Czech Inflation and CNB’s Response

Inflation factors and comparison across EU countries

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JVI Webinar

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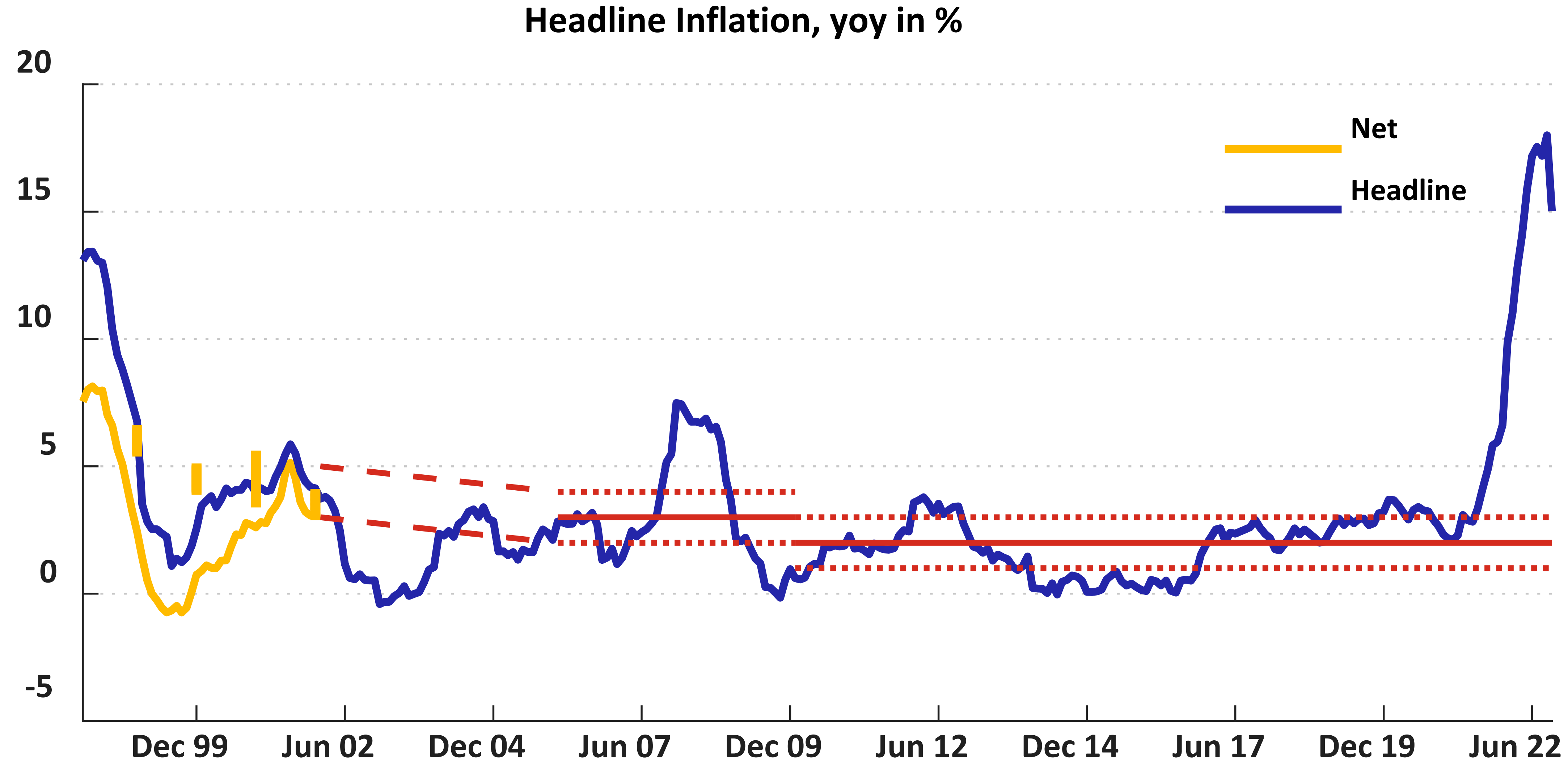
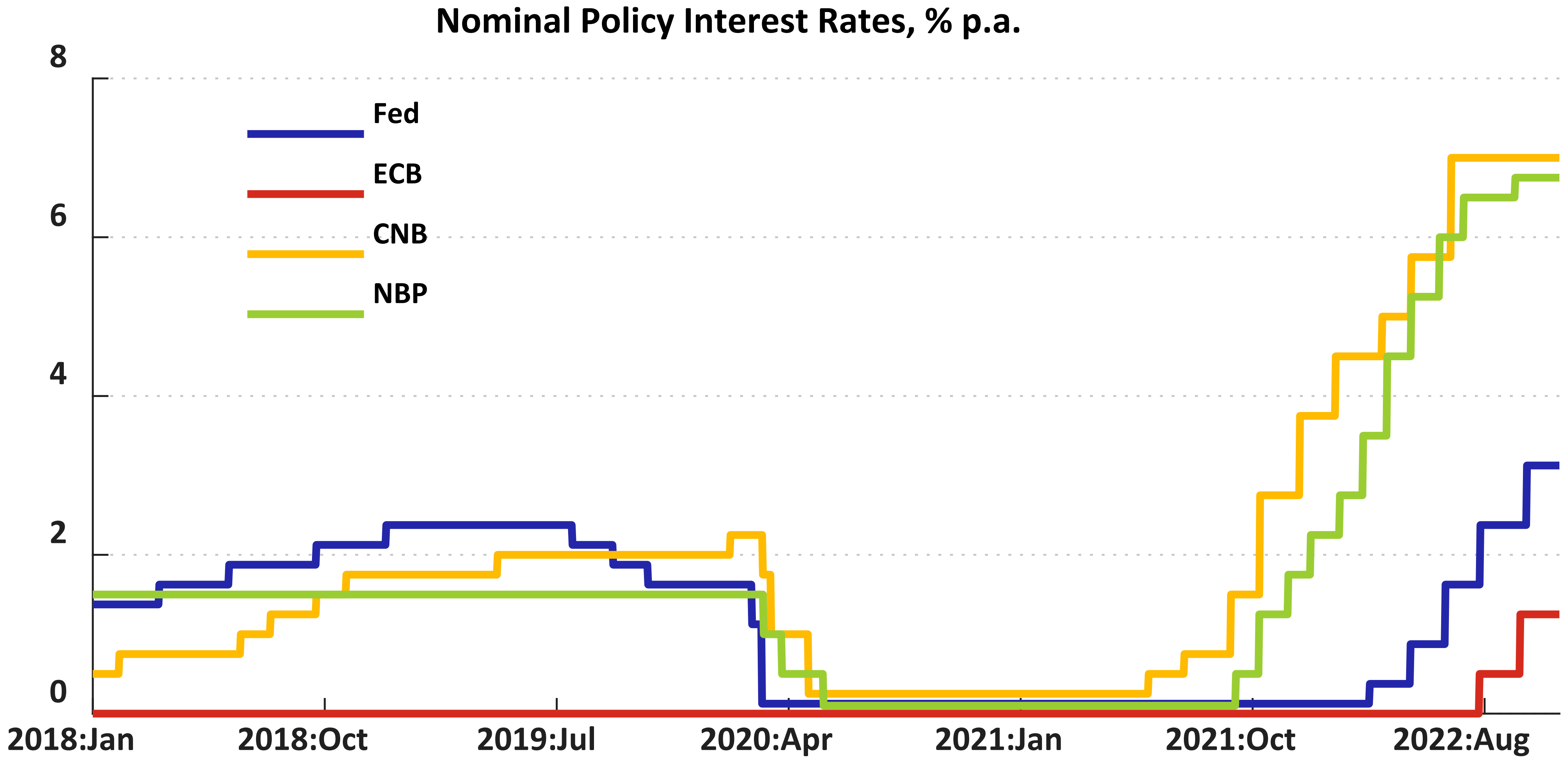




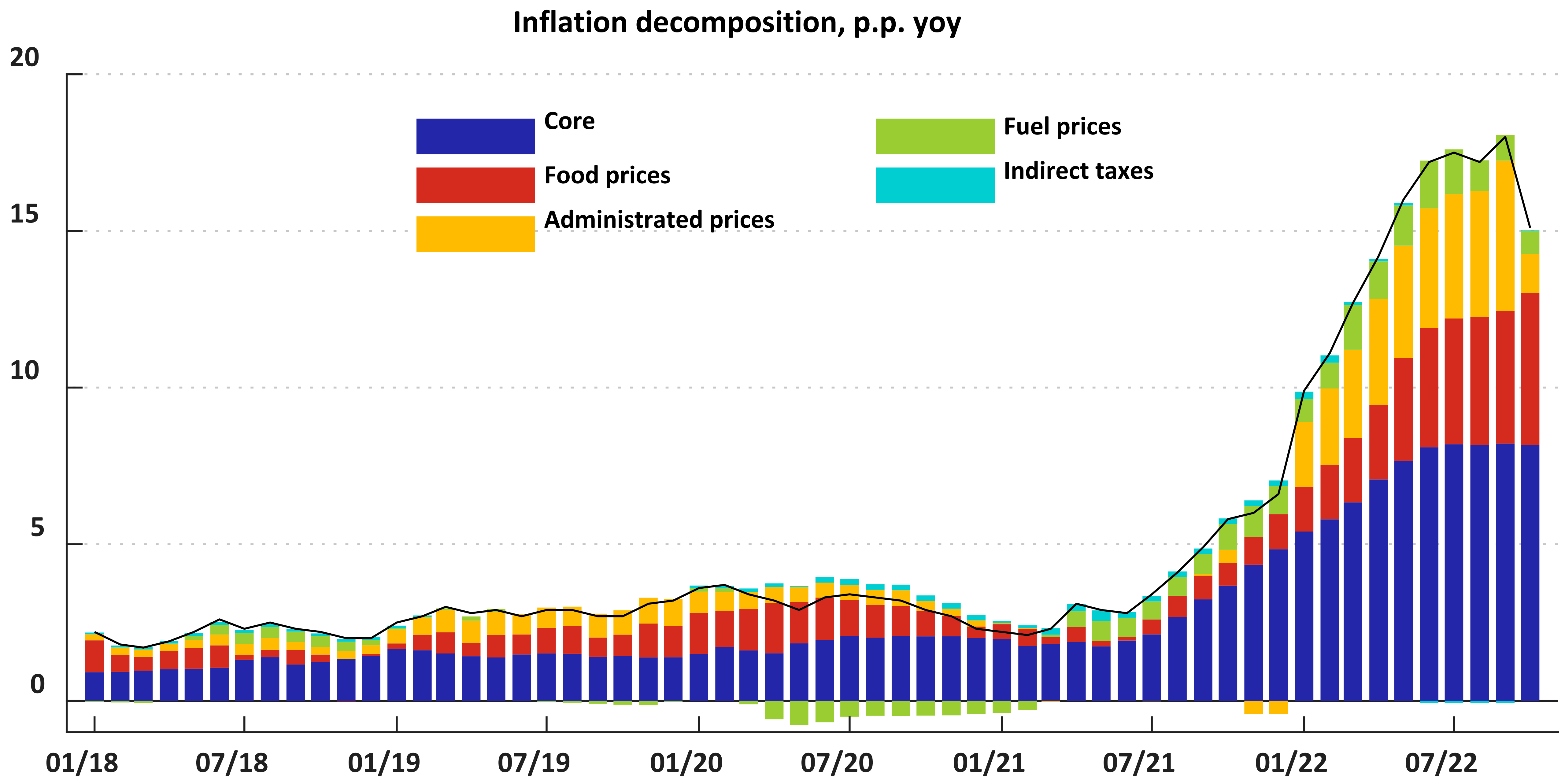
Source: Central banks

Inflation has been well above the target, reaching the highest levels since the beginning of inflation targeting.

The **CNB** responded as **one of the first** central banks to mounting inflationary pressures, **hiking in June 2021** by 25 b.p. This was followed by even faster sequence of tightening steps till June 2022. The **CNB responded to inflation outlooks** suggesting inflation pressures rather than to the actual data.

Given **transmission lags**, the effects of monetary policy tightening in 2021 should be seen nowadays.

Inflation composition



Source: CNB

The current wave of price increases is **widespread and rather intense** across most categories of the consumer basket – **all inflation subcomponents** have contributed significantly.

Core inflation has recently stopped accelerating further, but remains elevated**.**

Food prices inflation have continued to rise while **fuel** and **administrated prices** have eased.

Administrated prices dropped sharply in October as government transfers to household have been treated statistically as a decline in **electricity prices** (otherwise, inflation would have been above 18%; this one-off measure will fade out in January).

