current prices)	167.0	220.0	187.7	258.5	259.3	200.9	239.8	280.3	73.3	**-114.1**	**26.2**	**91.0**
Trade balance/GDP (%, nominal terms)	4.0	5.1	4.1	5.4	5.1	3.7	4.1	4.9	1.2	**-1.7**	**0.4**	**1.2**
Balance of services (CZK bn, current prices)	70.4	55.7	86.6	106.6	124.6	120.0	106.0	103.5	110.1	**131.7**	**135.6**	**143.2**
Current account (CZK bn, current prices)	-21.8	7.9	20.7	85.2	79.1	24.1	19.2	113.7	-51.1	**-341.8**	**-185.2**	**-143.0**
Current account/GDP (%, nominal terms)	-0.5	0.2	0.4	1.8	1.5	0.4	0.3	2.0	-0.8	**-5.0**	**-2.5**	**-1.9**
Foreign direct investment												
Direct investment (CZK bn, current prices)	7.4	-80.4	49.7	-186.5	-45.9	-51.0	-137.1	-149.1	-4.8	**-60.0**	**-60.0**	**-60.0**
Exchange rates												
CZK/USD (average)	19.6	20.8	24.6	24.4	23.4	21.7	22.9	23.2	21.7	**23.5**	**24.2**	**23.1**
CZK/EUR (average)	26.0	27.5	27.3	27.0	26.3	25.6	25.7	26.5	25.6	**24.6**	**24.8**	**24.7**
MONEY AND INTEREST RATES												
M3 (%, y-o-y, average)	5.1	5.1	7.3	9.1	11.7	6.6	6.3	9.0	9.6	**6.5**	**10.0**	**12.6**
2W repo rate (%, average)	0.1	0.1	0.1	0.1	0.2	1.1	1.9	0.8	0.9	**6.2**	**6.7**	**5.0**
3M PRIBOR (%, average)	0.5	0.4	0.3	0.3	0.4	1.3	2.1	0.9	1.1	**6.6**	**7.0**	**5.3**
EXTERNAL ASSUMPTIONS												
Foreign GDP (%, y-o-y, seas. adjusted, effective)	0.3	1.9	2.0	2.0	2.8	1.8	1.5	-5.1	3.9	**2.4**	**-0.2**	**1.9**
Foreign GDP (%, q-o-q, seas. adjusted, effective)	-	-	-	-	-	-	-	-	-	**-**	**-**	**-**
Foreign HICP (%, y-o-y, seas. adjusted, effective)	1.6	0.6	0.4	0.3	1.6	2.0	1.5	0.6	2.9	**9.1**	**5.5**	**1.8**
Foreign PPI (%, y-o-y, seas. adjusted, effective)	-0.1	-1.6	-2.5	-2.3	2.7	3.3	1.1	-1.6	10.9	**37.0**	**14.4**	**-0.6**
Brent crude oil (in USD/barrel) (average)	108.8	99.5	53.6	45.0	54.8	71.5	64.2	43.2	70.8	**99.1**	**81.5**	**75.5**
3M EURIBOR (%, average)	0.2	0.2	0.0	-0.3	-0.3	-0.3	-0.4	-0.4	-0.5	**0.4**	**3.1**	**3.1**
USD/EUR (average)	1.3	1.3	1.1	1.1	1.1	1.2	1.1	1.1	1.2	**1.0**	**1.0**	**1.1**

* figures in brackets are constant weights in current consumer basket
** CNB calculation
\- data not available/forecasted/released
data in bold = CNB forecast

	2022				2023				2024			
	QI	QII	QIII	QIV	QI	QII	QIII	QIV	QI	QII	QIII	QIV
DEMAND AND SUPPLY												
Gross domestic product												
GDP (CZK bn, constant p. of 2015, seas. adjusted)	1329.2	1335.2	**1329.4**	**1311.7**	**1304.7**	**1315.4**	**1322.5**	**1326.9**	**1334.2**	**1345.5**	**1355.9**	**1365.7**
GDP (CZK bn, current p., seas. adjusted)	1637.6	1677.9	**1719.3**	**1766.5**	**1806.5**	**1861.4**	**1883.9**	**1882.5**	**1888.8**	**1903.8**	**1919.4**	**1935.5**
GDP (%, y-o-y, real terms, seas. adjusted)	4.6	3.7	**1.5**	**-0.7**	**-1.8**	**-1.5**	**-0.5**	**1.2**	**2.3**	**2.3**	**2.5**	**2.9**
GDP (%, q-o-q, real terms, seas. adjusted)	0.6	0.5	**-0.4**	**-1.3**	**-0.5**	**0.8**	**0.5**	**0.3**	**0.6**	**0.8**	**0.8**	**0.7**
Household consumption (%, y-o-y, real terms, seas. adjusted)	8.2	0.2	**-4.1**	**-3.6**	**-3.8**	**-3.0**	**-0.6**	**2.1**	**3.6**	**3.6**	**3.4**	**3.3**
Government consumption (%, y-o-y, real terms, seas. adjusted)	2.1	1.3	**0.0**	**-0.2**	**1.2**	**2.3**	**1.7**	**1.3**	**1.1**	**1.3**	**1.5**	**1.5**
