

ASSESSMENT OF THE FULFILMENT OF THE MAASTRICHT CONVERGENCE CRITERIA AND THE DEGREE OF ECONOMIC ALIGNMENT OF THE CZECH REPUBLIC WITH THE EURO AREA

A joint document of the Ministry of Finance of the Czech Republic and the
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2018

**Ministry of Finance of the Czech Republic
and the Czech National Bank**

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Ministry of Finance of the Czech Republic
Letenská 15, 118 10 Prague 1

Czech National Bank
Na Příkopě 28, 115 03 Prague 1

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The Assessment of the Fulfilment of the Maastricht Convergence Criteria and the Degree of Economic Alignment of the Czech Republic with the Euro Area provides the Czech Government with a basis for appropriately timing entry into the exchange rate mechanism and subsequent adoption of the euro by the Czech Republic. It is available on the Ministry of Finance website at:

<http://www.mfcr.cz/en/statistics/fulfilment-of-the-maastricht-criteria>

We welcome any relevant suggestions for improving the quality of the publication. Please send any comments to:

informace@mfcr.cz

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Abbreviations

CNB	Czech National Bank
CZ	Czech Republic
CZK	Czech koruna
CZSO	Czech Statistical Office
EC	European Commission
ECB	European Central Bank
ERM II	Exchange Rate Mechanism II
EU	European Union (covering all 28 countries)
EUR	euro
GDP	gross domestic product
IMF	International Monetary Fund
MF CR.....	Ministry of Finance of the Czech Republic
MTO.....	medium-term objective

Country codes

AT – Austria, BE – Belgium, BG – Bulgaria, CY – Cyprus, CZ – Czech Republic, DE – Germany, DK – Denmark, EE – Estonia, ES – Spain, FI – Finland, FR – France, GR – Greece, HR – Croatia, HU – Hungary, IE – Ireland, IT – Italy, LT – Lithuania, LU – Luxembourg, LV – Latvia, MT – Malta, NL – Netherlands, PL – Poland, PT – Portugal, RO – Romania, SE – Sweden, SI – Slovenia, SK – Slovakia, UK – United Kingdom

Symbols used in tables

A dash (–) in place of a number indicates that the phenomenon did not occur.

Cut-off dates for data sources

Macroeconomic data sources pertain to 18 October 2018 and fiscal data to 2 November 2018.

Note

Sum totals published in tables may be subject to inaccuracy in the last decimal place in some cases due to rounding.

Summary and Recommendations

Besides being required to harmonise their legislation with Articles 130 and 131 of the Treaty on the Functioning of the European Union (the Treaty) and the Statute of the European System of Central Banks and the European Central Bank, EU Member States are required to achieve a high degree of sustainable convergence in order to join the euro area. **The degree of sustainable convergence** is assessed according to the **Maastricht convergence criteria**, which are set out in Article 140 of the Treaty and detailed in Protocol No. 13 annexed to the Treaty on the European Union and the Treaty on the Functioning of the European Union. These comprise a criterion on price stability, a criterion on the government financial position, a criterion on the convergence of interest rates and a criterion on participation in the exchange rate mechanism. The Czech Republic undertook to take steps to be prepared to join the euro area as soon as possible by signing the Act concerning the conditions of accession of the Czech Republic to the European Union.

Setting the date for joining the euro area is within the competence of the Member State concerned and depends on its preparedness. Besides undoubted benefits, such as a reduction in transaction costs and the elimination of exchange rate risk, adopting the euro entails giving up independent monetary policy and the flexible exchange rate of the koruna as effective stabilising macroeconomic instruments. The preparedness of the economy to join the euro area must therefore be assessed not only from the perspective of its economic alignment and structural similarity with the monetary union, but also from the point of view of its ability to absorb asymmetric shocks and adjust appropriately to them, in particular via effective fiscal policy, the labour market and the financial sector, after the loss of independent monetary policy.

The countries of the European Union are continuing their discussions on deepening integration. In response to the financial and subsequently economic crisis in 2010–2013, an extensive reform of the rules for fiscal supervision and economic policy coordination has been carried out in order to strengthen the stability of the euro area. Financial solidarity mechanisms have been created and the foundations of a banking union have been laid for the same purpose. These measures imply new institutional and financial obligations for countries adopting the single currency. The work of the countries of the European Union on deepening integration, especially in the economic and fiscal policy areas, saw no substantial progress over the last year. The negotiations on some of the pillars of the banking union have yet to be finalised and the reduction of risks in banking sectors also remains incomplete. There is also a continuing debate about how to increase the euro area's resilience to possible crises. The outcome of the negotiations with the UK on future mutual – particularly economic – relations is unclear. Risks to economic and financial stability, relating among other things to high public debt in some countries, persist. Although they cannot be accurately estimated at the moment, the impacts of these issues on the Czech Republic and the other EU countries will have to be weighed in the future decision about the timing of monetary union entry. The new institutions and regulations created in previous years in response to the economic and financial crisis have fundamentally changed the form of the euro area and hence also the content of the euro adoption obligation assumed by the Czech Republic on acceding to the EU. Their functioning must therefore be properly assessed.

In line with the Czech government decree on the Czech Republic's Updated Euro-area Accession Strategy of 2007, this document focuses on economic rather than political aspects of adopting the single European currency and is divided into three sections. The first deals with the fulfilment of the Maastricht convergence criteria and the second with the Czech Republic's economic alignment with the euro area. The third section is devoted to current events in the euro area countries, focusing on institutional developments and the related obligations for its member states.

The Czech Republic should be compliant with the **criterion on price stability** in 2018, despite ranking among the countries with higher inflation in the EU context in 2018. Inflation is currently in the upper half of the tolerance band around the Czech National Bank's target. This reflects continued buoyant growth of the Czech economy and related very low unemployment and especially rapid wage growth. According to the inflation outlook, it will be compliant with this criterion in 2019–2021 as well.

The Czech Republic is compliant with the **criterion on the government financial position** in both the budget balance and debt components. It is likely to remain compliant with it in the medium term. Compliance with the medium-term objective (MTO) is a condition for not

exceeding the deficit threshold of the Maastricht convergence criterion even in a recession of the usual depth. Compliance with the MTO is also desirable as regards public finance sustainability, especially given the long-term costs of population ageing. The Czech Republic has de facto been compliant with the MTO since 2013 and is expected to remain so over the entire forecast horizon.

The Czech Republic has long been comfortably compliant with the **criterion on the convergence of interest rates** and, according to the outlook, is likely to remain so until 2021.

The Czech Republic is formally non-compliant with the **criterion on participation in the exchange rate mechanism**, as it has not joined the mechanism.

Assessment of this criterion will only be possible after the Czech Republic joins the mechanism and the central rate of the koruna against the euro, against which exchange rate fluctuations would be monitored, has been set. The length of stay in the exchange rate mechanism is set at a minimum of two years before the assessment of preparedness to adopt the euro. The Czech Republic's September 2003 Euro-area Accession Strategy and its August 2007 update state that the Czech Republic should stay in ERM II for the minimum required period only (see Box 1).

The characteristics of the Czech economy as regards its economic preparedness to adopt the euro can be divided into three groups. The first group consists of **economic indicators suggesting a relatively low level of risk associated with euro adoption in the area analysed**. They have long included the high degree of openness of the Czech economy and its close trade and ownership links with the euro area. These factors provide for the existence of benefits of euro adoption, such as the aforementioned reduction in transaction costs and the elimination of exchange rate risk. The strong trade and ownership integration also fosters a high degree of alignment between the Czech and euro area business cycles, although that has decreased somewhat in recent years. The Czech koruna is aligned with the euro with respect to the US dollar, and inflation inertia is not a barrier to joining the euro area either. Some indicators are also suggesting preparedness for adopting the euro as regards the adjustment mechanisms of the Czech economy. They include the current favourable condition of Czech public finances, which – unlike in the past – is creating potential room for fiscal policy to fulfil its macroeconomic stabilisation role in the future. Increasing labour market flexibility (mainly a growing rate of economic activity and a falling long-term unemployment rate) and a stable banking sector resilient to economic shocks are also positive factors.

The second group consists of **indicators with a neutral message**. These include the small differences in the level of interest rates from the longer-term perspective and the overall similarity of monetary policy transmission in the Czech Republic and the euro area. The Czech Republic differs from the monetary union average in some financial indicators, such as depth of financial intermediation, private sector debt and the balance sheet structure of non-financial corporations and households, but this cannot be considered a disadvantage or a fundamental barrier to euro adoption. The spontaneous euroisation of the Czech economy has increased slightly, but remains relatively small in scale and does not tilt the balance of arguments in the debate about joining the euro area in one direction or the other. Some labour and product market indicators, such as geographical mobility and labour market efficiency,

and the assessment of the competitiveness of the Czech economy are also neutral.

The third group consists of **indicators suggesting economic risks associated with euro adoption in the area analysed**. They include the unfinished process of real economic convergence of the Czech Republic towards the euro area. Although it has renewed in recent years, the gaps in most key indicators remain significant. Lower structural similarity of the economies of the Czech Republic and the euro area could be a source of asymmetric shocks. The sustainability of Czech public finance has also yet to be resolved, including with regard to the possible tightening of the MTO by comparison with the current situation in the event of euro adoption. Labour market flexibility may be reduced in future by the configuration of the tax and social benefit system. Misalignment of business cycles is also a barrier to euro adoption. Growth in residential property prices and property purchase loans remains a risk to the Czech banking sector. This risk can be addressed more effectively if domestic monetary policy, macroprudential policy and banking supervision are independent.