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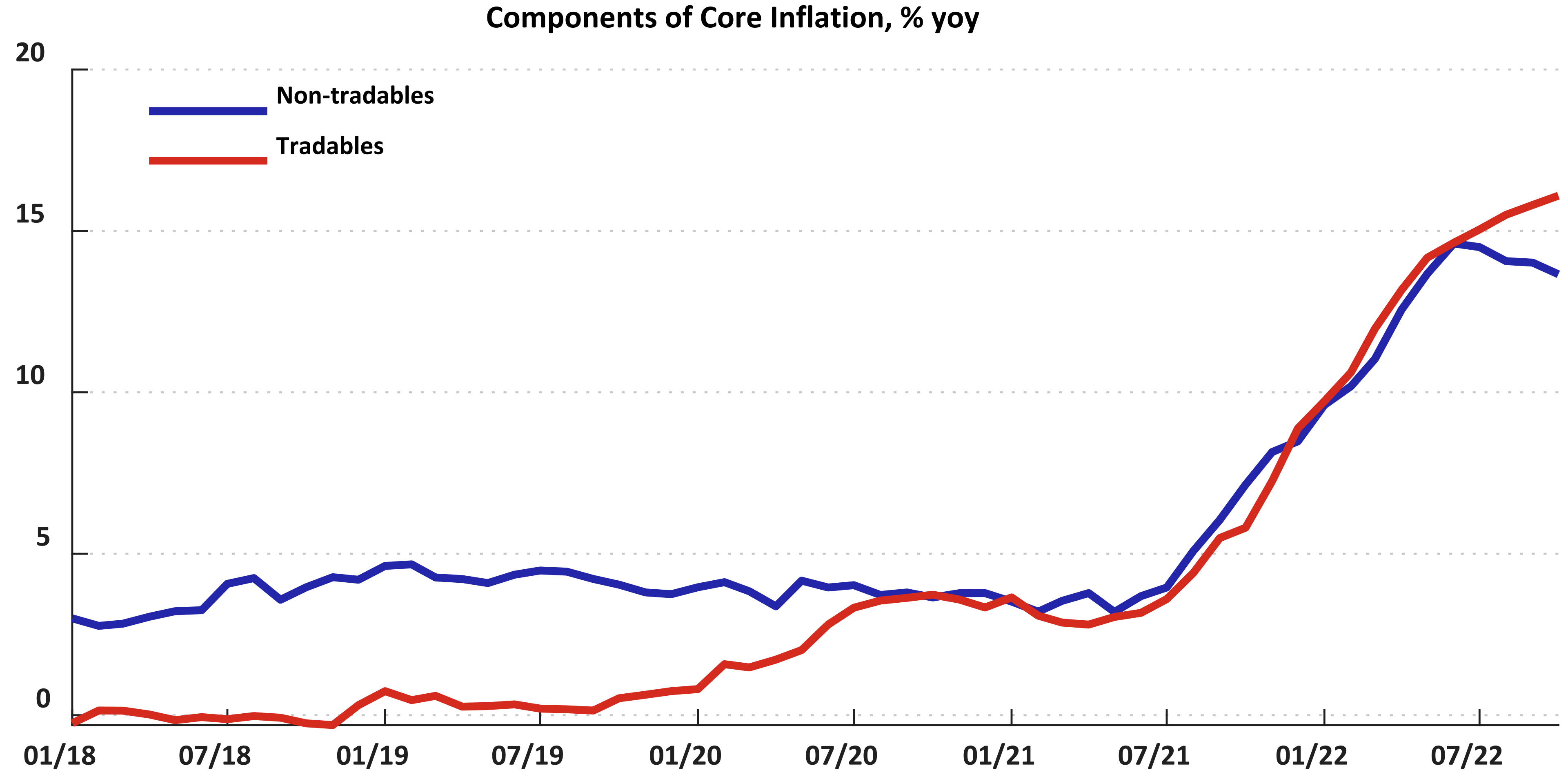
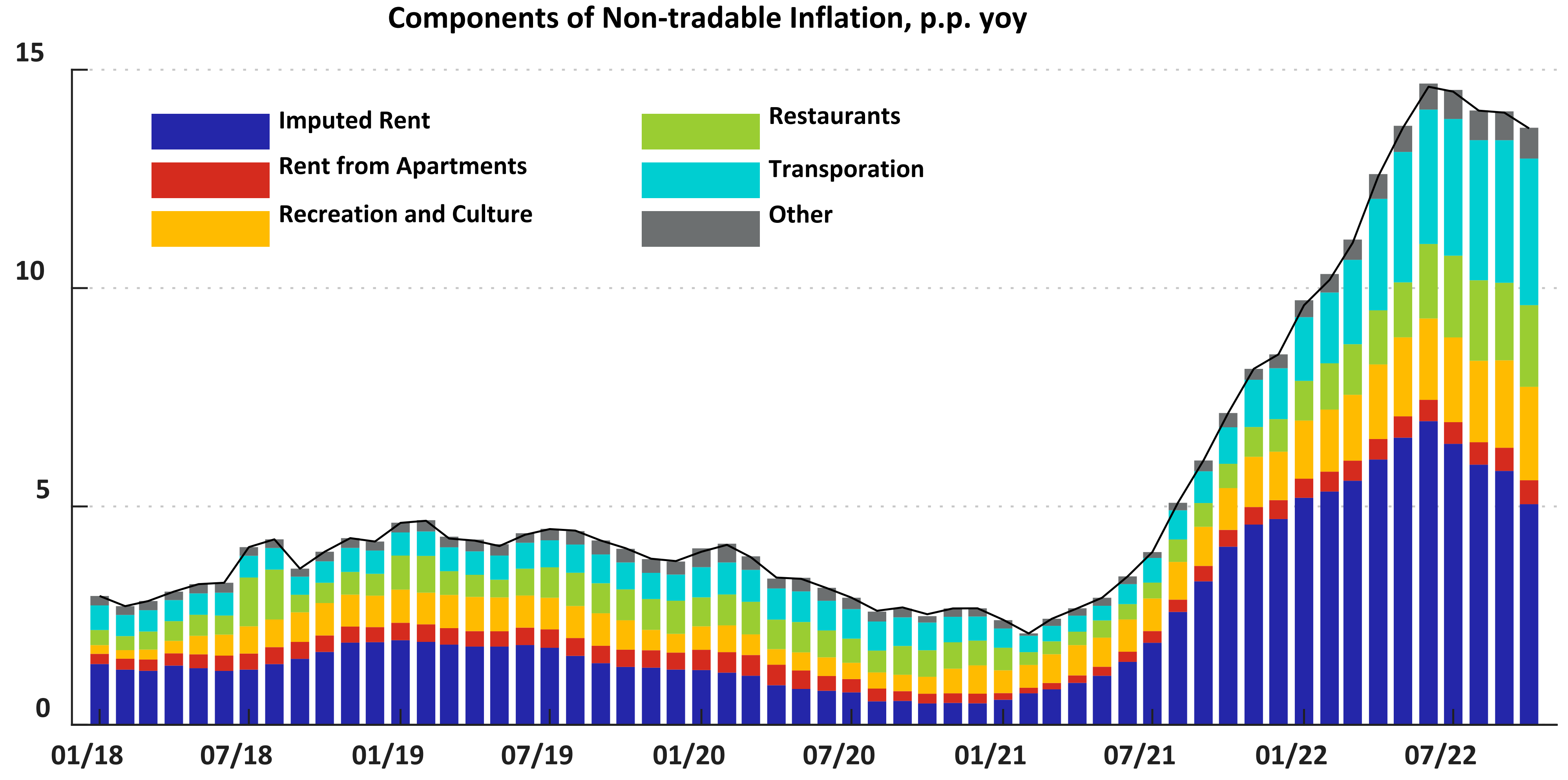
Inflation composition (cont.)