Gross capital formation (%, y-o-y, real terms, seas. adjusted)	13.6	13.0	**5.2**	**-0.1**	**-5.5**	**-9.8**	**-10.4**	**-9.1**	**-6.9**	**-4.7**	**-0.8**	**2.3**
Gross fixed capital formation (%, y-o-y, real terms, seas. adjusted)	6.9	6.1	**4.6**	**1.9**	**-0.6**	**0.3**	**1.7**	**4.2**	**5.4**	**4.6**	**3.7**	**3.6**
Exports of goods and services (%, y-o-y, real terms, seas. adjusted)	0.4	1.8	**7.4**	**4.2**	**0.9**	**2.5**	**4.1**	**6.6**	**8.5**	**7.2**	**6.0**	**7.0**
Imports of goods and services (%, y-o-y, real terms, seas. adjusted)	5.1	2.7	**5.0**	**3.0**	**-1.0**	**-1.0**	**0.3**	**2.8**	**5.3**	**5.1**	**5.1**	**6.8**
Net exports (CZK bn, constant p. of 2015, seas. adjusted)	16.7	10.5	**21.4**	**28.8**	**36.8**	**49.4**	**64.2**	**71.5**	**74.5**	**76.3**	**78.0**	**79.0**
PRICES												
Main price indicators												
Consumer Price Index (%, y-o-y, average)	11.2	15.8	17.6	**18.4**	**14.9**	**10.2**	**7.0**	**4.2**	**2.7**	**2.1**	**2.2**	**2.4**
Administered prices (14.21%)* (%, y-o-y, average)	15.7	23.4	28.1	**37.6**	**25.7**	**18.8**	**13.8**	**8.8**	**6.5**	**5.3**	**5.5**	**5.7**
Food prices (incl. alcoholic beverages and tobacco) (26.50%)* (%, y-o-y, average)	6.2	11.4	15.2	**16.5**	**13.4**	**7.9**	**3.3**	**0.4**	**-0.9**	**-1.3**	**-1.0**	**-0.3**
Core inflation (56.14%)* (%, y-o-y, average)	10.5	13.8	14.7	**14.0**	**12.4**	**9.4**	**6.9**	**4.9**	**3.6**	**3.1**	**2.9**	**2.9**
Fuel prices (3.15%)* (%, y-o-y, average)	36.9	46.3	36.1	**21.0**	**10.2**	**-6.0**	**-4.8**	**-3.4**	**-4.0**	**-3.8**	**-3.3**	**-2.3**
Monetary policy-relevant inflation (%, y-o-y, average)	10.8	15.6	17.4	**17.4**	**14.8**	**10.0**	**6.7**	**4.1**	**2.6**	**2.1**	**2.1**	**2.3**
Partial price indicators												
Industrial producer prices (%, y-o-y, average)	21.8	27.7	25.9	**23.7**	**17.8**	**10.2**	**8.0**	**6.8**	**3.4**	**2.0**	**1.1**	**0.6**
Agricultural prices (%, y-o-y, average)	23.9	39.1	37.2	**32.8**	**16.8**	**-3.4**	**-5.1**	**-9.0**	**-9.2**	**-11.7**	**-10.9**	**-9.0**
LABOUR MARKET												
Average monthly wage (%, y-o-y, nominal terms)	7.3	4.4	**6.1**	**7.5**	**8.4**	**7.4**	**7.5**	**7.4**	**7.4**	**7.2**	**6.9**	**6.5**
Average monthly wage in market sectors (%, y-o-y, nominal terms)	8.1	4.6	**7.3**	**8.4**	**8.9**	**7.8**	**8.0**	**8.2**	**8.2**	**8.0**	**7.7**	**7.2**
Average monthly wage (%, y-o-y, real terms)	-3.9	-11.3	**-11.5**	**-10.9**	**-6.4**	**-2.8**	**0.6**	**3.2**	**4.6**	**5.0**	**4.7**	**4.1**
Unit labour costs (%, y-o-y)	6.6	4.8	**7.7**	**10.2**	**10.6**	**8.7**	**7.6**	**5.8**	**4.7**	**4.7**	**4.3**	**3.7**
Aggregate labour productivity (%, y-o-y)	3.3	1.1	**-0.7**	**-2.8**	**-3.5**	**-1.4**	**-0.1**	**1.5**	**2.5**	**2.5**	**2.7**	**3.1**
ILO general unemployment rate (%, average, age 15–64, seas. adjusted)	2.4	2.5	**2.5**	**2.6**	**2.8**	**3.1**	**3.3**	**3.5**	**3.6**	**3.7**	**3.8**	**3.8**
Share of unemployed persons (MLSA) (%, average, seas. adjusted)	3.3	3.3	**3.4**	**3.5**	**3.8**	**4.2**	**4.5**	**4.7**	**4.9**	**5.1**	**5.2**	**5.2**
Employment (ILO) (%, y-o-y)	2.3	2.2	**1.6**	**1.2**	**0.7**	**-0.1**	**-0.4**	**-0.4**	**-0.3**	**-0.2**	**-0.2**	**-0.2**