In addition to benefits, the adoption of the single currency also entails costs, which must be taken into account when deciding on the timing of euro area entry. The total **financial costs** that will be associated with euro adoption in the future are not known yet. The estimated financial obligations for the Czech economy, which were not known when the Czech Republic joined the EU, mainly include a capital deposit in the European Stability Mechanism (almost CZK 50 billion payable within four years, with an additional contingent liability of up to CZK 365 billion in the extreme scenario) and a transfer of CZK 25.1 billion in contributions from banks registered in the Czech Republic to the Single Resolution Fund (collected now in the National Resolution Fund).

To sum up, the Czech Republic should be compliant with the criterion on the government financial position, the criterion on the convergence of interest rates and the criterion on price stability in 2018. It is thus non-compliant only with the criterion on participation in the exchange rate mechanism in the long term. The preparedness of the Czech Republic itself to adopt the euro has improved further compared to previous years, although some shortcomings – especially the incomplete process of real economic convergence – persist. The economic situation in the euro area is stabilised, but the level of economic development in euro area countries remains uneven and convergence is ongoing in only some of the new member states. Moreover, unresolved debt and structural issues persist in a number of countries. The fiscal indiscipline of some members is a long-standing problem in the euro area. Discussions are continuing about the future institutional set-up of the European Union and the euro area.

In view of the above facts, the Ministry of Finance and the Czech National Bank, in line with the Czech Republic's Updated Euro-area Accession Strategy, recommend that the Czech government should not set

a target date for euro area entry for the time being. This recommendation implies that the government should not aim for the Czech Republic to join the exchange rate mechanism for the time being.

1 Fulfilment of the Maastricht Convergence Criteria

Four nominal convergence criteria are assessed upon accession to the euro area: a criterion on price stability, a criterion on the government financial position, a criterion on the convergence of interest rates and a criterion on participation in the exchange rate mechanism. The Czech Republic is compliant with the first three criteria and has not joined the exchange rate mechanism yet. The actual assessment of compliance with all the convergence criteria takes place at least two quarters ahead of the changeover date. Precise definitions of all the criteria are given in Appendix A; this section provides a detailed analysis of compliance with the criteria.

1.1 Criterion on Price Stability

The price stability criterion assesses the rate of consumer inflation, which must not be more than 1.5 pp higher than the average of the three best performing European Union (EU) countries in terms of price stability.

The Czech Republic was not compliant with this criterion in 2017, partly because of its low reference value. After the anti-inflationary effect of oil prices faded out, domestic factors – reflecting long-running above-average growth of the Czech economy and a tight labour market situation amid a positive output gap – were the main factors that started to affect inflation in 2017. Those factors were reflected in faster wage growth, which stemmed from low unemployment and a high number of vacancies. The elevated inflation simultaneously reflected rising household consumption. Increasing food prices also had a significant effect. The Czech Republic ranked among the EU countries with higher inflation in 2017 (see Chart 1.1).

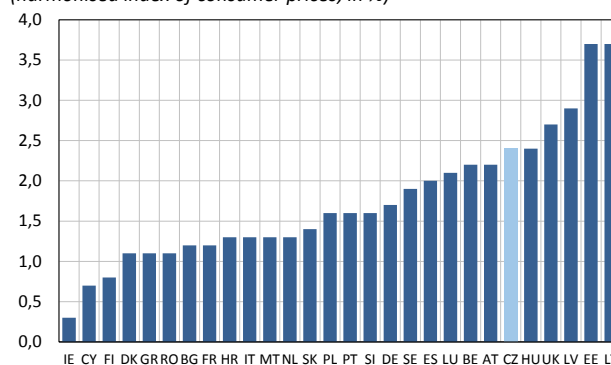
Strong domestic fundamental inflation pressures persist this year, and the forecast expects inflation to stay in the upper band of the tolerance band around the Czech National Bank's (CNB) target for the rest of the year. The Czech Republic has ranked among the EU countries with higher inflation so far in 2018, but it should be compliant with the criterion on price stability in 2018 (see Table 1.1).

The inflation pressures should ease next year owing to increases in the CNB's interest rates, and inflation should be close to the 2% target in 2019–2021.

Renewed appreciation of the koruna will also help stabilise inflation. At the same time, the level of the criterion should increase, as inflation is expected to recover in countries with currently low inflation. The Czech Republic should thus be compliant with the criterion in 2019 – 2021 by an increasing margin.

Chart 1.1: Average inflation rate in 2017

(harmonised index of consumer prices; in %)



Source: Eurostat (2018a).

Fulfilment of the price stability criterion has long been aided by the CNB's inflation target, which has been set at 2% for the national consumer price index since 1 January 2010. The CNB seeks to ensure that actual inflation does not deviate from the target by more than one percentage point. This target creates conditions for fulfilment of the price stability criterion, since the European Central Bank (ECB) and the other non-euro area EU countries have a similar definition of price stability.

Table 1.1: Harmonised index of consumer prices

(average for last 12 months vs. average for previous 12 months as of end of period; growth in %)

	2015	2016	2017	2018	2019	2020	2021
				Forecast	Forecast	Outlook	Outlook
Average for 3 EU countries with lowest inflation* ²	-0,9	-0,8	0,6	0,8	1,1	1,4	1,6
Reference value	0,6	0,7	2,1	2,3	2,6	2,9	3,1
Czech Republic	0,3	0,6	2,4	2,1	2,2	1,8	1,8

Note: * More precisely, the three best performing member countries in terms of price stability (see Appendix A). The outlook for 2018–2021 was taken from the Convergence Programmes and Stability Programmes of individual Member States except Greece, which does not submit a stability programme. Owing to the unavailability of average HICP inflation rates, private consumption deflators were used for Germany and Spain and average national CPI inflation rates were used for Austria, Finland, France, Croatia and Slovenia. Greece and Cyprus were excluded from the calculation of the criteria in the assessment of inflation for 2015 and Romania were excluded for 2016. The approach adopted was thus similar to that used by the EC and the ECB in their June 2016 Convergence Reports. The EC and the ECB published no Convergence Reports in 2017. Source: Eurostat (2018a), Convergence Programmes and Stability Programmes of EU Member States. MF CR (2018a) calculations and forecasts.

1.2 Criterion on the Government Financial Position

The criterion on the government financial position is satisfied only when both components of the fiscal criterion, i.e. a general government deficit of no more than 3% of GDP and general government debt of no more than 60% of GDP, are fulfilled in a sustainable manner.

After years of deficits, the Czech Republic recorded a general government surplus (of 0.7% of GDP) for the first time in 2016. **The general government deficit rose to 1.5% of GDP in 2017.** On the revenue side, this was aided by growth in tax revenues and social security contributions. Most expenditures rose at a modest pace, the exceptions being growth in compensation of employees and renewed growth in investment. Government debt interest expenditure continued to fall.

The Ministry of Finance (MF CR) expects a general government surplus of 1.6% of GDP for 2018. On the revenue side, tax revenues – in particular value added tax and income tax – and social security contributions should continue to rise. Growth in expenditure is due mainly to current expenditure, especially a further rise in compensation of employees. Investment expenditure is continuing to go up as well. Given the monetary policy developments in the Czech Republic and the response of financial markets, which are resulting in gradual growth in interest rates, the MF CR expects government debt interest expenditure to start rising in 2018.

According to current MF CR estimates, **the Czech Republic will continue to achieve a general government surplus of close to 1% of GDP over the next three years.** Based on this outlook, this part of the public finance criterion is expected to be fulfilled in the future as well.

As regards the smooth functioning of the Czech economy (see also section 2.2), **efforts are also needed to fulfil the medium-term objective (MTO) of a structural general government deficit of no more than 1.0% of GDP.** The Czech Republic is currently compliant with the MTO and is expected to remain so. Chart 1.2 captures the structural components of the general government balance using the OECD method, which is also used in modified form by the European Commission, and using the alternative ECB method (for details, see Appendix C).

Table 1.2: General government balance

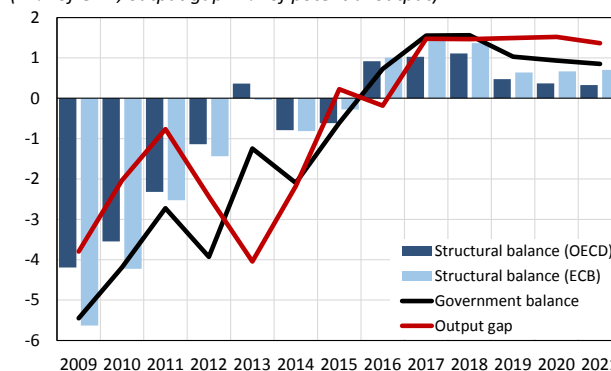
(in % of GDP)

	2015	2016	2017	2018	2019	2020	2021
				Forecast	Forecast	Outlook	Outlook
Reference value	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0
Czech Republic	-0,6	0,7	1,5	1,6	1,0	0,9	0,8

Note: A precise definition of this criterion is given in Appendix A.
Source: CZSO (2018). MF CR (2018b) calculations and forecasts.

Chart 1.2: General government balance structure

(in % of GDP; output gap in % of potential output)



Note: The structural balance is calculated using the OECD and ECB methods. The 2018–2021 data are an MF CR forecast.
Source: CZSO (2018). MF CR calculations.

Using the OECD method, the MF CR estimates the structural balance at 1.1% of GDP in 2018, 0.5% of GDP in 2019, 0.4% of GDP in 2020 and 0.3% of GDP in 2021.