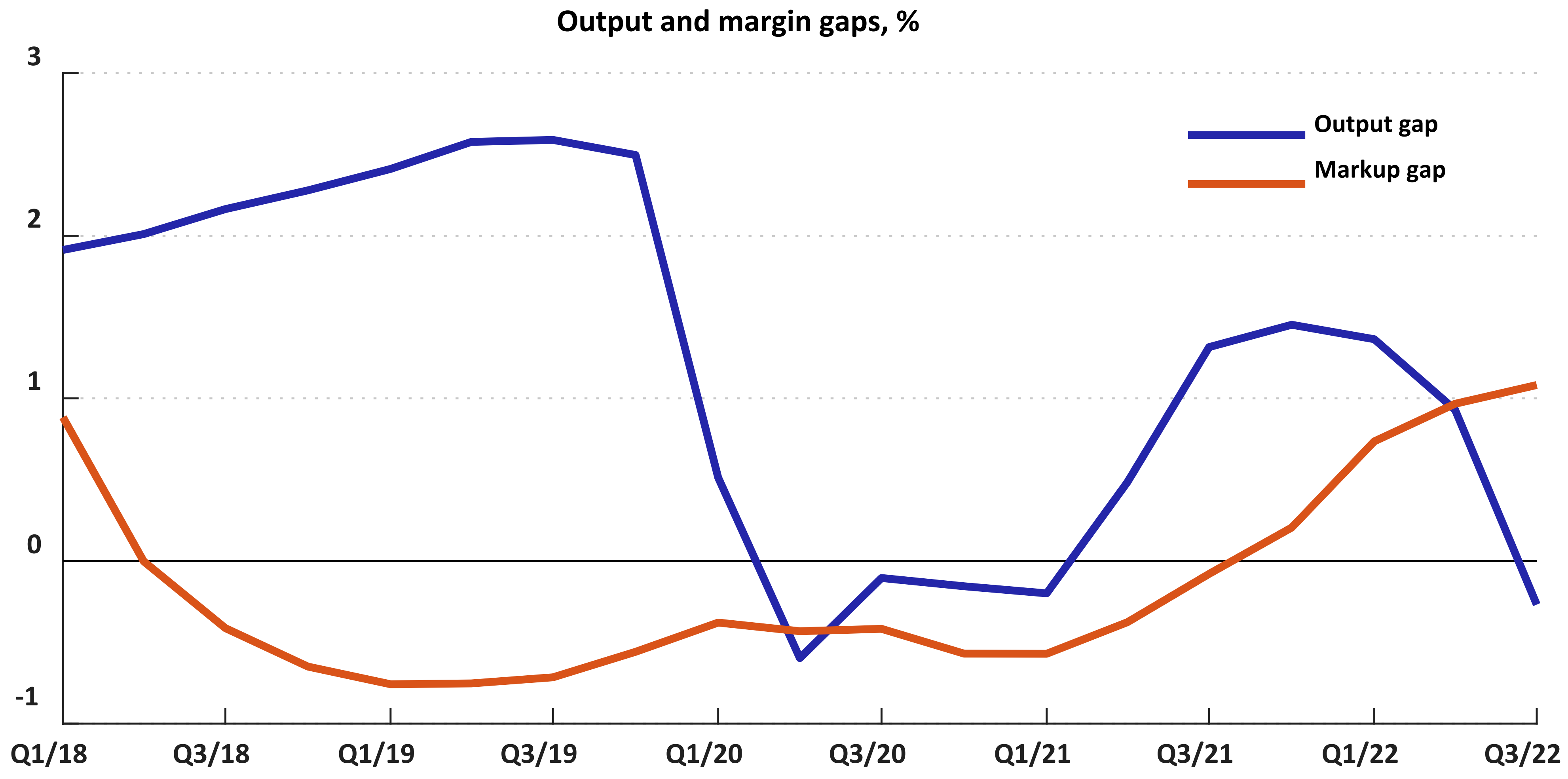
Source: CNB

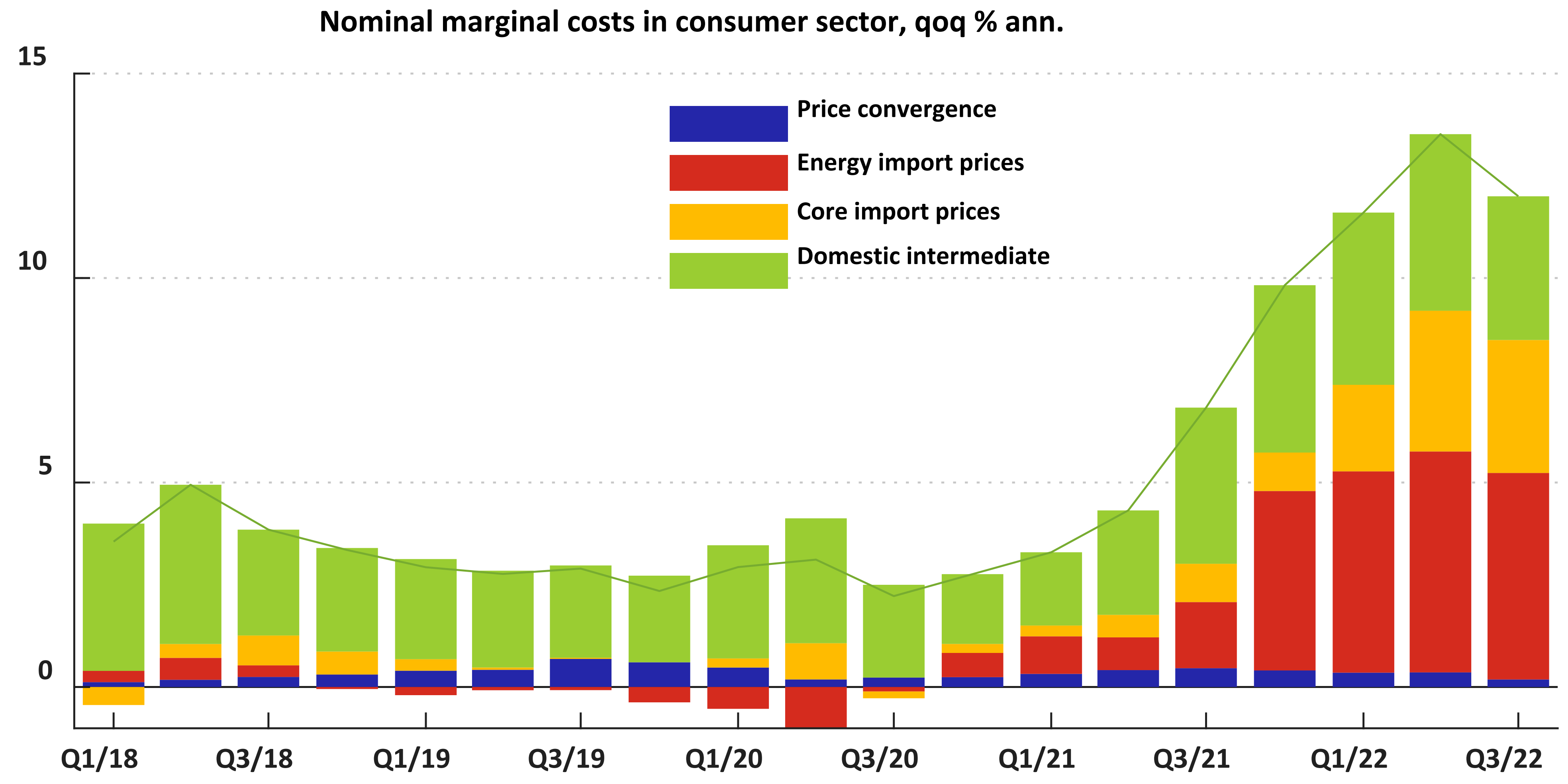
While **tradable price** growth continues to accelerate, the growth of **non-tradable prices has** slowed somewhat, mirroring some cooling of the residential real estate market and a sharp drop of real income of households.

The high core inflation in both tradable and non-tradable components suggests a combination of **foreign and domestic inflationary pressures**.

The exceptionally high contribution of the **imputed rent** has been declining since July. Imputed rent reflected sharply increasing **house prices** and rising **construction prices**.

Inflation drivers





Source: CNB

FPAS-based estimate of the **output gap** indicated inflationary pressures even before the covid shock. Demand-side pressures restored quickly in 2021 given easy monetary policy and significant fiscal support.

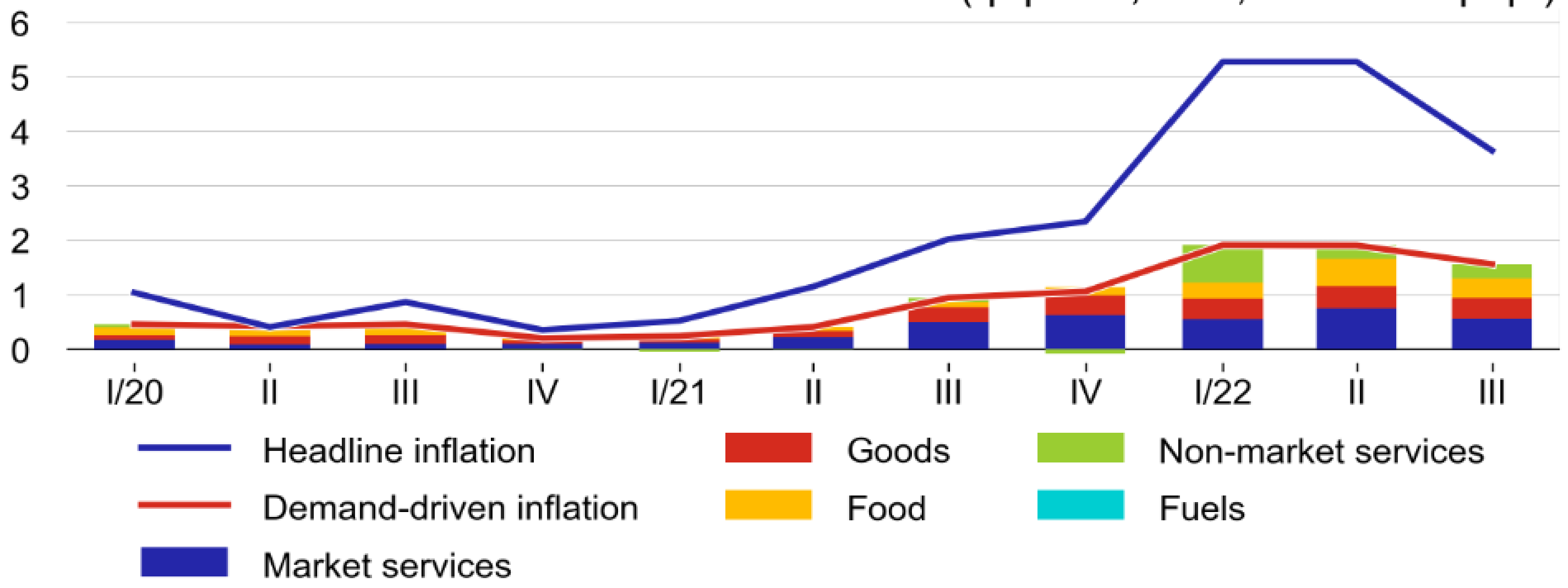
Core FPAS model, g3+, is a DSGE model and it uses a **mark-up gap** as a proxy for demand-side inflationary pressures.

At the end of 2021, **domestic intermediate costs** started to accelerate (labour market=>wages=>demand), while **external factors** have been dominant recently, energy in particular.

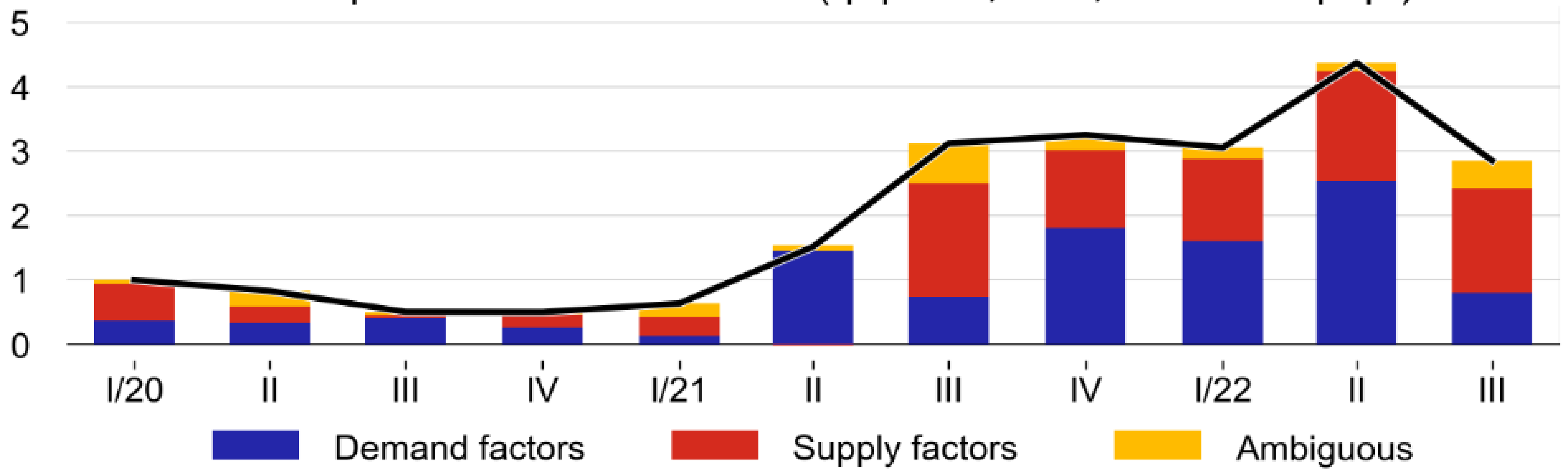
Inflationary **costs pressures** are now **easing** and **demand pressures** are **fading out** with a drop in real income.

Autumn 2022 MPR – Inflation through the lens of demand factors

Headline inflation and demand-driven inflation (q/q in %, s. a., contrib. in p. p.)



Decomposition of core inflation (q/q in %, s. a., contrib. in p. p.)



Note: The ambiguous category includes inflation expectations and other factors that cannot be clearly attributed to supply or demand.

Source: CNB

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

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

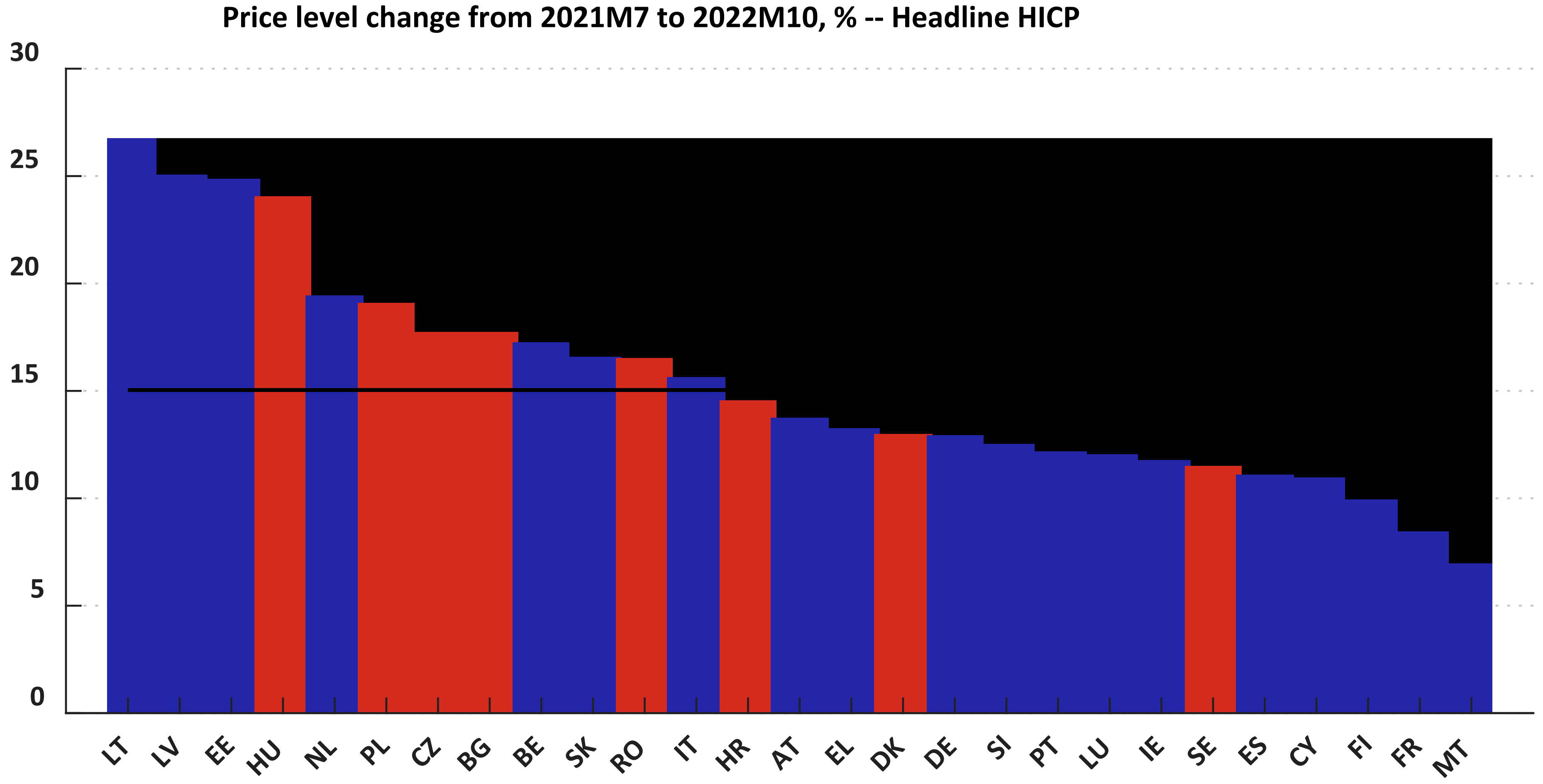
In the past year, core inflation has been driven by both demand and supply factors; the demand factors weakened this summer.