Full-time employment (%, y-o-y)	0.9	1.3	**1.3**	**1.0**	**0.4**	**-0.2**	**-0.5**	**-0.4**	**-0.2**	**0.0**	**0.1**	**0.2**
PUBLIC FINANCE												
Government budget balance (ESA2010) (CZK bn, current prices)	-	-	-	-	-	-	-	-	-	-	-	-
Government budget balance/GDP** (%, nominal terms)	-	-	-	-	-	-	-	-	-	-	-	-
Government debt (ESA2010) (CZK bn, current prices)	-	-	-	-	-	-	-	-	-	-	-	-
Government debt/GDP** (%, nominal terms)	-	-	-	-	-	-	-	-	-	-	-	-
EXTERNAL RELATIONS												
Current account												
Trade balance (CZK bn, current prices)	7.1	-40.1	**-37.1**	**-43.9**	**16.2**	**24.2**	**-12.1**	**-2.1**	**55.4**	**34.4**	**1.4**	**-0.2**
Trade balance/GDP (%, nominal terms)	0.5	-2.4	**-2.1**	**-2.4**	**1.0**	**1.3**	**-0.6**	**-0.1**	**3.1**	**1.8**	**0.1**	**0.0**
Balance of services (CZK bn, current prices)	24.8	35.6	**32.2**	**39.1**	**36.6**	**39.4**	**32.3**	**27.3**	**34.4**	**40.6**	**36.4**	**31.8**
Current account (CZK bn, current prices)	-13.5	-72.7	**-145.9**	**-109.7**	**16.9**	**-47.4**	**-92.1**	**-62.5**	**52.1**	**-45.9**	**-83.5**	**-65.7**
Current account/GDP (%, nominal terms)	-0.9	-4.3	**-8.4**	**-6.0**	**1.0**	**-2.5**	**-4.8**	**-3.2**	**2.9**	**-2.4**	**-4.3**	**-3.3**
Foreign direct investment												
Direct investment (CZK bn, current prices)	-16.0	-39.6	**8.0**	**-12.4**	**-15.0**	**-15.0**	**-15.0**	**-15.0**	**-15.0**	**-15.0**	**-15.0**	**-15.0**
Exchange rates												
CZK/USD (average)	22.0	23.1	24.4	**24.5**	**24.4**	**24.3**	**24.2**	**23.9**	**23.6**	**23.3**	**22.9**	**22.5**
CZK/EUR (average)	24.6	24.6	24.6	**24.6**	**24.6**	**24.7**	**25.0**	**25.0**	**25.0**	**24.8**	**24.6**	**24.3**
MONEY AND INTEREST RATES												
M3 (%, y-o-y, average)	6.0	6.2	6.4	**7.4**	**8.2**	**8.6**	**11.4**	**11.7**	**13.1**	**13.5**	**12.5**	**11.5**
2W repo rate (%, average)	4.2	5.6	7.0	**8.0**	**7.9**	**6.9**	**6.4**	**5.8**	**5.4**	**5.0**	**4.8**	**4.6**
3M PRIBOR (%, average)	4.6	6.0	7.3	**8.3**	**8.2**	**7.2**	**6.7**	**6.1**	**5.7**	**5.3**	**5.1**	**4.9**
EXTERNAL ASSUMPTIONS												
Foreign GDP (%, y-o-y, seas. adjusted, effective)	4.6	3.1	**1.4**	**0.5**	**-0.5**	**-0.8**	**-0.3**	**0.7**	**1.3**	**1.7**	**2.0**	**2.5**
Foreign GDP (%, q-o-q, seas. adjusted, effective)	0.7	0.6	**-0.1**	**-0.7**	**-0.3**	**0.3**	**0.5**	**0.2**	**0.3**	**0.7**	**0.8**	**0.7**
Foreign HICP (%, y-o-y, seas. adjusted, effective)	6.5	8.8	**10.2**	**10.6**	**8.5**	**6.6**	**4.6**	**2.7**	**2.1**	**1.7**	**1.7**	**1.9**
Foreign PPI (%, y-o-y, seas. adjusted, effective)	30.4	36.1	**42.7**	**38.1**	**28.6**	**20.0**	**8.8**	**3.6**	**1.0**	**-0.6**	**-1.3**	**-1.6**
Brent crude oil (in USD/barrel) (average)	97.9	112.0	97.7	**89.2**	**85.0**	**82.2**	**80.3**	**78.7**	**77.2**	**76.0**	**74.9**	**73.9**
3M EURIBOR (%, average)	-0.5	-0.4	0.5	**2.2**	**2.8**	**3.1**	**3.2**	**3.2**	**3.1**	**3.0**	**3.0**	**3.0**
USD/EUR (average)	1.1	1.1	1.0	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.1**	**1.1**	**1.1**	**1.1**

* figures in brackets are constant weights in current consumer basket
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data in bold = CNB forecast

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