Based on the ECB method, the MF CR estimates the structural balance at 1.4% of GDP in 2018, 0.6% of GDP in 2019 and 0.7% of GDP in 2020 and 2021. The government's plans are thus directed at fulfilling the MTO throughout the outlook period.

After the Czech Republic joins the euro area, the MTO for the structural deficit may be tightened to no more than 0.5% of GDP (under the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union). For parties to the Treaty, the structural deficit limit of 1.0% of GDP only applies if the government debt ratio is significantly below 60% of GDP and risks to long-term sustainability are low. **According to the current outlook, the Czech Republic should be compliant even with this stricter limit.**

General government debt surged in 2009–2012 from less than 30% of GDP to around 45% of GDP in 2013 owing to the global financial and economic crisis. Since then, however, the government debt-to-GDP ratio has been falling markedly, mainly due to a general government surplus and a positive financial market situation. Given the above, compliance with this item of the criterion is not a problem in the Czech Republic.

Given the current fiscal policy settings and forecasted economic growth, **the debt-to-GDP ratio should continue to decline, reaching 30% of GDP in 2021.** It should thus be well below the reference debt level defined in the Maastricht convergence criteria. Total general government debt is lower than the EU average. Desirable leeway is thus being created to avoid exceeding the Maastricht limit even in the event of another deep recession.

The negative fiscal effects of population ageing pose the main risk to the long-term development of general government finance. The current Ageing Report (EC, 2018) is less favourable for the Czech Republic than the 2015 one. In addition to demographics, this is due to the

recent adoption of some measures in the public pension system which worsen the financial sustainability of the pay-as-you-go system. These include in particular the establishment of a retirement age ceiling of 65 years in combination with a revision mechanism for periodically testing that ceiling and an adjustment to the indexation equation whereby pensions will go up by the general consumer price inflation index or the pensioners' costs of living index (whichever is higher) plus one-half of real wage growth. Risks also stem from other areas of long-term expenditure, specifically from the configuration and functioning of the health and long-term care systems (for details see MF CR, 2018b).

Table 1.3: General government debt
(in % of GDP)

	2015	2016	2017	2018	2019	2020	2021
				Forecast	Forecast	Outlook	Outlook
Reference value	60,0	60,0	60,0	60,0	60,0	60,0	60,0
Czech Republic	40,0	36,8	34,7	33,0	31,9	30,9	30,0

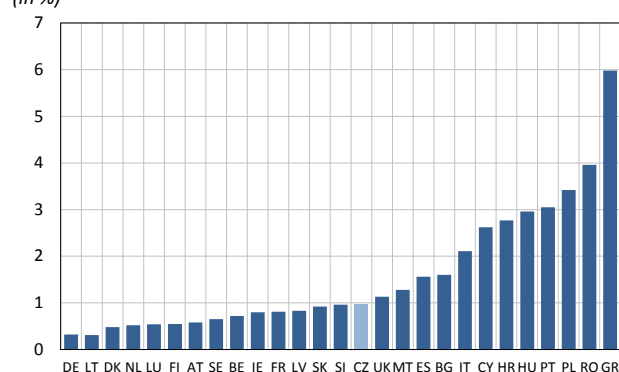
Note: A precise definition of this criterion is given in Appendix A.
Source: CZSO (2018). MF CR (2018b) calculations and forecasts.

1.3 Criterion on the Convergence of Interest Rates

Under this criterion, convergence of interest rates is achieved if yields on bonds with an average residual maturity of 10 years do not exceed by more than 2 pp the average of the yields on bonds in the three best performing EU states in terms of price stability. Long-term interest rates on Czech government bonds rose in 2017, reaching an average annual level of 1%. **This criterion was thus fulfilled by considerable margin.**

Credible fiscal policy and overall macroeconomic and financial stability are reflected in the Czech Republic's high sovereign rating and in smooth subscription of Czech government bonds. Interest rates are normalising in the Czech Republic. The interest rate differential vis-à-vis the euro area is thus rising and Czech government bond yields are increasing. Nonetheless, based on previous and expected developments and on the construction of this criterion, it is unlikely that the Czech Republic will not fulfil this criterion in the medium term.

Chart 1.3: Long-term interest rates in 2017
(in %)



Note: Data are not available for Estonia.
Source: Eurostat (2018b).

However, this remains conditional on maintaining financial market confidence in sound macroeconomic developments and the sustainability of Czech public finance.

Table 1.4: Long-term interest rates on government bonds
(yields on government bonds with residual maturity of 10 years; 12 month average; in %)

	2015	2016	2017	2018	2019	2020	2021
				Forecast	Forecast	Outlook	Outlook
Average for 3 EU countries with lowest inflation*	1,8	2,1	1,3	2,0	2,1	1,2	2,1
Reference value	3,8	4,1	3,3	4,0	4,1	3,2	4,1
Czech Republic	0,6	0,4	1,0	2,1	2,6	3,0	3,3

Note: * More precisely, the three best performing Member States in terms of price stability (see Appendix A). The outlook for long-term interest rates in 2018–2021 was taken from the Convergence Programmes and Stability Programmes. Owing to the unavailability of data for some reference countries, the criterion was partly calculated by fixing the current real interest rates and adding the inflation outlooks for those countries.
Source: Eurostat (2018b), Convergence Programmes and Stability Programmes of EU Member States. MF CR calculations.

1.4 Criterion on Participation in the Exchange Rate Mechanism

The admission of a state into the euro area is conditional on a successful, at least two-year stay of the national currency in the exchange rate mechanism (ERM II). The exchange rate is expected to move within the fluctuation band of $\pm 15\%$ without devaluation of the central rate and excessive pressures on the exchange rate. Formal fulfilment of the criterion on exchange rate stability will only be possible after the Czech Republic joins ERM II, so **the assessment of its fulfilment can be made only at an analytical level.**

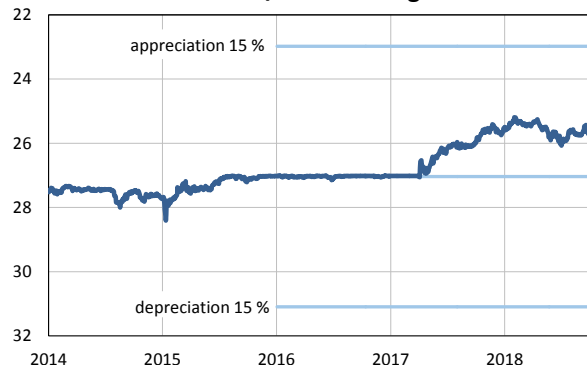
For these purposes, the hypothetical CZK/EUR central parity is set as the average exchange rate in 2016 Q1, i.e. the quarter preceding hypothetical ERM II entry at the start of 2016 Q2, which would have allowed euro adoption on 1 January 2019. With the aid of this parity it is theoretically possible to monitor whether the Czech Republic would have fulfilled the exchange rate stability criterion in the given time period.

Chart 1.4 shows that **the exchange rate fluctuated around the hypothetical central parity for most of the period under review.** The exchange rate appreciated in the period from the exit from the CNB's exchange rate commitment in April 2017 to February 2018 and then weakened slightly. Over the entire period, however, the rate fluctuated comfortably within the $\pm 15\%$ band.

The koruna has weakened temporarily since spring 2018 due to a change in sentiment on foreign exchange markets and a related outflow of short-term capital from emerging markets, including the Czech Republic. According to the MF CR forecast, the koruna will return to an appreciation trend, which will be driven by a distinctly positive interest rate differential vis-à-vis the euro area, the fading effect of asset purchases by the European Central Bank and real convergence of the Czech economy. Appreciation connected with real

convergence should not be inconsistent with fulfilment of the exchange rate criterion. This conclusion is supported by the fact that the assessment of this criterion has historically been more lenient on the appreciation side and shifts of the central parity towards a stronger rate have been tolerated.

Chart 1.4: Nominal CZK/EUR exchange rate



Note: The hypothetical central parity is simulated by the average exchange rate for 2016 Q1. Data up to 18 October 2018.

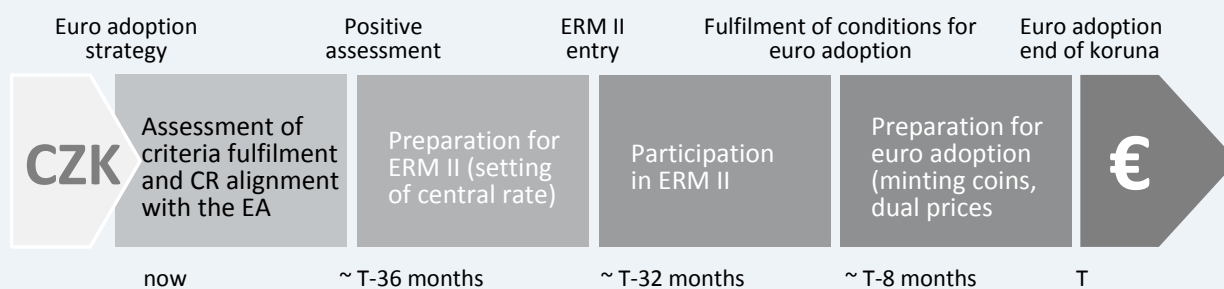
Source: CNB (2018b): MF CR calculations.

The length of stay in the exchange rate mechanism is set by the Treaty at a minimum of two years before the assessment of preparedness to adopt the euro. The Czech Republic's September 2003 Euro-area Accession Strategy and its August 2007 update state that **the Czech Republic should stay in ERM II for the minimum required period only** (see Box 1). This implies that the Czech Republic should enter the ERM II only after it has achieved a high degree of economic alignment and after conditions have been established which enable it to introduce the euro shortly after the assessment of the exchange rate criterion. In addition, the Czech Republic should enter ERM II amid an appropriate situation in the domestic economy and stable global financial markets.