Two approaches determining demand and other factors of inflation:

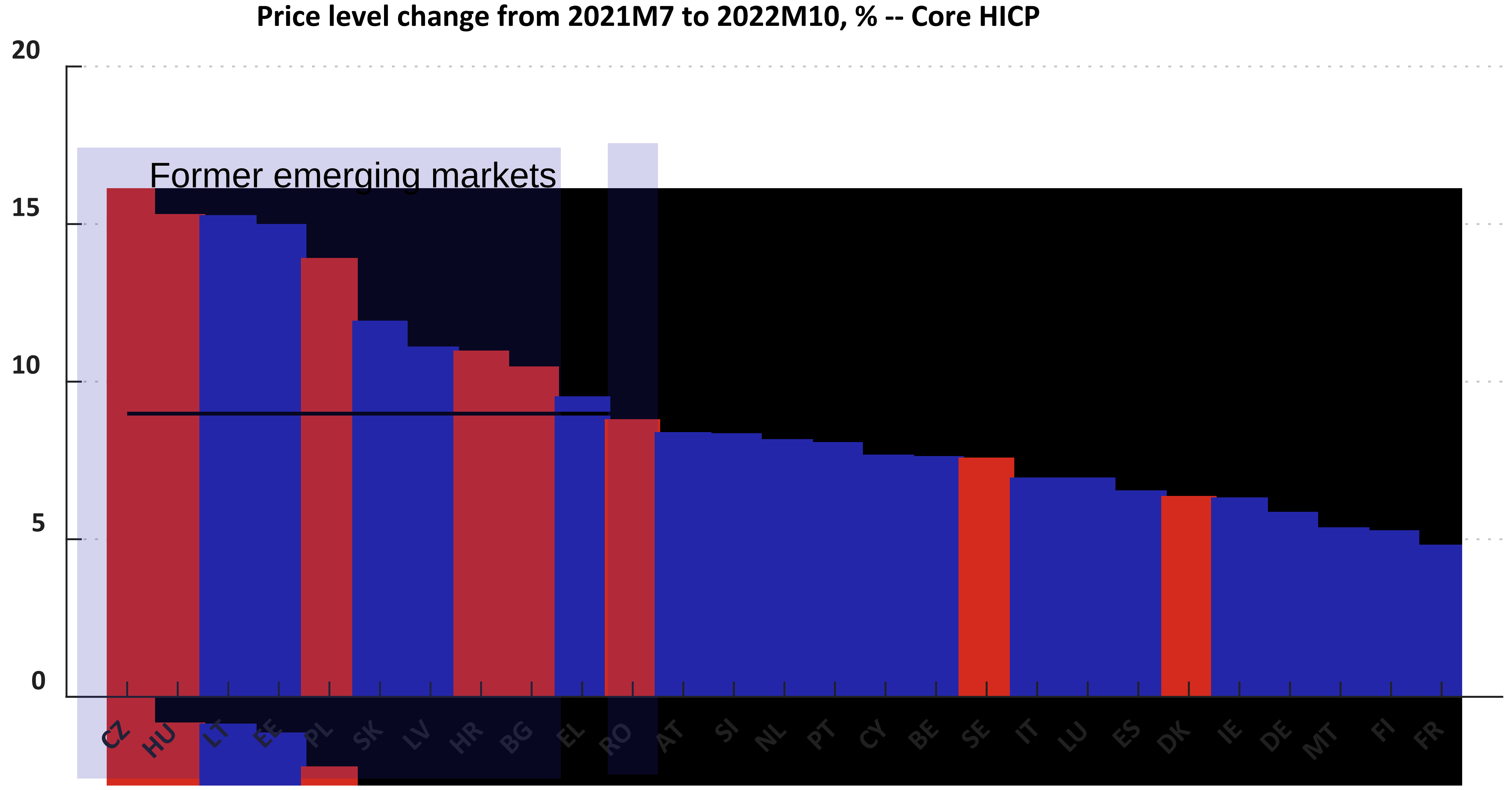
1. Labor market plays a crucial role in the identification of demand pressures … the intensity of demand factors using estimated LUCI
2. Inflation is identified as demand-driven if prices move in the same direction as the real quantities of goods and services (A. Shapiro)

Comparison across EU countries

Inflation dynamics



Note: Blue bars denote euro area countries while red bars non-euro countries. The starting point 2021M7 is chosen as first central banks started to hike interest rates after the covid shock. Solid black line denotes the EU average.



Source: Eurostat and computations

Although **rising inflation** has been experienced by all EU countries, there have been **persistent differences** visible in price level increases since the end of the covid.

Energy and **food** prices have mainly been affected by price caps, VAT exemptions, and other government measures.

However, there are also large and persistent differences in **core inflation,** and mainly **former emerging market** countries are in the upper half of inflation spectra.

What has been driving such inflation differences across countries since the covid?

Factors behind inflation differentials

If supply chain disruptions and soaring energy and commodity prices hit all countries roughly similarly then inflation differentials have to be driven by:

I. **Business cycle factors**
   - Domestic demand shocks and the business cycle position or domestic supply shocks

II. **Real convergence**
   - Real Exchange rate appreciation

III. **Policies**
   - Different monetary policy or fiscal policy during the covid
   - Fiscal policy measures, such as price caps and tax exemptions

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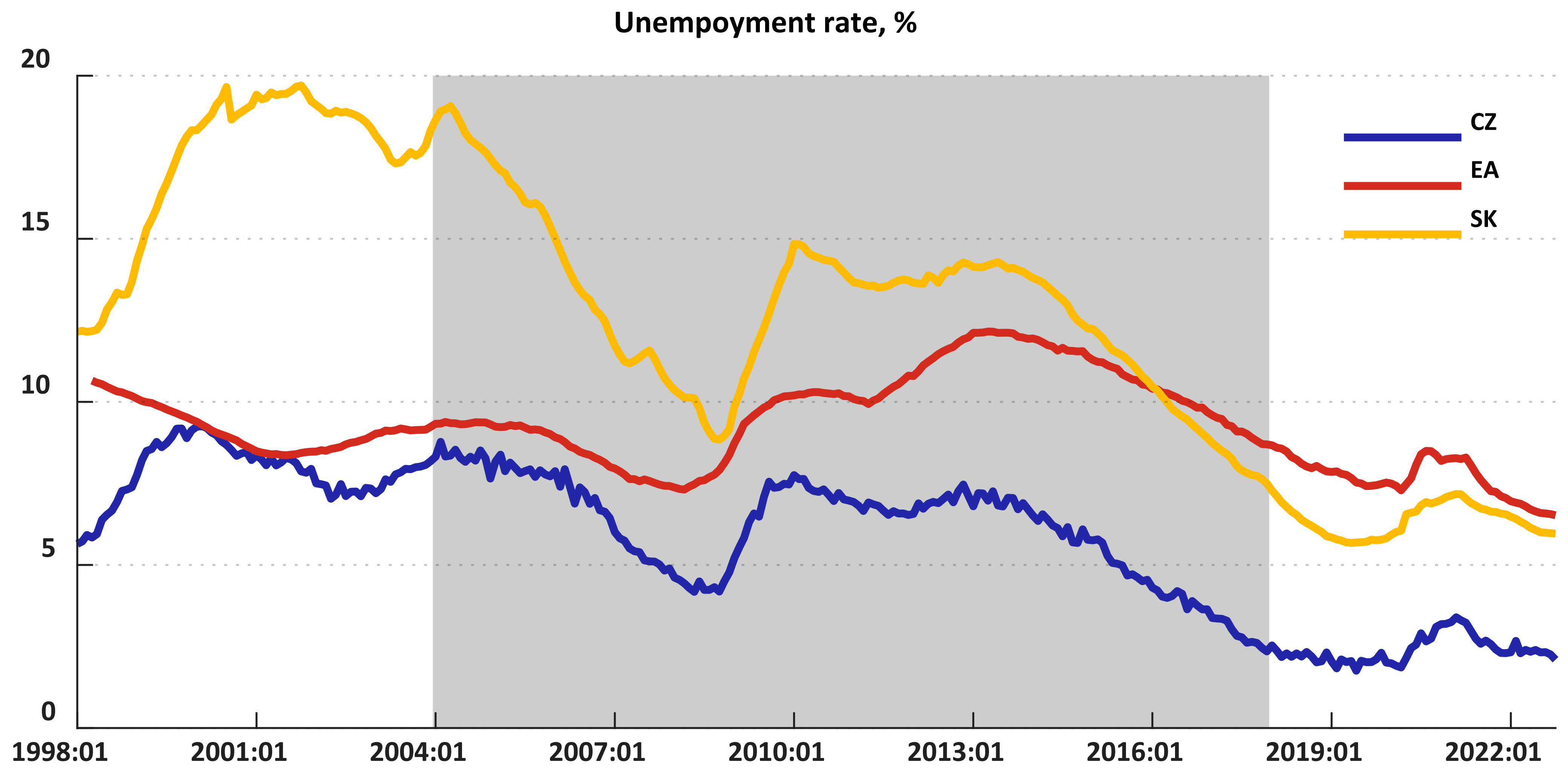
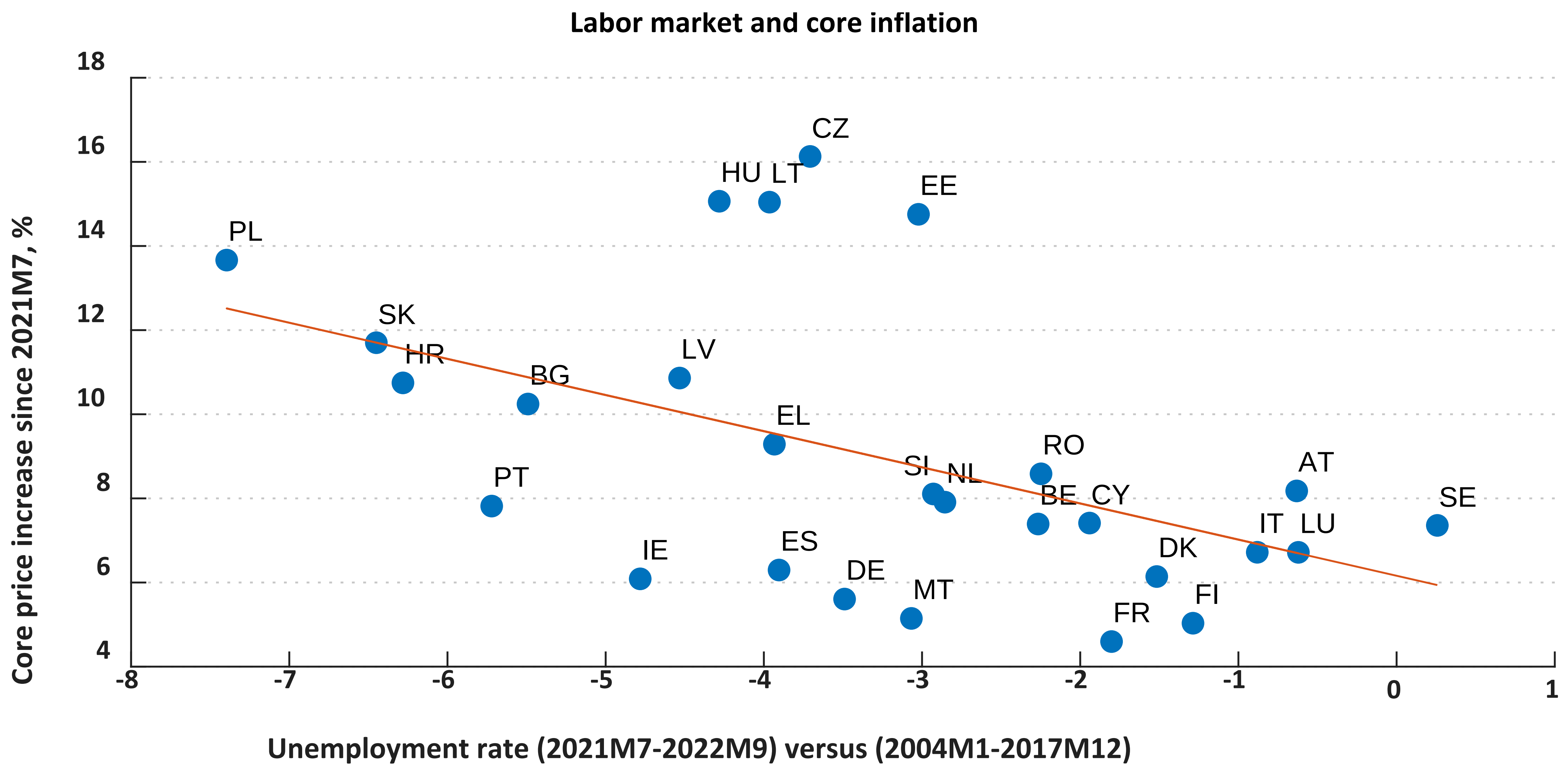
I. Domestic demand pressures





Source: Eurostat and computations

Czech unemployment rate has been the lowest in the EU.