Box 1: Reasons for Minimising the Length of Stay in ERM II

The CNB together with the Czech government has declared repeatedly in the past that if the Czech Republic was to enter the euro area in future, it would not be desirable for it to stay in the exchange rate mechanism (ERM II) for longer than the minimum required period arising from the need to comply with the Maastricht convergence criterion on exchange rate stability. This position was included in the Czech Republic's September 2003 Euro-area Accession Strategy and its still applicable August 2007 update. The minimum required stay in ERM II is two years and is followed by an assessment of compliance with the conditions and by preparations for euro adoption, so ERM II entry should occur around three years before the planned euro adoption (see Figure 1).

Figure 1: The euro adoption schedule



There are several reasons why a lengthy ERM II stay would be disadvantageous for the Czech Republic. First, ERM II entry would limit the koruna's flexibility to $\pm 15\%$ (the normal fluctuation band) around the chosen central parity. When assessing whether a candidate country is compliant with the exchange rate criterion, emphasis is put on any breaches of this band on the depreciation side. Even stricter interpretation of the ERM II fluctuation band as a narrow one of $\pm 2.25\%$ cannot be ruled out either. Breaches of the band on the appreciation side would probably not be assessed as inconsistent with fulfilment of the exchange rate criterion. Alternatively, the central parity could be moved to a stronger level. ERM II entry would thus also limit the exchange rate's ability to act as a natural adjustment mechanism. The exchange rate is an important variable under inflation targeting in a small economy, as its movements dampen the impacts of external shocks. As was shown in 2008–2009, when the fluctuations exceeded 15%, swings ranging across the entire width of the tolerance band can occur in extraordinary economic situations. The exchange rate is also an integral part of the transmission mechanism through which changes in CNB rates pass through to domestic inflation and other variables. Moreover, exceptionally adverse economic developments can give rise to a need to use the exchange rate as an additional monetary policy instrument, as was the case during the CNB's exchange rate commitment in 2013–2017. Limits on exchange rate movements thus constitute a barrier to pursuing monetary policy under inflation targeting. A long-term decline in the flexibility of the koruna exchange rate due to a lengthy stay in ERM II might thus become a risk to the CNB's primary objective of price stability (and in turn to successful compliance with the Maastricht price stability criterion).

Fixing the exchange rate for longer than necessary in ERM II might also complicate the pursuit of price stability in the medium term even in good times. The Czech Republic is a converging economy characterised by equilibrium appreciation of the koruna's real exchange rate against the currencies of advanced countries. If the appreciation of the nominal koruna exchange rate was limited in the long run in ERM II, real convergence would have to take place to a greater extent through growth in the relative price level, i.e. a positive inflation differential vis-a-vis the euro area. The CNB currently estimates the real equilibrium rate of appreciation of the koruna against the euro at 1.5% a year, which (as it happens) is equal to the maximum percentage tolerance in the price stability criterion (see section 1.1 and Appendix A). An excessively long restriction on nominal exchange rate appreciation in ERM II might thus lead to overshooting of the CNB's current 2% target and non-compliance with the Maastricht price stability criterion. Any efforts to comply with it might then have significant real costs in the form of a downturn in economic growth, slower convergence in living standards and market pressures for revaluation of the parity.

Also linked with the stay in ERM II is the political statement issued on 12 July 2018 by the finance ministers of the euro area countries, the ECB and the representatives of the Finance Minister and of the Central Bank Governor of Denmark in connection with Bulgaria's plan to enter ERM II. This statement welcomed Bulgaria's intention to put in place the necessary elements for simultaneous entry into ERM II and the banking union, but also declared that a similar approach is expected to be followed in the future for other ERM II candidates, in line with the principle of equal treatment. In the Czech Republic's opinion, this statement cannot have any legal consequences for other Member States wishing to enter ERM II in the future. In the context of this statement, there will be a need to clarify issues relating to the conditions for countries applying to enter ERM II.

2 Assessment of the Degree of Economic Alignment

Future adoption of the single European currency should further increase the benefits accruing to the Czech Republic from its intense involvement in international economic relations, as it will lead to the elimination of exchange rate risk vis-à-vis the euro area and to a related reduction in trade and investment costs. Besides these benefits, however, euro adoption simultaneously entails costs and risks arising from the loss of independent monetary policy and exchange rate flexibility and costs arising from new institutional obligations.

This section is divided into two basic areas.¹ The first part describes the size of the risk of economic developments being different in the Czech Republic compared to the euro area, and hence the risk of the single monetary policy being inappropriate for the Czech economy. The second part answers the question of to what extent the Czech economy is capable of absorbing the impacts of potential asymmetric shocks using its own adjustment mechanisms. The basic theoretical starting point is the theory of optimum currency areas.

2.1 Cyclical and Structural Alignment

A high degree of alignment of the Czech economy with the euro area economy is a necessary condition for the euro adoption costs arising from the loss of the Czech Republic's own monetary policy to be relatively small.

An important indicator of the Czech economy's similarity with the euro area is the **degree of real convergence**, which remains unsatisfactory. Although the convergence process has renewed in all key indicators in recent years, the distance of the Czech Republic from the euro area average remains significant in most indicators. GDP per capita amounted to 83.3% of the euro area average in 2017. The price level lagged even further behind (66.3%), as did the wage level, which was less than 40% of the euro area average in 2017 when converted using the exchange rate and only just over 60% at purchasing power parity. The unfinished process of long-term convergence towards the advanced euro area countries thus remains a barrier to early accession to the monetary union, as domestic inflation could rise due to equilibrium appreciation of the real exchange rate and convergence of the wage level if the euro was adopted. This would simultaneously create pressure for sustained low or negative real rates with possible implications for financial stability

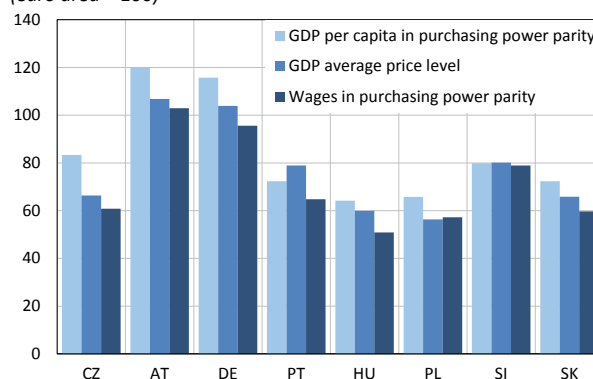
The Czech Republic has been showing fairly high **correlations of economic activity with the euro area** over the last ten years. This is true both in absolute terms and relative to the other countries under comparison. This alignment increases the likelihood that the ECB's single monetary policy will be appropriately configured from the perspective of the Czech economy. However, this is partly a one-off effect of the strong common external shock in the form of the global financial and economic crisis. Cyclical alignment with the euro area has thus been declining again recently. A continuation of this trend might lead to a less

¹ The analyses outlined in this section are presented in detail in the underlying document *Analyses of the Czech Republic's Current Economic Alignment with the Euro Area in 2018* (CNB, 2018a).

favourable assessment of cyclical alignment in the future.

Chart 2.1: Economic convergence of selected countries towards the euro area in 2017

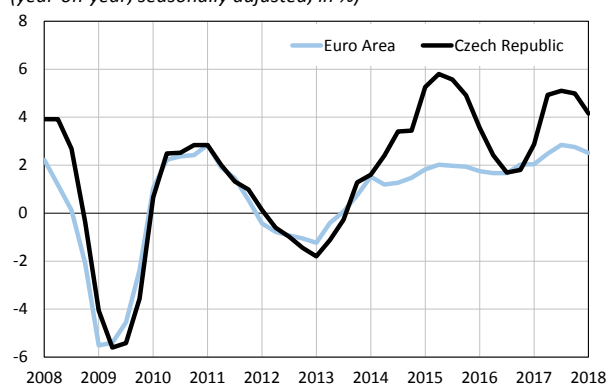
(euro area = 100)



Source: Eurostat (2018c), EC (2018g). CNB calculations.

Chart 2.2: Real GDP growth in the Czech Republic and the euro area

(year-on-year; seasonally adjusted; in %)

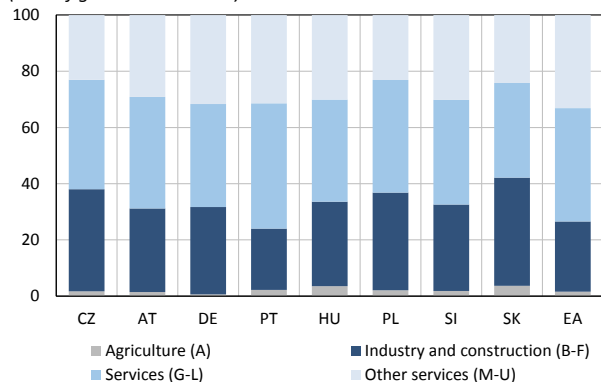


Source: Eurostat (2018b). CNB calculations.

There are still differences in the **structure of the Czech economy** compared with that of the euro area, consisting mainly in an above-average share of industry in GDP. The lower structural similarity poses a potential risk as regards adopting the euro, as it could lead to asymmetric shocks, to which the single monetary policy would not be able to respond in full.

Chart 2.3: Sectoral structure of the economy in 2017

(in % of gross value added)



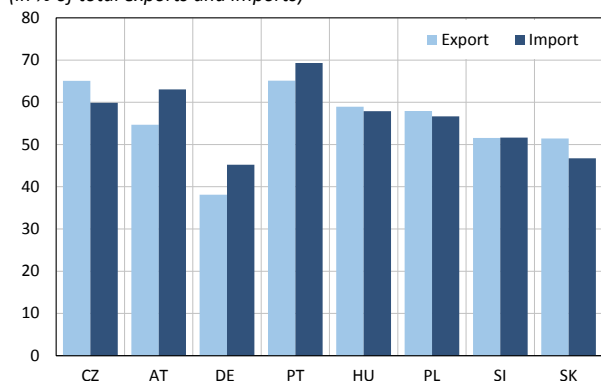
Note: The sectors are broken down by NACE classification: A: agriculture, forestry and fishing; B-F: industry and construction; G-L: services (trade, transport, ICT, financial intermediation, real estate services); M-U: other services.

Source: Eurostat (2018e). CNB calculations.

By contrast, the persisting strong **trade and ownership links with the euro area** have long been one of the strongest arguments for the Czech Republic joining the euro area. Strong trade and ownership integration increases the probability of economic alignment with the monetary union economy and reduces the risk of asymmetric shocks occurring in the event of euro adoption. It thus reduces the potential costs associated with adopting the single monetary policy. At the same time, it creates potential for benefits stemming from the elimination of exchange rate risk and from transaction cost savings upon euro adoption. The Czech Republic's high share of foreign trade with the euro area and the membership of domestic firms in multinational groups also represent a significant channel for the transmission of economic stimuli from the euro area to the Czech economy.

Chart 2.4: Shares of exports to the euro area and shares of imports from the euro area in 2018

(in % of total exports and imports)



Source: Eurostat (2018f), IMF. CNB calculations.

The **alignment of the positions of the Czech and euro area economies in the financial cycle** has been decreasing in the longer run. While the ECB's persisting accommodative monetary policy supported an upward shift of most euro area countries in the financial cycle,

the Czech economy stopped moving further into the growth phase owing to a tightening of national policies. The positions of the euro area and the Czech Republic as measured by the financial cycle indicator have thus converged due to these circumstances, but the correlation of their cycles is showing a downward trend. The decrease in the alignment of the financial cycle increases the potential costs arising from the loss of national monetary policy and the limits imposed on national powers in macroprudential policy.

The growing **short-term interest rate differential** between the Czech Republic and the euro area indicates that the ECB's monetary policy would not fully meet the needs of the domestic economy in the current phase of the cycle. In the long run, however, koruna interest rates are close to euro ones, so the risk of there being a large shock associated with interest rate convergence upon euro adoption remains relatively small.

The Czech currency reacts to changes in the environment outside the euro area similarly to the euro, indicating a **high degree of exchange rate alignment**. The rolling correlations of all the currencies under review in the region with the euro-dollar exchange rate have been relatively high in recent years, with the Czech koruna attaining the highest levels. The volatility of the koruna-euro exchange rate naturally increased following the exit from the exchange rate commitment, but is now lower than before the commitment was introduced.

The **depth of financial intermediation** and the level of private sector debt in the Czech Republic are well below the euro area average. However, the latter does not represent a level which the Czech financial sector should converge, as several euro area countries have overleveraged private sectors. The banking sector remains the dominant component of the financial system in the Czech Republic. The share of the non-banking component has also been increasing in recent years, but remains well below the usual level in advanced euro area countries. While the **similarity of the balance sheet structure** of corporations in the Czech Republic with that of firms in the euro area has been gradually increasing, differences in the balance sheets of households persist. Czech households maintain a conservative approach to investing in financial assets. However, these differences cannot be considered a disadvantage or a fundamental barrier to euro adoption.

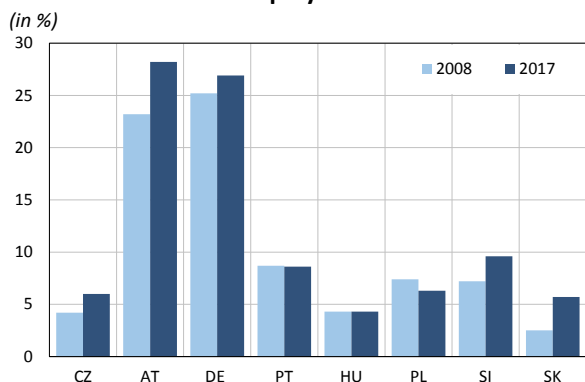
The Czech economy is characterised by many similarities but also by differences compared to the euro area as regards the **functioning of the interest rate channel of monetary policy transmission**. The transmission of changes in financial market interest rates to client rates in the Czech Republic is relatively fast. Client rates on loans to non-financial corporations are more strongly affected by changes in interbank rates than are rates on loans to households, due, among other factors, to contractual links between rates in the former loan category and interbank rates. Transmission through the

individual channels works with different intensities in the Czech Republic and the euro area. The spread between Czech client rates on loans to non-financial corporations and the overnight interbank rate is lower than that in the euro area and its structure is also slightly different, mainly reflecting the greater heterogeneity of euro area countries' risk premia. These differences cannot be considered a fundamental barrier to euro adoption, either.

2.2 Adjustment Mechanisms

If set correctly, **fiscal policy** – like monetary policy – should have a countercyclical effect and thus be a stabilising element for the economy. Otherwise it becomes a source of shocks and deepening macroeconomic imbalances. The current favourable condition of Czech public finances is creating room for the stabilising function of fiscal policy to operate. This was further supported by the **adoption of the Budget Responsibility Act** in 2017. In the past, however, fiscal policy has tended to have a procyclical effect. On the other hand, fiscal room will be affected to some extent by recently approved discretionary measures, which will foster a long-term upward trend in mandatory expenditure and will be reflected in worse long-term sustainability of government budgets (see MF CR, 2018b, and EC, 2018b).

Chart 2.5: Part-time employment shares



Source: Eurostat (2018g).

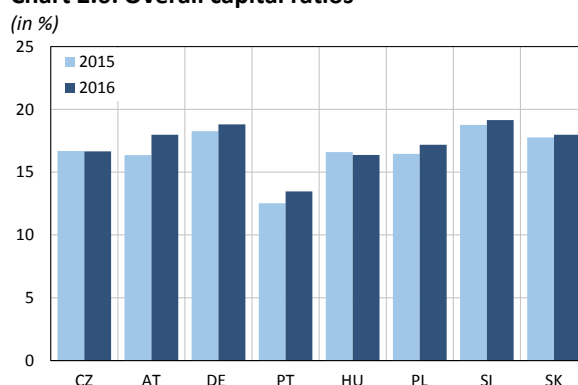
The **labour market** is another important mechanism through which the economy can cope with asymmetric shocks in the absence of independent monetary policy. Labour market indicators have been improving in recent years largely because of the favourable phase of the business cycle. However, they are showing signs of a gradual rise in labour market flexibility in most of the areas under review. Labour market flexibility is being favourably affected by a rising share of foreign nationals

The process of **spontaneous euroisation** of the Czech economy is characterised by gradually rising use of the euro by non-financial corporations. This is due mainly to high trade integration with the euro area and to natural hedging against exchange rate risk. This process is likely to continue, strengthening the arguments in favour of adopting the euro. In the case of households, by contrast, euroisation has long been very low.

in the population and a higher share of part-time jobs. The Czech Republic is one of the better-scoring countries under review as regards overall competitiveness. A negative aspect is the persisting unemployment trap and low incomes caused by the configuration of the tax and social benefit system, which may limit the flexibility of the labour market in future.

The **condition of the financial sector** of an economy plays an important role in its ability to absorb economic shocks. The Czech banking sector maintains high profitability, good liquidity and solid capitalisation and hence a high level of resilience to potential adverse shocks. It would therefore be able to perform its function as an adjustment and stabilisation mechanism in the event of euro adoption. A spiral between property prices and property purchase loans remains the main source of risk to the banking sector. Risks may also be associated with euro adoption and related entry into the banking union, which will entail the transfer of some powers to the EU level without any transfer of responsibility for the overall condition of the national financial sector.

Chart 2.6: Overall capital ratios



Note: The capital ratio is the ratio of a bank's capital to its risk-weighted assets. It thus expresses the bank's financial strength and measures its ability to cover any future losses with capital.

Source: IMF (2018a).

3 Situation and Institutional Developments in the Euro Area

The economic situation in the euro area is stabilised. Economic growth fluctuated around 2% in 2015–2017. However, developments remain mixed across countries. In many countries, stronger economic growth is being hampered by structural problems, loss of competitiveness, sluggish investment growth or high public and private sector debt.

3.1 Situation in the Euro Area

Economic alignment of euro area countries is essential to the smooth functioning of the monetary union. Persisting differences in economic level are reducing the effectiveness of the single monetary policy, even though some external and internal imbalances have narrowed owing to a stricter regulatory framework.

Economic and political uncertainty in the EU was increased by the UK’s decision to leave the EU. This is scheduled to occur on 30 March 2019.²

Uncertainty in the EU was also increased by the introduction of protectionist measures by the USA. The tariffs on steel and aluminium are having only a marginal impact on exports from EU countries. The USA has so far abandoned the idea of radically increasing tariffs on cars. By contrast, trade talks are underway regarding lifting some tariffs and other trade barriers.