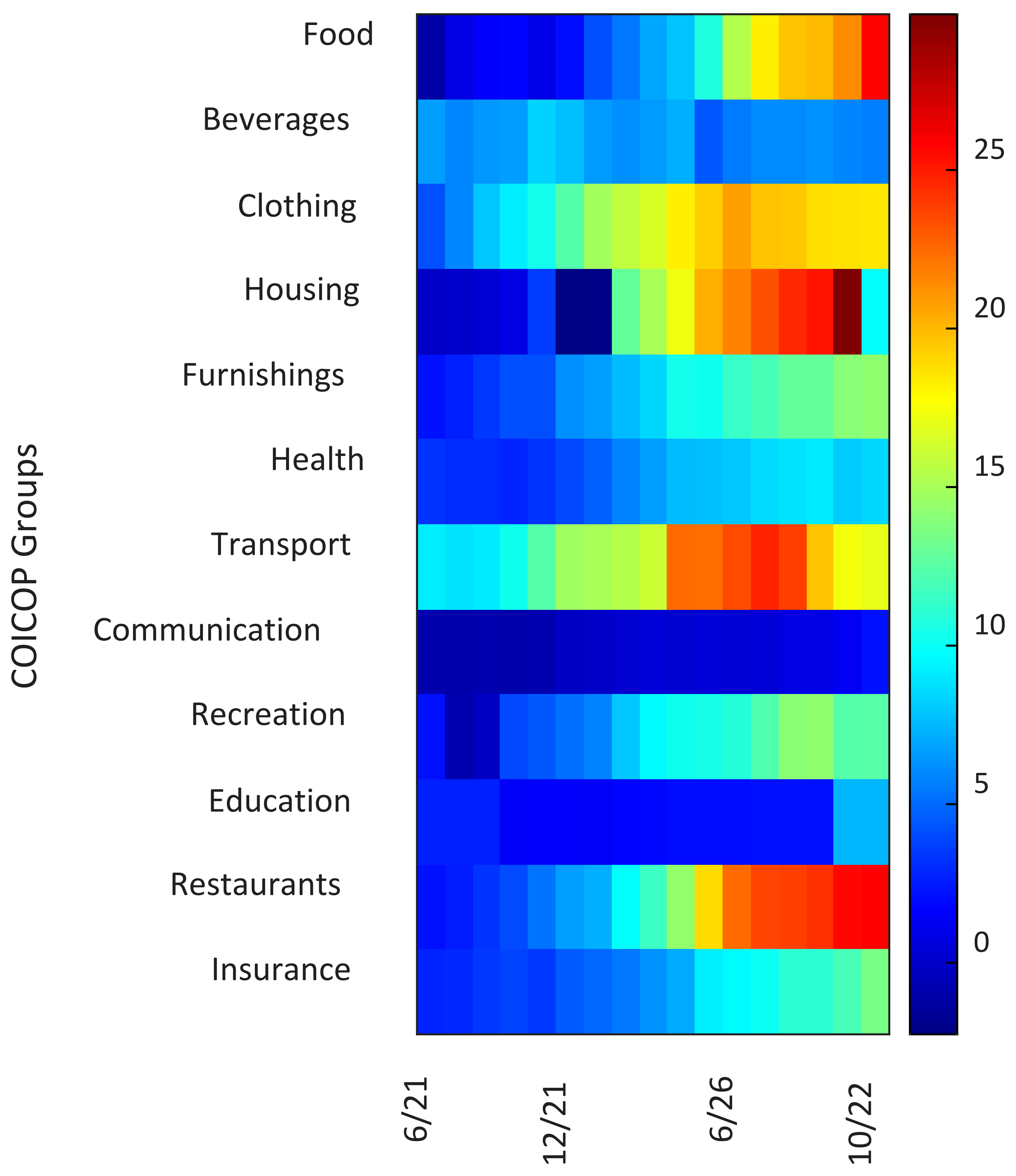
Most of EU countries experience **low and declining unemployment rates.**

- A part of the decline compared to the average during last business cycles might be structural.
- Compared to the GFC, the increase in unemployment rates during the covid was lower due to prompt countercyclical fiscal and monetary policies.

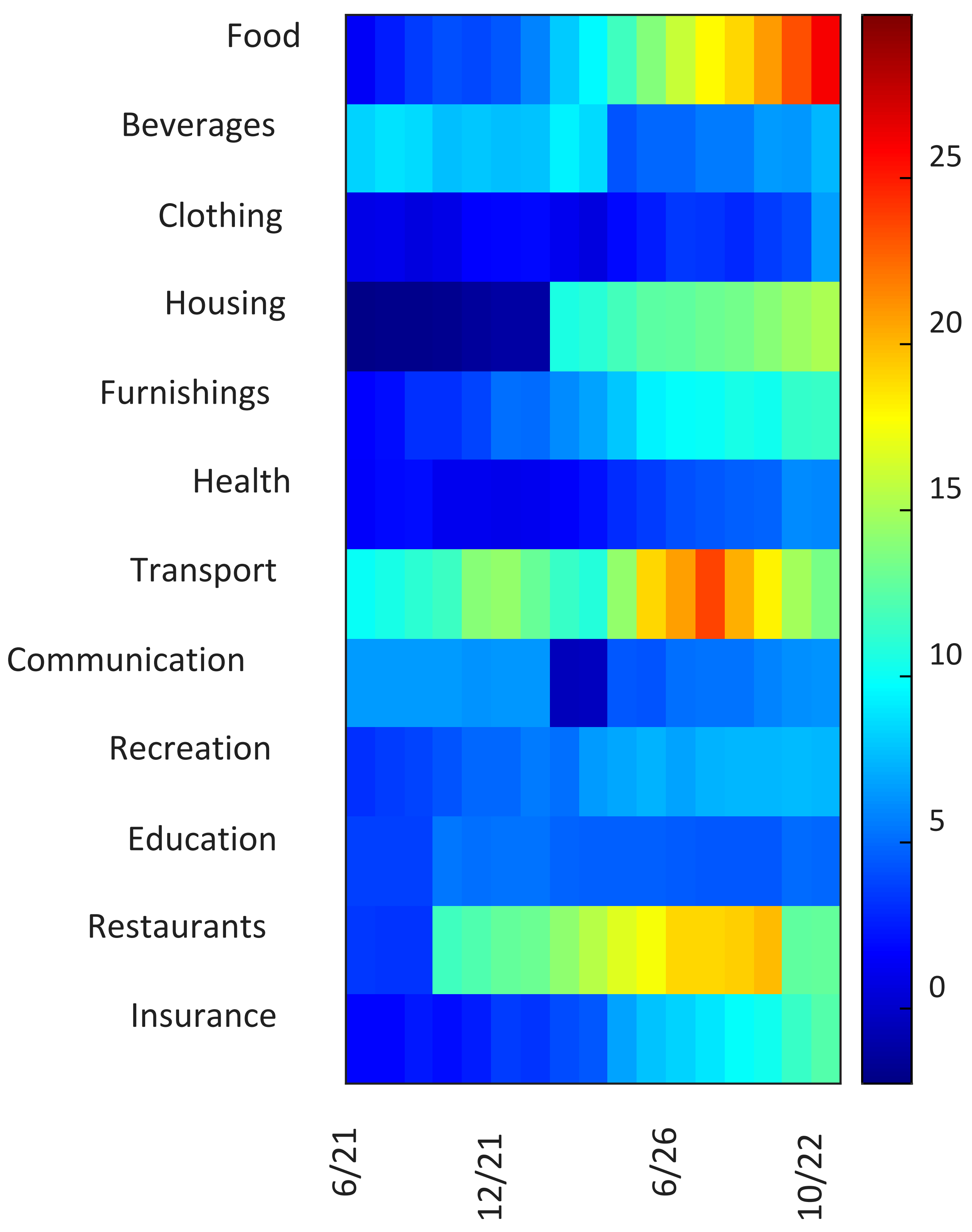
Countries with **lower unemployment** rates experience **higher core inflation => domestic situation matters.**

I. Inflation dynamics by COICOP groups

CZ HICP inflation, % yoy



SK HICP inflation, % yoy



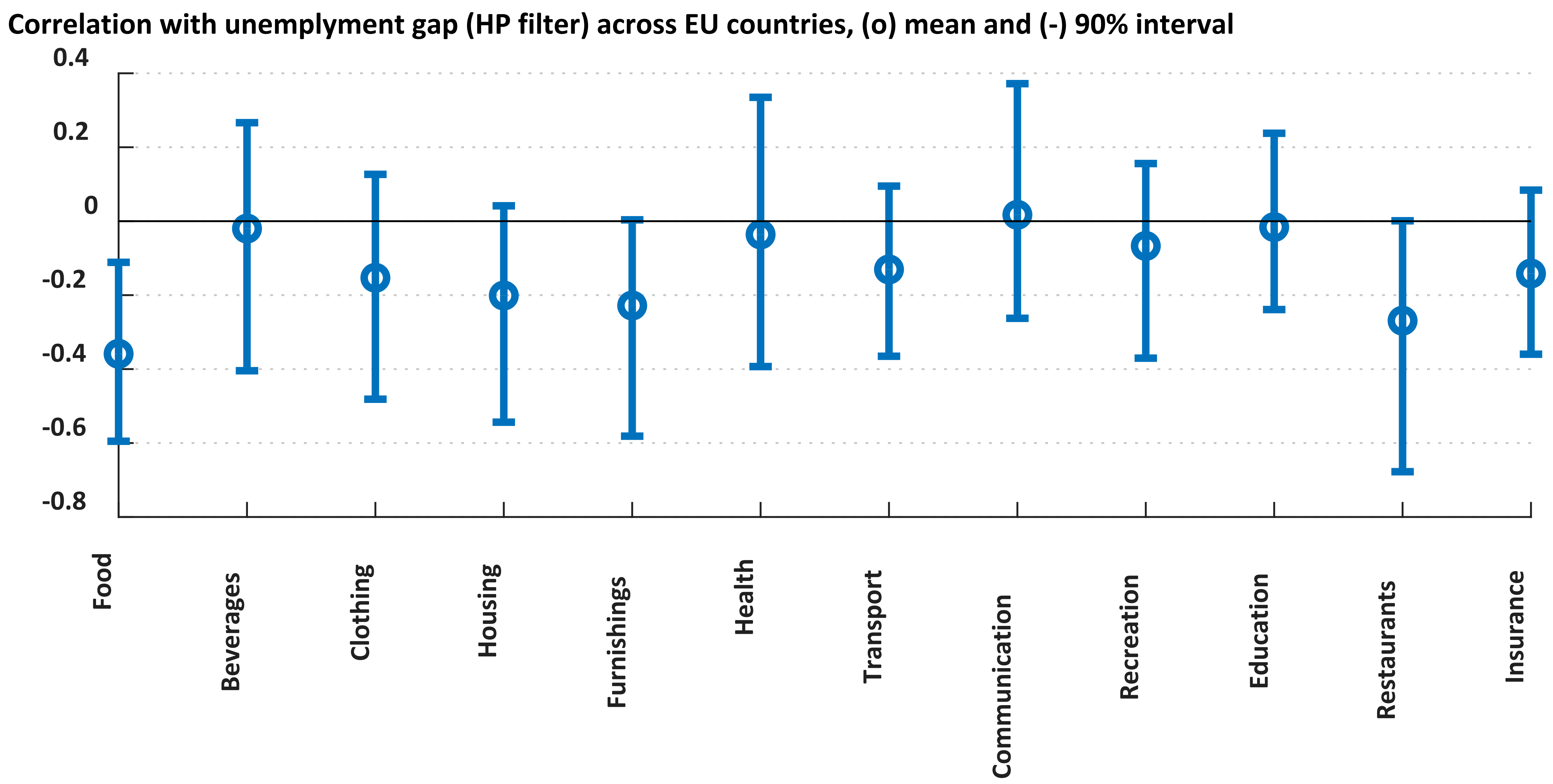
Source: Eurostat

Czech headline inflation has been compared to the Slovak one (by about 2 p.p. higher price increase since 2021M7).

Czech inflation is higher in **Clothing**, **Housing** (including electricity), **Transport**, and **Restaurants**.

While lower Slovak **Housing** inflation can be explained by **electricity prices**, other above mentioned groups suggest lower demand-side pressures in Slovakia.

I. COICOP groups and business cycle (demand)



Source: Eurostat and computations

Food, Restaurants, Furnishings, Housing, Clothing, and **Transport** correlated with the business cycle (instantaneous correlation)

Beverages, Health, Communication, and **Education** price dynamics seem acyclical.

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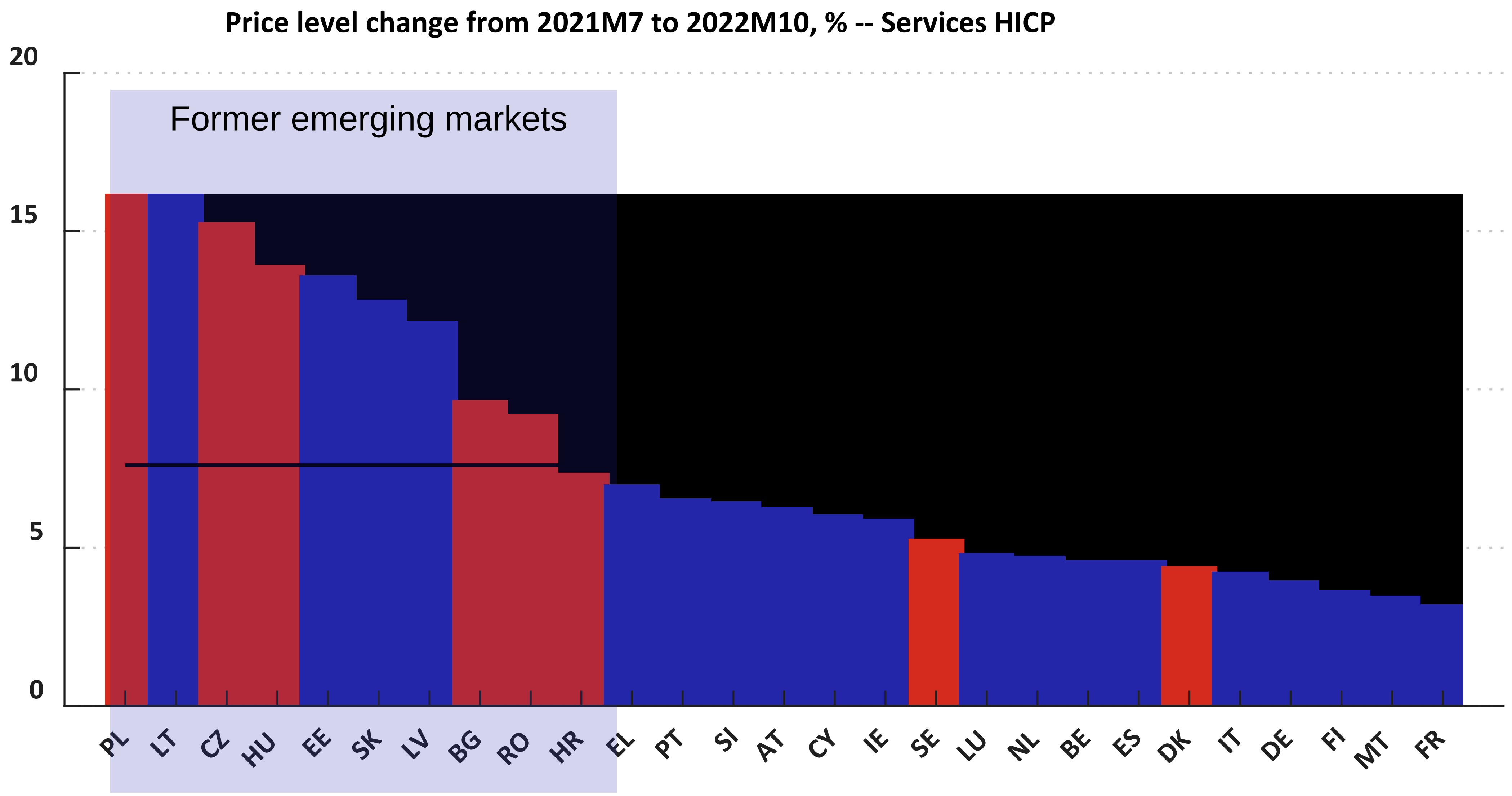
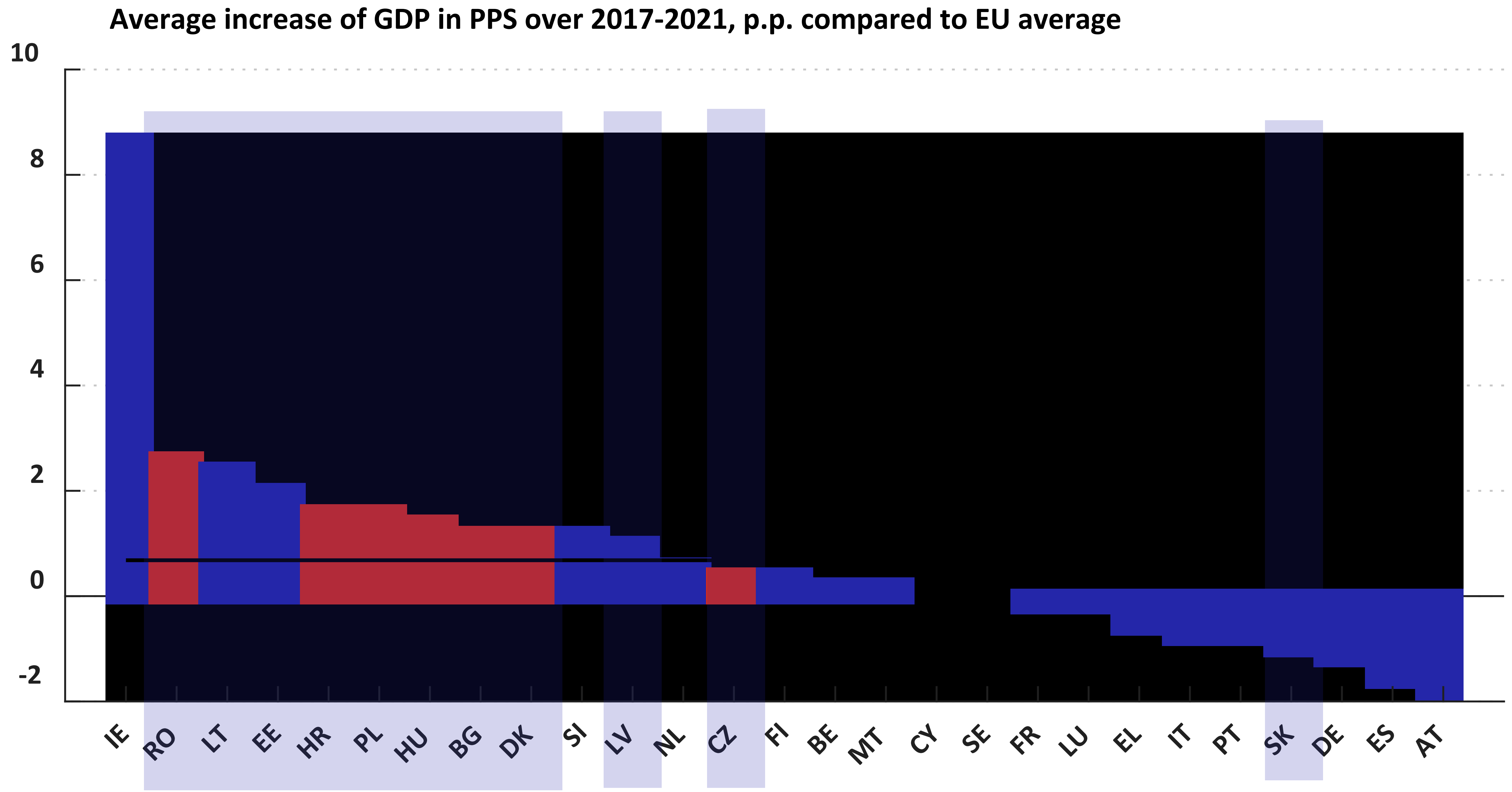
II. Real convergence





Source: Eurostat and computations

Former **emerging market countries** have been experiencing the **highest non-tradable price growth**, which may be partly implied by the Balassa-Samuelson effect.

However, evidence on **GDP convergence** (in PPS) is mixed. In particular, during 2021 the convergence stopped.

Real convergence would imply **real appreciation** either via **nominal appreciation or higher non-tradable inflation**.

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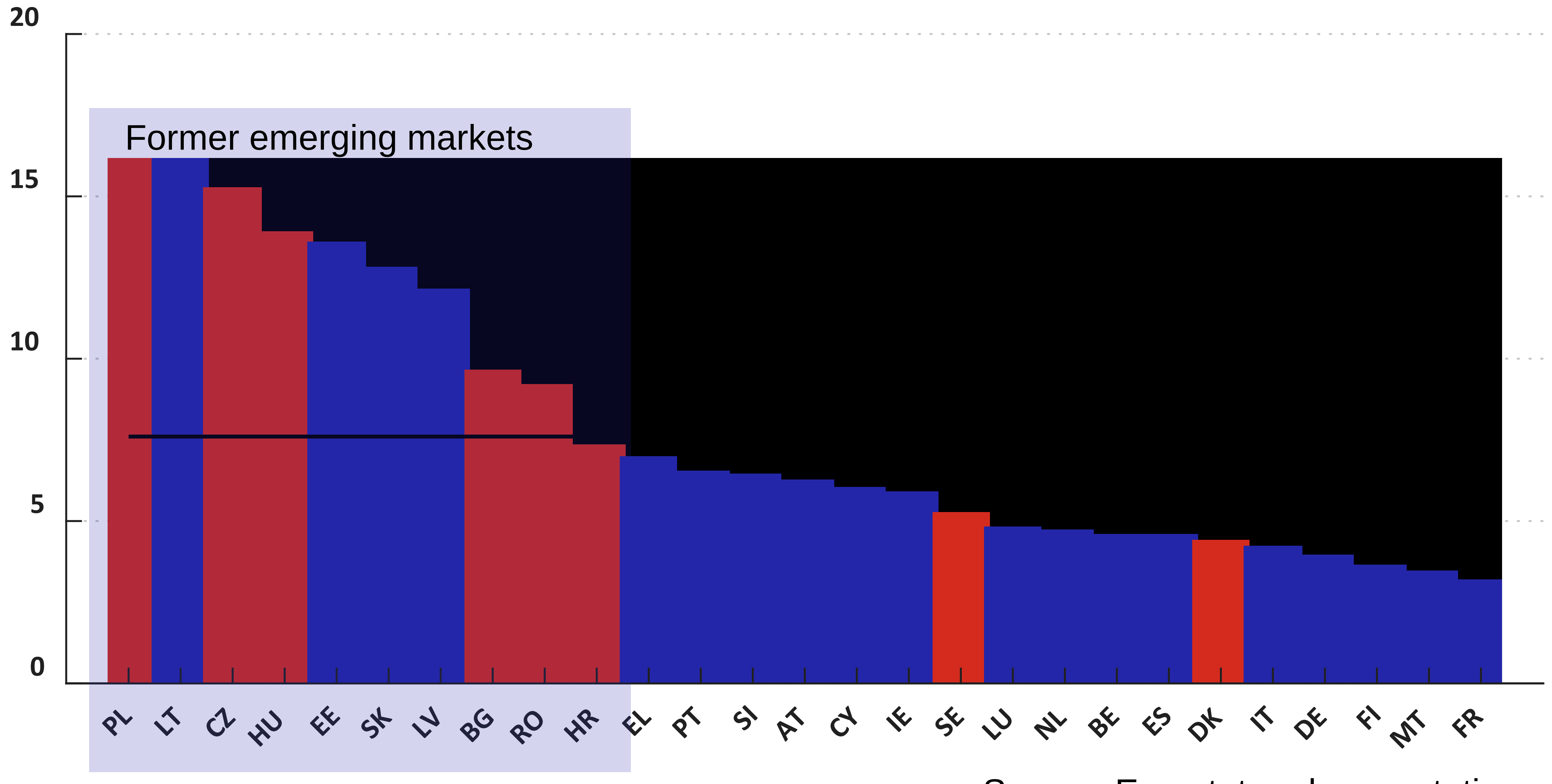
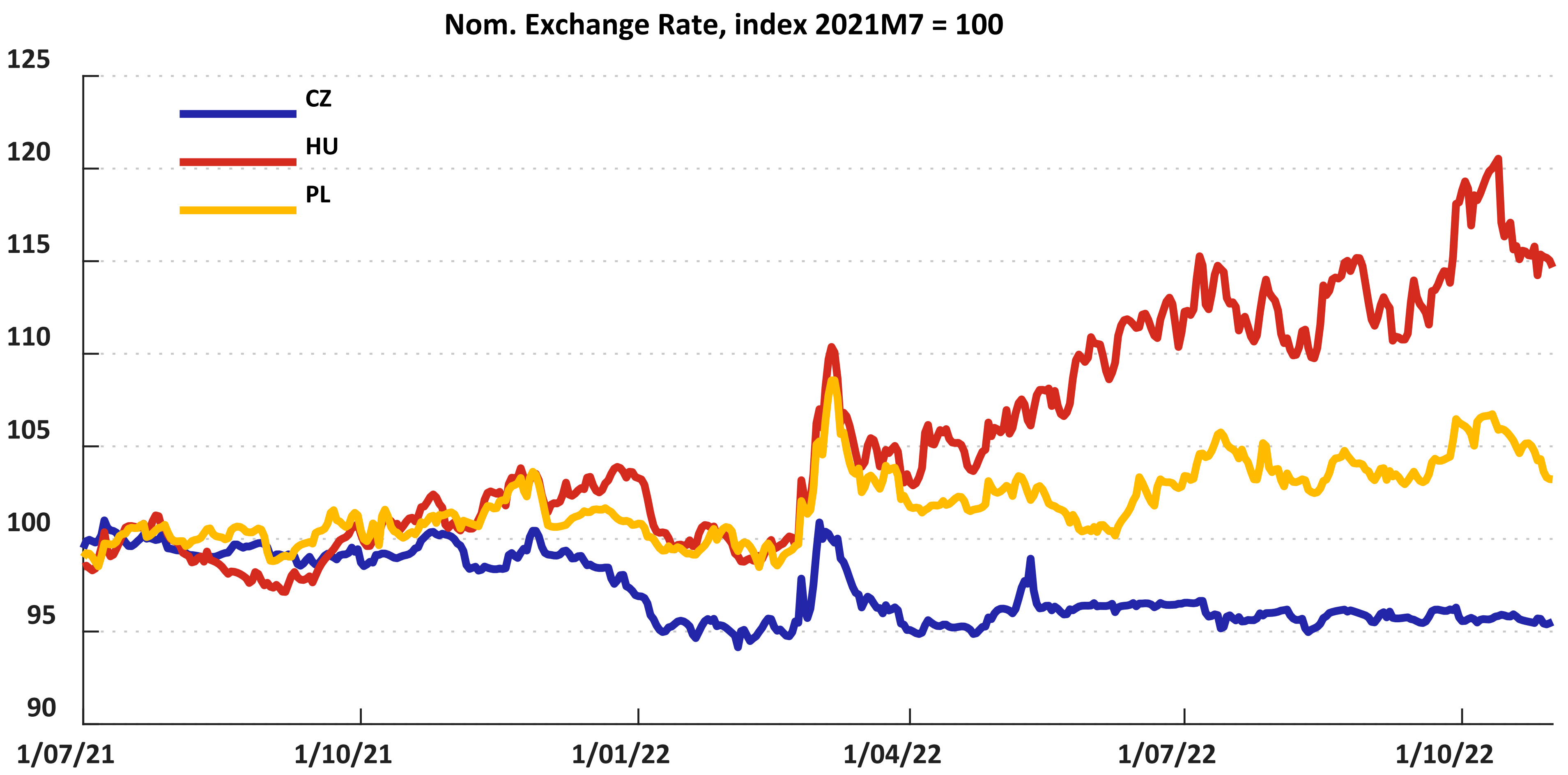
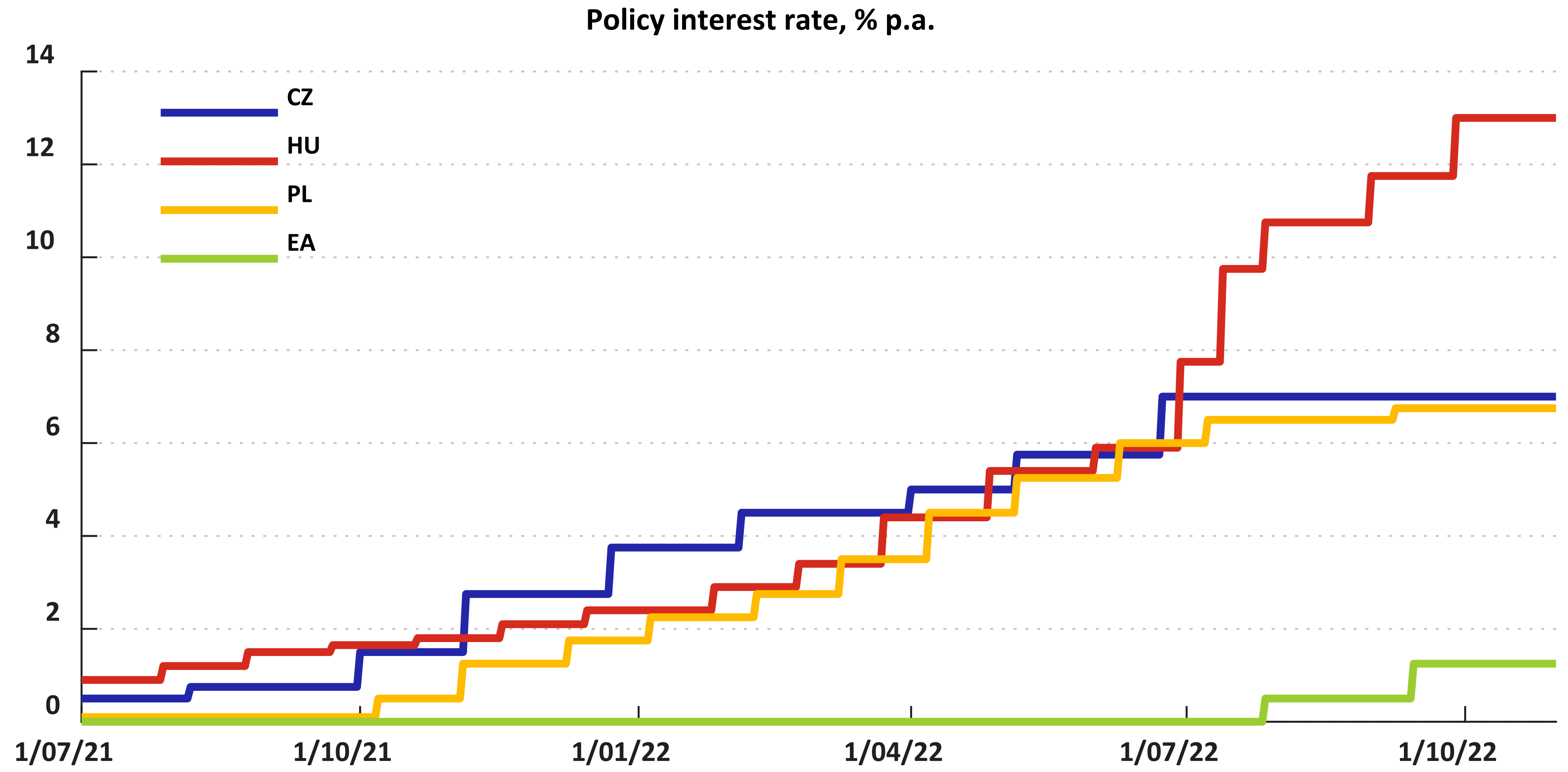
II. Real convergence