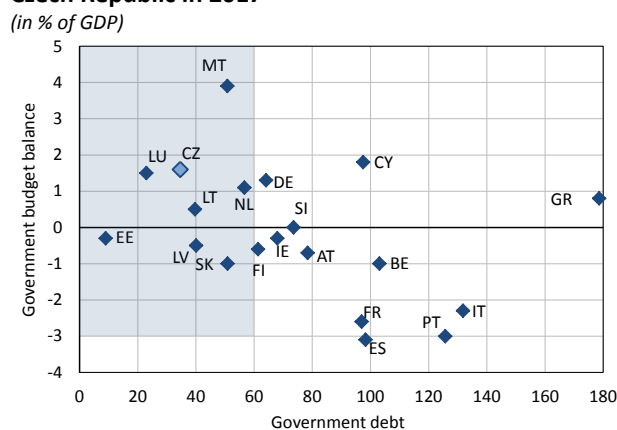
The Greek economy emerged from recession in 2017, the country returned to international bond markets and Greece left the last bailout programme in August 2018.³ However, its problems cannot be regarded as resolved yet. The country faces a 19% unemployment rate and its general government debt stands at almost 180% of GDP. Moreover, it will probably continue to repay rescue loans until 2060.

The mutual convergence of the euro area member states and their economic growth and the alignment of their business cycles still cannot be regarded as sufficient. Developments in the euro area countries remain very mixed. In 2009–2017, the economic levels of the Baltic countries and Ireland relative to the euro area improved, whereas those of the southern European

countries (Greece, Cyprus, Italy, Spain and Portugal) have decreased since the onset of the crisis. Similar differences are also apparent in the labour market. Although the situation is gradually improving, the unemployment rates in Greece and Spain are still over 15%, and even 30% in the 15–24 age category. In Germany and the Netherlands, by contrast, the unemployment rates have dropped below 4%.

Differences in general government debt levels are also apparent. Debt ratios exceeded 60% of GDP in 12 euro area countries in 2017, with Greece, Italy, Portugal and Belgium even exceeding 100% of GDP. However, the weighted average of public debt in the euro area has gradually declined from its peak of almost 92% in 2014 to less than 87% in 2017. The euro area general government deficit has been falling steadily since 2009, reaching 0.9% of GDP in 2017. In the same year, only seven of the 19 euro area countries were compliant with both the deficit and debt benchmarks.

Chart 3.1: Fiscal positions in the euro area and the Czech Republic in 2017



Source: Eurostat (2018h).

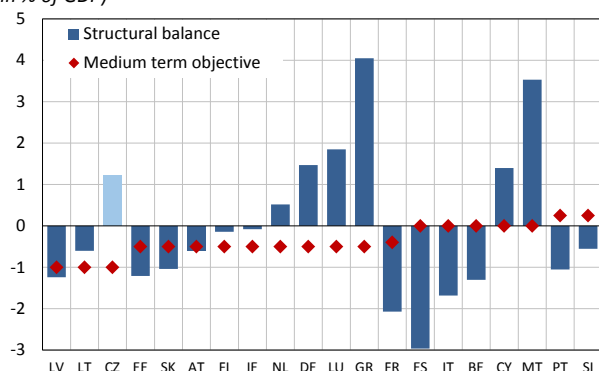
The following chart shows compliance with medium-term budgetary objectives (MTOs) in euro area countries. In 2017, the highest structural deficits were recorded by certain southern European countries (Spain, France and Italy), while Greece had the highest structural surplus. Only nine euro area countries were MTO compliant in 2017.

² If the EU and the UK reach agreement on the withdrawal deal in time and the deal is duly ratified, the transition period might last until the end of 2020, which should provide enough time to resolve the outstanding issues. In such case, most EU law would in principle continue to apply in the UK until the end of 2020, although without the participation of UK representatives in EU bodies.

³ The ESM financial assistance programme ended on 20 August 2018. The IMF’s Stand-By Arrangement allowing the Fund to be formally involved in providing assistance to Greece, which had been a condition for the ESM programme to continue, expired almost simultaneously on 31 August 2018. However, no funds were paid out under the IMF programme, as in the Fund’s view the debt sustainability condition had not been met.

Chart 3.2: Structural balances and MTOs of euro area countries and the Czech Republic in 2017

(in % of GDP)



Source: AMECO database, Stability and Growth Programmes of member countries.

The economic situation in the euro area is stabilised. However, the main obstacles to faster economic growth are persisting systemic shortcomings due, among other things, to inconsistent implementation of structural reforms. The political uncertainty associated with the delays in the Brexit negotiations is not conducive to growth either. Geopolitical risks linked, among other things, with the still unresolved migration crisis are another adverse factor for economic growth.

3.2 Institutional Developments in the EU and Related Obligations

Since the Czech Republic joined the EU, many reforms have been implemented at EU level to enhance the stability of and deepen the union. However, the institutional framework of the EU and especially of the euro area can be expected to evolve. In the Rome Declaration of March 2017, the **Member States confirmed their commitment to complete the economic and monetary union**. Additional institutional and financial obligations may arise for the Czech Republic from the submitted and possible future proposals. These must be taken into consideration when deciding on euro area entry, along with the benefits such proposals may have for the smooth functioning of the euro area and the prosperity of its member states.

2017 saw a continued debate on deepening euro area integration based, among other things, on the *Reflection Paper on the Deepening of the Economic and Monetary Union* (EC, 2017a) published in May 2017. The paper follows up on the March 2017 *White Paper on the Future of Europe* (EC, 2017b), which contains possible scenarios for institutional change, and the *Five Presidents' Report* (EC, 2015), which discusses deepening European integration in the economic, financial and fiscal areas and enhancing democratic accountability and legitimacy. The declared aim is to find a combination of instruments that will lead to greater economic resilience and a better ability to react flexibly to economic shocks without generating further economic and social imbalances. Given the specificities of the EU national economies, these general goals of the Reflection Paper can best be met by allowing the Member States to apply their own approaches while strengthening instruments leading to real and nominal convergence. As regards the scenarios under consideration, what is important for the Czech Republic as a non-euro area state is whether a distinction will be made between euro area and non-euro area states if

measures to strengthen economic and social convergence are implemented.

The measures to complete the economic and monetary union are divided into several stages. In the first stage, measures were taken to strengthen the European semester, an independent advisory European Fiscal Board and Structural Reform Support Service were established and a recommendation on the establishment of independent national productivity boards was issued for euro area countries.

The priorities for the first half of 2018 set at the December 2017 extended Euro Summit included the completion of the banking union, reform of the European Stability Mechanism (ESM) and work on the introduction of a common backstop for the Single Resolution Fund (SRF). At the same time, the Euro Summit and the follow-up discussions demonstrated the EU Member States' support for reforming the ESM while keeping its intergovernmental nature. Its incorporation into EU law in the form of a European Monetary Fund, as proposed by the Commission on 6 December 2017 (EC, 2018f), was thus not accepted.

The Commission submitted further legislative proposals regarding the completion of the Economic and Monetary Union in May 2018. The most significant one as regards newly arising obligations is the proposal to establish a European Investment Stabilisation Function (EISF; EC, 2018d) for euro area member states and countries participating in ERM II. This function aims to help stabilise public investment levels in Member States and facilitate rapid economic recovery. It will provide loans guaranteed by the EU budget combined with a grant component to cover the full costs of the interest, subject to compliance with strict criteria based on sound fiscal and macroeconomic policies. The loans would constitute contingent liabilities for the EU budget and default would pose a risk to other Member States,

including those not eligible to use the instrument under the proposal, in the form of higher transfers to the EU budget. The proposed regulation was accompanied by a draft intergovernmental agreement on the transfer of Member States' contributions to the Stabilisation Support Fund (SSF), which would be used to finance the interest rate subsidies under the grant component. The SSF would consist of contributions by euro area and ERM II member states allocated in accordance with the ECB's capital key. The Commission's proposals envisage the EISF having a financial capacity of EUR 30 billion. The criteria for activating this instrument are the absence of a financial assistance programme from the EU or the ESM and the identification of a large shock.⁴ The financial impact of the proposed EISF on member states and potential member states of the euro area depends on the final text of the regulation, which has only just started to be discussed, and on any activation of the instrument. Given the current institutional arrangement of the Economic and Monetary Union and the fiscal policies of some Member States, the Czech Republic is fairly sceptical about any form of stabilisation function. The proposed legal basis also seems problematic.

In May 2018, the European Commission also published a proposed *Reform Support Programme 2021–2027* (EC, 2018e).⁵ The programme would provide support to all EU Member States for key reforms in areas identified as problematic in the context of the European Semester. The overall budget of EUR 25 billion would be divided into three parts:

- a) EUR 22 billion for a Reform Delivery Tool,
- b) EUR 0.84 billion for a Technical Support Instrument,
- c) EUR 2.16 billion for a Convergence Facility.

The Convergence Facility would provide support to non-euro area countries having made "demonstrable steps" towards adopting the euro within a defined timeframe, including a formal letter from the government of the Member State stating a specific euro area entry date.⁶

Intensive discussions about deepening Economic and Monetary Union were held in EU institutions in the first half of 2018, with the Member States also contributing. A group of countries led by the Netherlands and comprising a further seven northern euro area and non-euro area states was formed in spring 2018, and in June 2018 Germany and France published a joint document

setting out their vision for deepening Economic and Monetary Union. The debate in the first half of 2018 culminated in a letter of 25 June 2018 from the Eurogroup President to the President of the European Council and in a 29 June 2018 statement of the extended Euro Summit. According to the statement, work on the reform of the ESM will continue in the second half of 2018 and the discussions on possible instruments for economic convergence and stabilisation in the euro area will continue.

The letter from the Eurogroup President also focuses on the completion of the banking union, suggesting that further steps be taken in the area of reducing and sharing risks in the financial sector. The Single Resolution Mechanism (SRM) became fully operational on 1 January 2016. This includes a Single Resolution Fund (SRF) consisting of banks' contributions. The participating states agreed in December 2015 on temporary public funding as a last resort in the event of a lack of funds in the SRF. The availability of temporary funding is to end at the start of 2024 at the latest, upon the establishment of the common backstop to the SRF. According to the Euro Summit statement, the ESM will provide the common backstop, which will replace the direct bank recapitalisation instrument contained in the ESM. The capacity of the common backstop will be similar to the target level of the SRF.

Proposals to establish a European Deposit Insurance Scheme are also being discussed at the technical level. The conclusions of the June 2018 Euro Summit (General Secretariat of the Council, 2018) call for work to start on a roadmap for beginning political negotiations on the European Deposit Insurance Scheme (EDIS), adhering to all elements of the roadmap to reduce risks in national banking sectors, which was contained in the June 2016 Council conclusions, in the appropriate sequence. The Euro Summit will come back to the common backstop to the SRF and the plan to begin political negotiations on the EDIS in December 2018. In the Czech Republic, the debate on possible participation in the banking union before euro adoption is based on the updated *Impact Study of Participation or Non-participation of the Czech Republic in the Banking Union* (MF CR, 2016c).

Given the ongoing discussions in the EU about the future institutional arrangement of the euro area, the obligations that would arise for the Czech Republic on accession to the euro area cannot be fully assessed at present. The new approach to accepting new members into ERM II is also important from the Czech Republic's perspective (see Box 1 above).

The estimated financial costs associated with the Czech Republic's hypothetical entry into the euro area, which arise mainly from participation in the banking union and the European Stability Mechanism and payment of the rest of the share in the subscribed capital of the ECB, are quantified in Appendix B.

⁴ A large shock is a situation where the unemployment rate in the Member State concerned exceeds the average level over the past 15 years and its year-on-year increase is more than 1 pp. The support is scaled according to growth in the unemployment rate, up to a year-on-year increase of 2.5 pp.

⁵ This Programme follows up on the May 2017 Regulation of the European Parliament and of the Council (EU) No. 2017/825 on the establishment of the Structural Reform Support Programme for the period 2017 to 2020.

⁶ If the Czech Republic decided to join the euro area, the Convergence Facility might offset part of the euro adoption-related costs.

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A Appendix – Maastricht Convergence Criteria

Criterion on Price Stability

Treaty provisions

The first indent of Article 140(1) of the Treaty requires: “the achievement of a high degree of price stability; this will be apparent from a rate of inflation which is close to that of, at most, the three best performing Member States in terms of price stability”.

Article 1 of Protocol No. 13 on the Convergence Criteria also stipulates that: “The criterion on price stability shall mean that a Member State has a price performance that is sustainable and an average rate of inflation, observed over a period of one year before the examination, that does not exceed by more than 1.5 percentage points that of, at most, the three best performing Member States in terms of price stability. Inflation shall be measured by means of the consumer price index on a comparable basis taking into account differences in national definitions.”

Application of Treaty provisions in ECB and EC Convergence Reports

With regard to “an average rate of inflation, observed over a period of one year before the examination”, the inflation rate is calculated using the increase in the latest available 12-month average of the Harmonised Index of Consumer Prices (HICP) over the previous 12-month average.

The reference value of the price criterion is calculated as 1.5 percentage points plus the simple arithmetic average of the rate of inflation in the three countries with the lowest inflation rates, provided that this rate is compatible with price stability.

Implementation of the price stability criterion – current practice

Both the Treaty and the Protocol in some areas leave scope for interpretation by the institutions that assess the fulfilment of the criteria in their Convergence Reports (the European Commission and ECB). Therefore, when assessing the fulfilment of the criteria one should also take into account the specific way in which these institutions implement the criterion. Previous practice shows that countries with low or negative inflation rates are not automatically excluded as reference countries. Only countries that record significant deviations in inflation from the other EU countries owing to extraordinary or specific factors are excluded.

Criterion on the Government Financial Position

Treaty provisions

The second indent of Article 140(1) of the Treaty requires “the sustainability of the government financial position; this will be apparent from having achieved a government budgetary position without a deficit that is excessive as determined in accordance with Article 126(6) of the Treaty”.

Article 2 of Protocol No. 13 on the Convergence Criteria stipulates that this criterion “shall mean that at the time of the examination the Member State is not the subject of a Council decision under Article 126(6) of this Treaty that an excessive deficit exists”.

Article 126 of the Treaty sets out the excessive deficit procedure, which is specified in more detail in the Stability and Growth Pact. According to Article 126(3) of the Treaty, the European Commission shall prepare a report assessing whether an excessive deficit exists on the basis of the following two criteria if a Member State does not fulfil the requirements for budgetary discipline.

1. whether the ratio of the planned or actual government deficit to GDP exceeds a reference value (defined in Protocol No. 12 on the excessive deficit procedure as 3% of GDP), unless:
 - a. either the ratio has declined substantially and continuously and reached a level that comes close to the reference value;
 - b. or, alternatively, the excess over the reference value is only exceptional and temporary and the ratio remains close to the reference value.
2. whether the ratio of government debt to GDP exceeds a reference value (defined in the Protocol on the Excessive Deficit Procedure as 60% of GDP), unless the ratio is sufficiently diminishing and approaching the reference value at a satisfactory pace.

However, several other steps need to be taken between the European Commission's report and the start of the excessive deficit procedure. The excessive deficit procedure is opened by the EU Council, acting on a proposal from the European Commission. The EU Council also closes the procedure, acting on a recommendation from the Commission.

Criterion on the Convergence of Interest Rates

Treaty provisions

The fourth indent of Article 140(1) of the Treaty requires: "the durability of convergence achieved by the Member State...and of its participation in the exchange-rate mechanism being reflected in the long-term interest-rate levels".

Article 4 of Protocol No. 13 on the Convergence Criteria specifies that: "The criterion on the convergence of interest rates...shall mean that, observed over a period of one year before the examination, a Member State has had an average nominal long-term interest rate that does not exceed by more than two percentage points that of, at most, the three best performing Member States in terms of price stability. Interest rates shall be measured on the basis of long-term government bonds or comparable securities, taking into account differences in national definitions."

Implementation of the criterion on the convergence of interest rates

As in the case of the price stability criterion, the Treaty and the Protocol provide scope for a looser interpretation of the specific value of the criterion. It is within the competence of the assessing institutions to decide whether the calculation of the interest rate criterion will include all three countries used for the calculation of the price stability criterion or whether certain countries will be excluded from the calculation of the interest rate criterion.

Interest rates measured on the basis of long-term government bonds or comparable securities are regarded as long-term interest rates. These interest rate statistics are based on monthly average interest rates on long-term government bonds in per cent per annum. Bonds with residual maturities ranging from 8 to 12 years are classified as benchmark bonds (this range is fully in line with the conditions on the Czech government bond market and is based on the Czech government bond issue frequency). A combination of bonds whose average residual maturity is as close to 10 years as possible is then generated from this set.

Criterion on Participation in the Exchange Rate Mechanism

Treaty provisions

The third indent of Article 140(1) of the Treaty requires: "the observance of the normal fluctuation margins provided for by the exchange-rate mechanism of the European Monetary System, for at least two years, without devaluing against the euro".

Article 3 of Protocol No. 13 on the Convergence Criteria stipulates that: "The criterion on participation in the exchange-rate mechanism of the European Monetary System referred to in the third indent of Article 140(1) of the Treaty shall mean that a Member State has respected the normal fluctuation margins provided for by the exchange-rate mechanism of the European Monetary System without severe tensions for at least the last two years before the examination. In particular, the Member State shall not have devalued its currency's bilateral central rate against the euro on its own initiative for the same period."

Application of Treaty provisions in ECB and EC Convergence Reports

The Treaty refers to the criterion of participation in the European exchange-rate mechanism (ERM until December 1998 and ERM II since January 1999).

First, the ECB and the EC assess whether the country has participated in ERM II "for at least the last two years before the examination", as stated in the Treaty.

Second, as regards the definition of "normal fluctuation margins", the ECB recalls the formal opinion that was put forward by the European Monetary Institute Council in October 1994 and its statements in the November 1995 report entitled "Progress towards Convergence".

The European Monetary Institute Council's opinion of October 1994 stated that "the wider band has helped to achieve a sustainable degree of exchange rate stability in the ERM", that it "considers it advisable to maintain the present arrangements", and that "member countries should continue to aim at avoiding significant exchange rate fluctuations

by gearing their policies to the achievement of price stability and the reduction of fiscal deficits, thereby contributing to the fulfilment of the requirements set out in Article 140(1) of the Treaty and the relevant protocol”.

In the “Progress towards Convergence” report it was stated that “when the Treaty was conceived, the ‘normal fluctuation margins’ were $\pm 2.25\%$ around bilateral central parities, whereas a $\pm 6\%$ band was a derogation from the rule. In August 1993 the decision was taken to widen the fluctuation margins to $\pm 15\%$. The interpretation of the criterion, in particular of the concept of ‘normal fluctuation margins’, became less straightforward.” It was then also proposed that account would need to be taken of “the particular evolution of exchange rates in the European Monetary System (EMS) since 1993 in forming an ex post judgement”.

Against this background, in the assessment of exchange rate developments the emphasis is placed on exchange rates being close to the ERM II central rates.

Third, the issue of the presence of “severe tensions” or “strong pressures” on the exchange rate is addressed by examining the degree of deviation of exchange rates from the ERM II central rates against the euro. Other indicators, such as short-term interest rate differentials vis-à-vis the euro area and their evolution, are used as well. The role played by foreign exchange interventions is also considered.