Source: Eurostat and computations





Nominal exchange rate dynamics suggest that real appreciation had to take place via higher **inflation**.

Eurozone – EE, LT, LV, SK
EMR II – HR
Currency board – BG
Craw-like arrangement – RO
Float – CZ, HU, PL – no nominal appreciation despite rising interest differential

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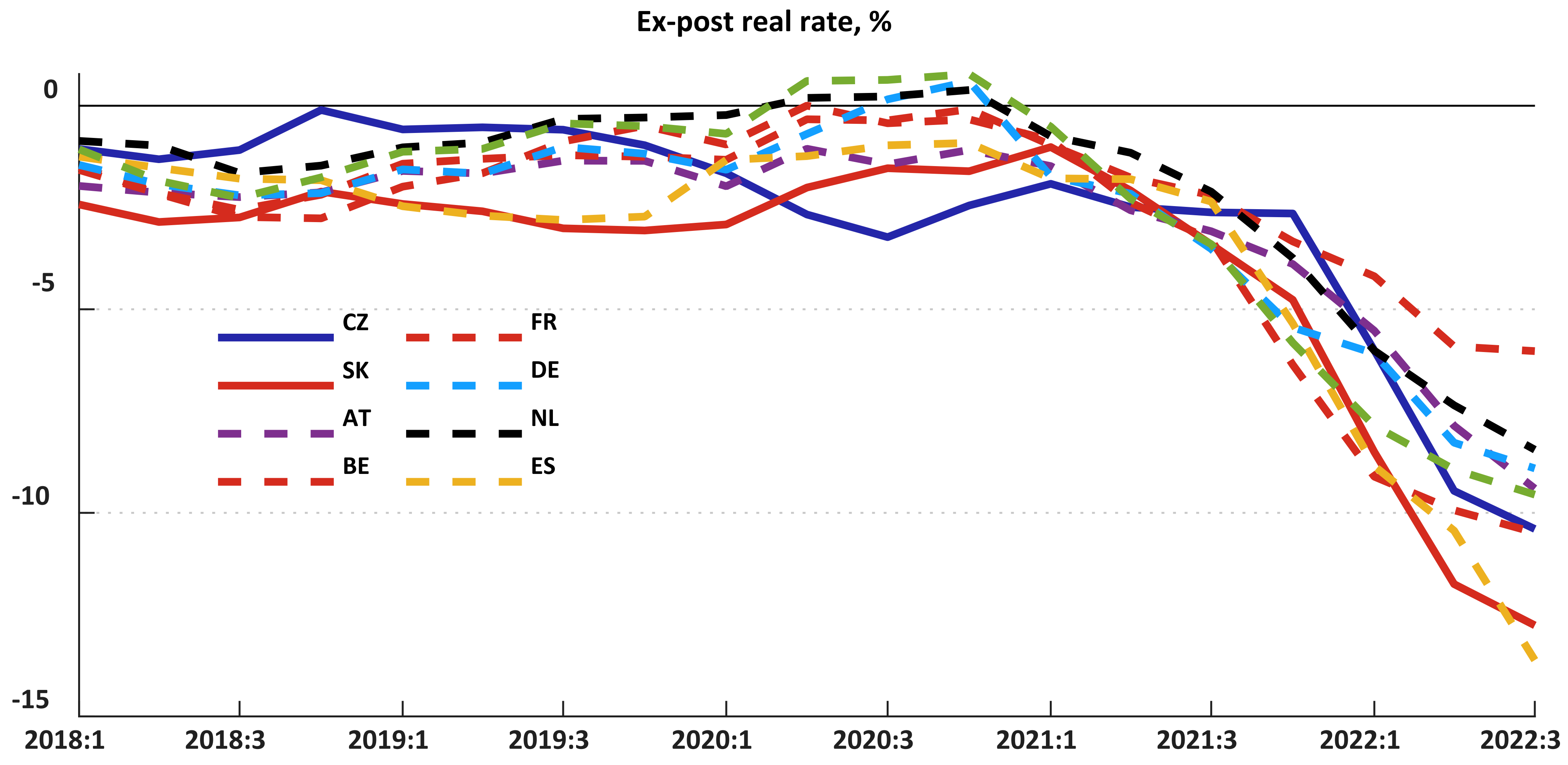
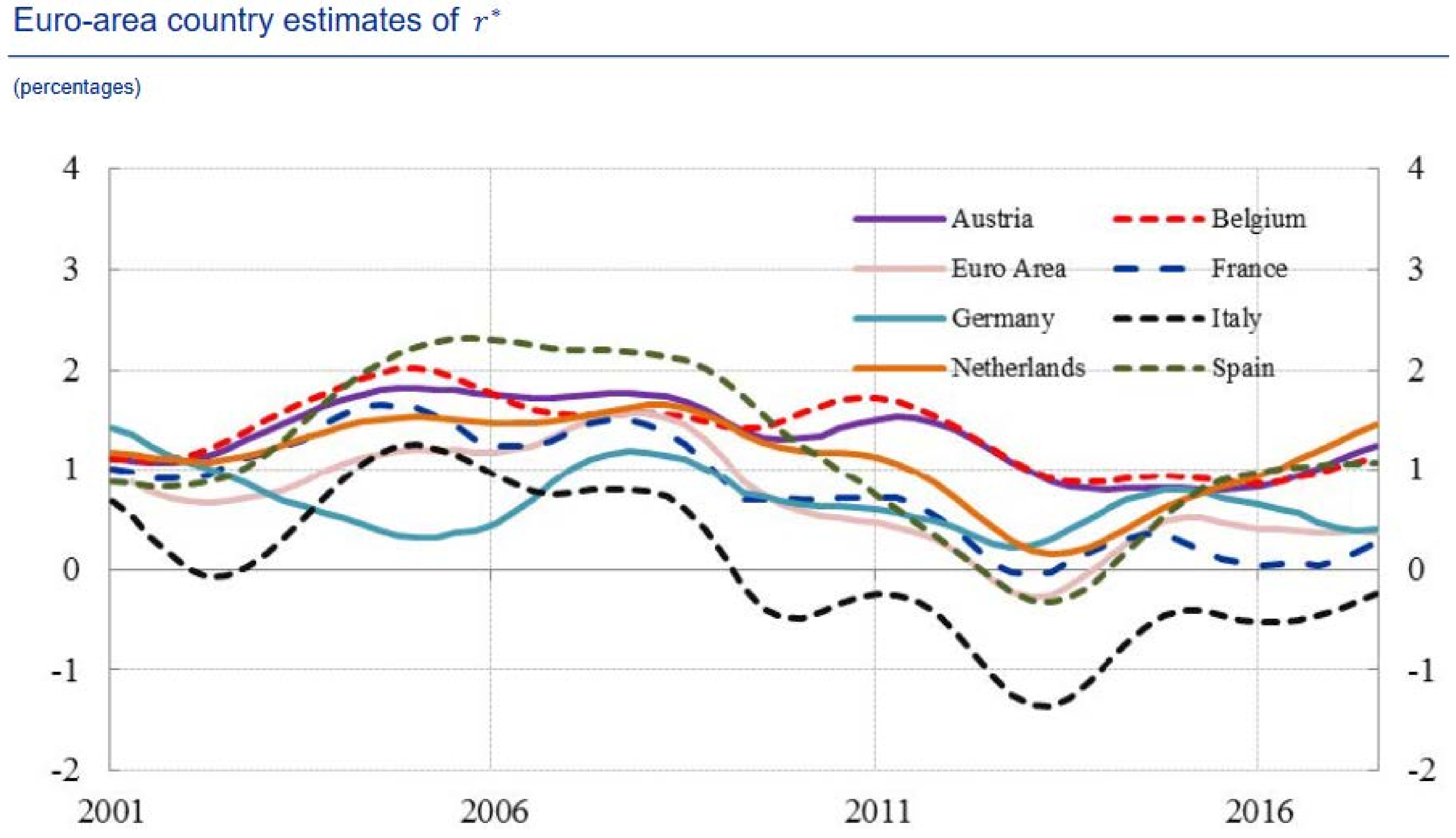
III. Monetary policy