B Appendix – Estimated Financial Obligations for the Czech Republic of Hypothetical Euro Area Entry

The table below lists the estimated direct financial costs in the hypothetical case of the Czech Republic entering the euro area, and the financial obligations closely linked with entry, based on the current legal settings and a number of simplifying assumptions about economic factors. These are the financial costs for the Czech Republic (the public sector) or economic entities established in the Czech Republic. An exchange rate of CZK 25.6 to the euro, the expected exchange rate in 2018 Q4, is used for all currency conversions.

The table does not capture other facts that would have an impact on the Czech Republic's budget or, more broadly, on the method of implementing budgetary and fiscal policy in the event of euro area entry. Budgetary impacts would stem from any financial penalties that might be imposed on euro area countries under EU surveillance of members' budgetary policies or surveillance of macroeconomic imbalances.

The implementation of budgetary and fiscal policy in the Czech Republic would be affected, among other things, by Regulation (EU) No. 473/2013 of the European Parliament and of the Council, which deepens EU surveillance of euro area members' budgetary policies. Euro area countries could also de facto make euro adoption in the Czech Republic conditional on the completion of ratification of the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union. The aforementioned Regulation and Treaty require the introduction of national legal regulations or institutions that will support compliance with the EU rules on budgetary discipline (the Stability and Growth Pact). Moreover, the Treaty tightens these rules in some cases, and that could also affect the Czech Republic.

Payment of the rest of the Czech Republic's share in the subscribed capital of the ECB	Unit	Estimate
– Following euro area entry, the CNB would have to pay up the outstanding amount of the subscribed capital of the ECB (Article 48 of the Protocol on the Statute of the European System of Central Banks and of the European Central Bank).	<i>EUR mil</i>	167.5
	<i>CZK bn</i>	4.3

- Only a minimal percentage (3.75%) of the subscribed capital of the ECB has been paid up to date, as a contribution to the operational costs of the ECB (Decision ECB/2013/31).

Obligations associated with the Czech Republic's participation in the European Stability Mechanism	Unit	Estimate
– The total obligation is CZK 413.7 billion, of which CZK 365.2 billion is a contingent liability payable in the event of full use of the European Stability Mechanism's lending capacity and in the extreme scenario.	<i>EUR bn</i>	1.9*
	<i>CZK bn</i>	48.5*
– The Czech Republic would then have to pay up capital totalling around CZK 48.2 billion within four years. These funds will remain the property of the Czech Republic, which in exchange will receive shares of the European Stability Mechanism of the same total nominal value. The Czech Republic will also acquire the relevant shareholder's rights and obligations.		
– The Czech Republic may theoretically adopt the euro without becoming a contracting party to the European Stability Mechanism, but euro area members can de facto make their consent to euro adoption in the Czech Republic conditional on European Stability Mechanism entry.		

Liabilities to the Single Resolution Fund	Unit	Estimate
– The Czech Republic is obliged to join the banking union no later than upon euro adoption.	<i>EUR bn</i>	up to
– The intergovernmental Agreement on the transfer and mutualisation of contributions to the Single Resolution Fund requires that the contributions of banking institutions be transferred to the fund by the end of a transitional period.	<i>EUR bn</i>	1.1**
	<i>CZK bn</i>	up to
		27.8**
– The annual fees that Czech banks would have paid for the operation of the Single Resolution Board in 2018 if the Czech Republic had been a banking union member in the said year.	<i>EUR mil</i>	1.1
– Euro area countries can make their consent to euro adoption in the Czech Republic conditional on the completion of ratification of this Agreement in the Czech Republic.	<i>CZK mil</i>	27.8
– The provisions of the Agreement will start to apply to the Czech Republic upon euro area entry (or banking union entry, should the Czech Republic join the banking union before adopting the euro).***		

Costs associated with the Czech Republic's participation in the Single Supervisory Mechanism	Unit	Estimate
– These reflect the total annual fees that Czech banks would have paid the ECB for supervision in 2018 if the Czech Republic had been a banking union member in the said year.****	<i>EUR mil</i>	5.4
	<i>CZK mil</i>	139.5

Note: * Paid-up capital represents CZK 48.2 billion of the Czech Republic's share in the subscribed capital of the European Stability Mechanism; the rest is contingent liabilities. The Czech Republic's share in the subscribed capital does not take into account a temporary correction of the European Stability Mechanism capital subscription key, to which economically weaker European Stability Mechanism members are entitled (and to which the Czech Republic would also be entitled in the current situation).

** This is the upper limit signifying the target level of the National Resolution Fund (CZK 25.1 billion). The size of banks' contributions in the banking union will depend on their risk profile and on the specific number of Member States that join the banking union. In the case of the Czech Republic, with its less risky banking sector, the amount transferred would probably be lower than stated here.

*** In the event of accession to the banking union after 2023, the contributions in the National Resolution Fund would have to be transferred to the SRF as of the date of entry.

**** Assuming an unchanged distribution of banks in the banking union and the Czech Republic in 2017 (i.e. using the end-2016 data).

C Appendix – Glossary

An **asymmetric shock** is a macroeconomic shock with an uneven impact on the individual countries of the monetary union.

The **cyclically adjusted balance** of the general government sector is used to identify the fiscal policy stance, as it does not include revenues and expenditures generated by the position of the economy in the business cycle.

Discretionary measures are direct interventions by executive or legislative authorities in the revenues and expenditures of the general government sector.

The **euro area** comprises the EU Member States that have adopted the euro under the Treaty. As of 1 January 1999, the euro area consisted of eleven countries – Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain. Greece joined the euro area in 2001, followed by Slovenia in 2007, Cyprus and Malta in 2008, Slovakia in 2009, Estonia in 2011, Latvia in 2014 and Lithuania in 2015.

The **European Stability Mechanism** is a financial assistance fund for EU Member States that use the euro as their currency. It was established in 2012 by an international treaty outside EU law, so it is an independent international financial institution. However, its operations are closely linked with EU law as well as EU and euro area institutions.

The **Euro Summit** is a meeting of the heads of state or government of the euro area countries. The Extended Euro Summit is a Euro Summit attended also by the heads of state or government of other EU Member States.

The **general government** sector is defined using internationally harmonised rules at EU level. In the Czech Republic, it consists of three main subsectors under ESA 2010 methodology: central government, local government and social security funds.

The **Harmonised Index of Consumer Prices** is an index measuring the price level. It is constructed on the basis of regular monitoring of prices of selected goods and services, which have certain weights in the consumer basket. Its calculation in EU countries is governed by unified and legally binding procedures, which enables cross-country comparisons. It is therefore used to assess the criterion on price stability.

Inflation is growth in the general price level, i.e. internal depreciation of a currency. The price level is measured using price indices such as the Harmonised Index of Consumer Prices.

Long-term interest rates are measured on the basis of long-term government bonds or comparable securities. These interest rate statistics are based on monthly average interest rates on long-term government bonds in per cent per annum. Bonds with residual maturities ranging from 8 to 12 years are classified as benchmark bonds (this range is fully in line with the conditions on the Czech government bond market and is based on the Czech government bond issue frequency). A combination of bonds whose average residual maturity is as close to 10 years as possible is then generated from this set.

The **medium-term objective** is expressed in terms of the structural balance and implies public finance sustainability in the country concerned. For the Czech Republic, it currently equates to a structural balance of -1% of GDP.

One-off and other temporary operations are measures on the revenue or expenditure side that have only a temporary effect on the general government balance and often stem from events beyond the direct control of executive or legislative authorities (e.g. expenditure on flood damage repairs).

Ratings are a standard international tool for assessing the creditworthiness of countries in order to evaluate their credibility. A rating tells foreign firms how risky it is to do business in the country and quantifies how likely it is that the country will be able to meet its obligations. It therefore reflects the quality of a country as a borrower and its economic ability to meet its obligations and repay both interest and principal in time and in full.

The **Single Resolution Fund** is a fund financed by contributions from banks, collected by the participating countries. Lending between national compartments will be allowed. To prevent a shortage of funds in the SRF during a transitional period (until the end of 2023), the states of the banking union have agreed on temporary public funding in the form of individual (not mutualised) credit lines. A permanent mechanism of financial backstops should be fully operational by the end of the transitional period.

The **Single Resolution Mechanism** is a mechanism comprising a centralised board, which will prepare proposals for bank resolution procedures, and a fund for bank resolution in the banking union. Its objective is to ensure proper bank resolution with a minimal impact on public budgets, as the bank's shareholders and creditors, as well a dedicated fund financed by banks themselves, will bear primary responsibility for covering any losses.

The **Single Supervisory Mechanism** is a new system of banking supervision in the EU. It falls within the competence of the ECB and the national competent authorities of the participating countries.

The **Stability and Growth Pact** is a binding framework for the coordination of national fiscal policies in the European Union. If an EU Member State has a general government deficit exceeding 3% of GDP, or does not reduce its debt exceeding 60% of GDP at a sufficient pace, an **excessive deficit procedure** is usually opened against it. This procedure is opened on the basis of a comprehensive assessment of the country's economic and budgetary situation. For example, if the excessive deficit (or debt) is only temporary, caused by adverse (cyclical) economic developments, an excessive deficit procedure may not be launched. The penalties imposed differ according to whether or not the country is a member of the euro area.

The **structural balance** is the difference between the cyclically adjusted balance and one-off and temporary operations (see above).

Ministry of Finance of the Czech Republic
Letenská 15
118 10 Praha 1

<http://www.mfcr.cz>

Czech National Bank
Na Příkopě 28
115 03 Prague 1

<http://www.cnb.cz>