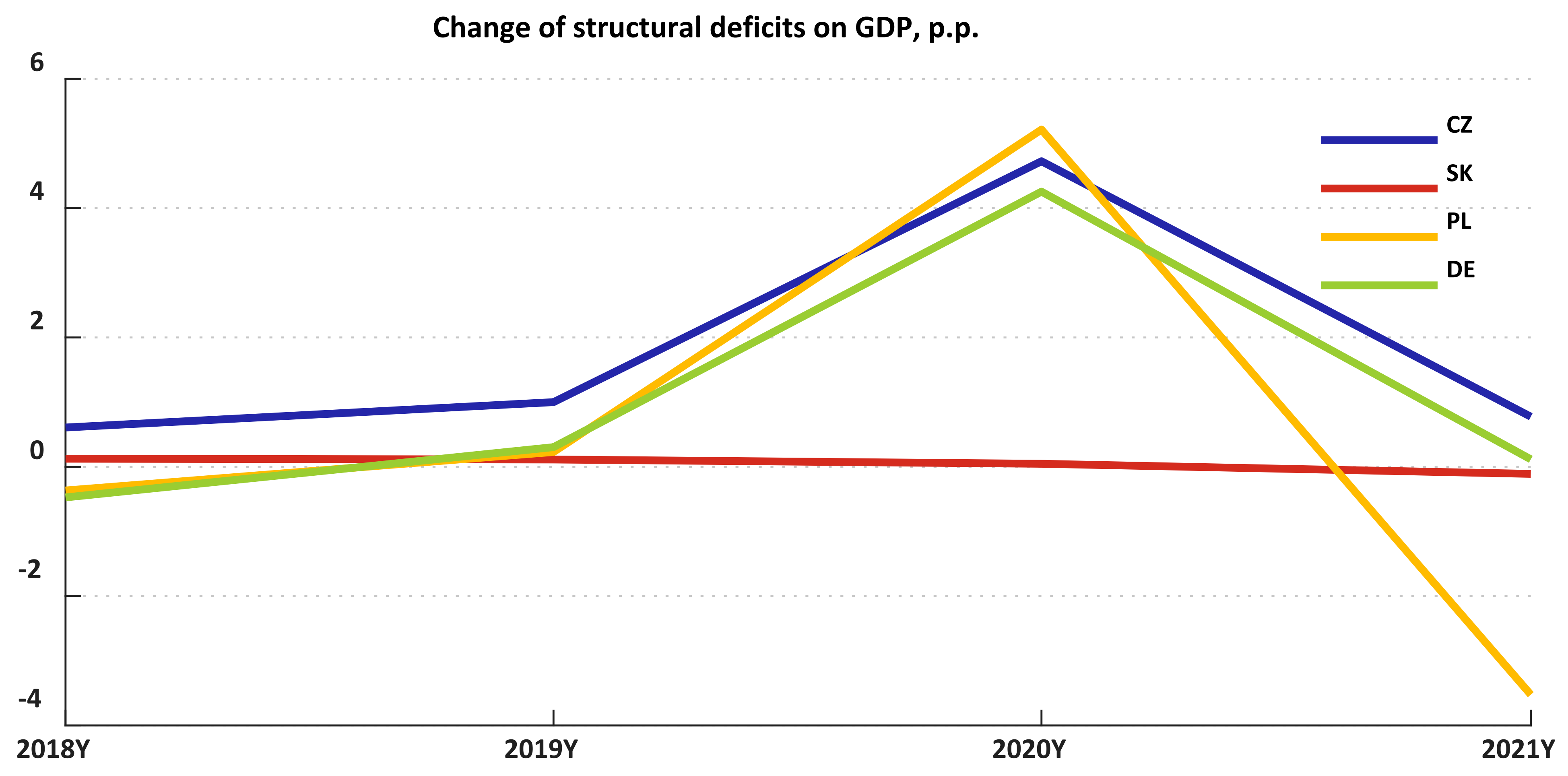


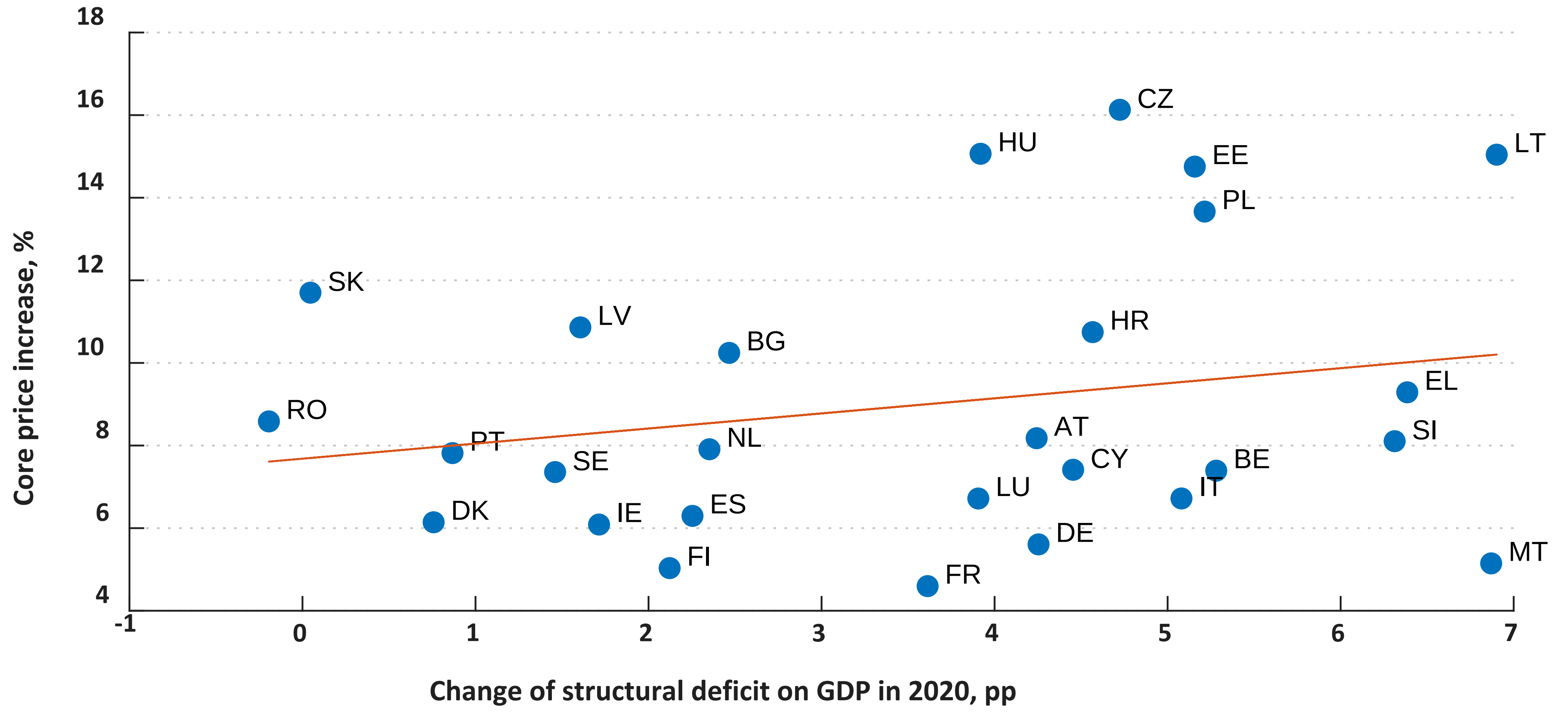
Source: Brant, Bielecki, and Penalver, ECB OC 217/2018

Ex-post **real interest rates** (policy rate deflated by headline inflation at the same period) declined as the increase in nominal policy interest rates has been outpaced by rising inflation.

Effects of real rates on the economy vary across countries due to different levels of the **natural rate of interest**.

III. Fiscal policy





Source: WEO, Eurostat and computations

Monetary policy – almost immediate return to zero interest rate levels in response to covid

Fiscal policy – more prompt and stronger fiscal response compared to GFC

The covid shock shows that both policies have learned lessons from the GFC and demonstrates the power of **synergy between monetary and fiscal policies**.

However, **too accommodative response of policies** in ex-post view might have contributed to soaring inflation.

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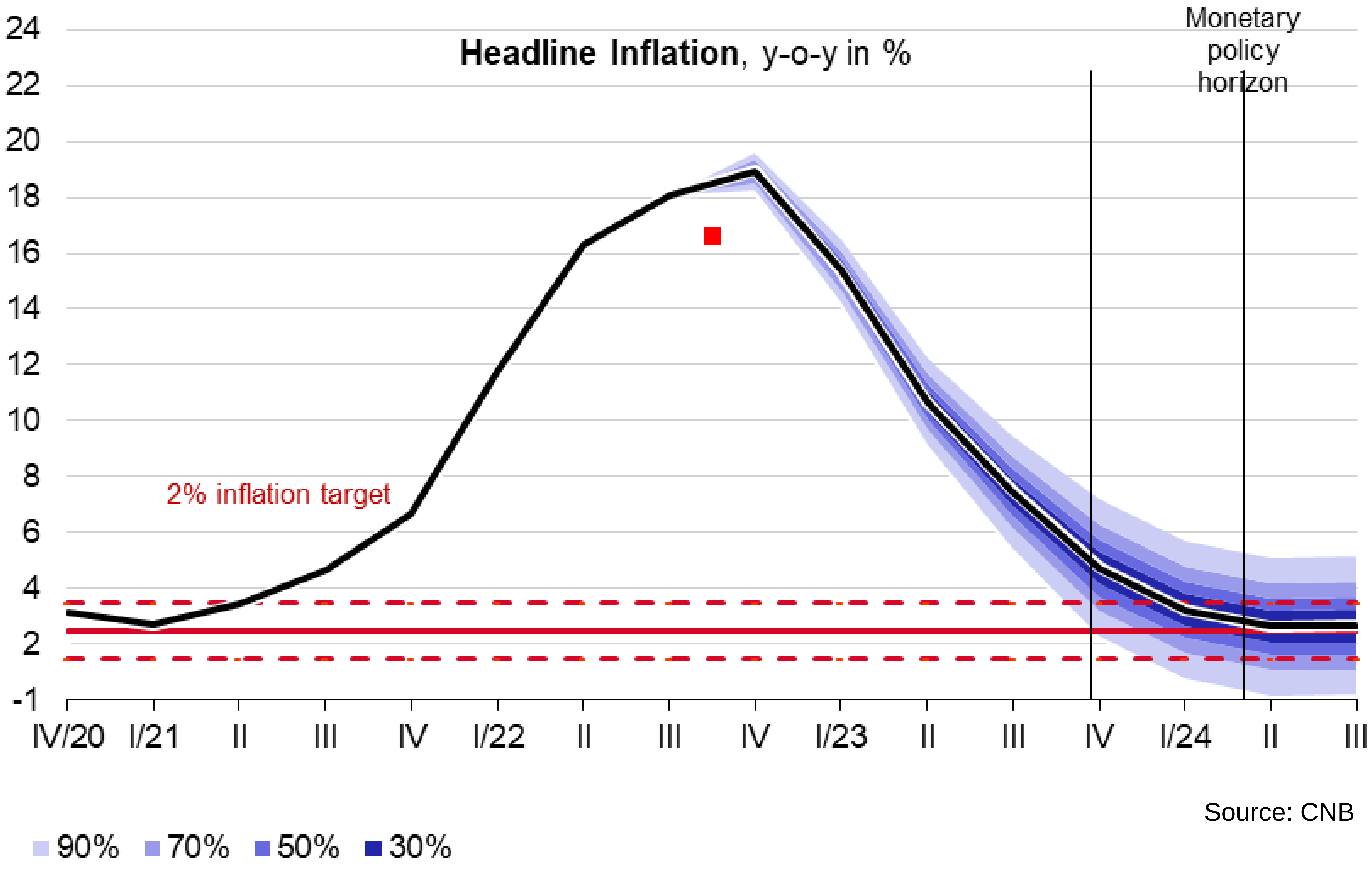
Outlook and its risks

Headline inflation forecast



Source: CNB

Headline inflation will return to the 2% target in the first half of 2024.

Next year, **cost pressures**, both domestic and imported, will ease further and inflation will decline.

Consistent with the forecast is a rise in **market interest rates** initially, followed by a gradual decline in the course of next year. This rise in interest rates (not delivered so far) will contribute to the easing of inflation pressures.

The forecast expects the **koruna** to average CZK 24.6 to the euro in 2022 Q4 and stay at similar levels over the next few quarters.

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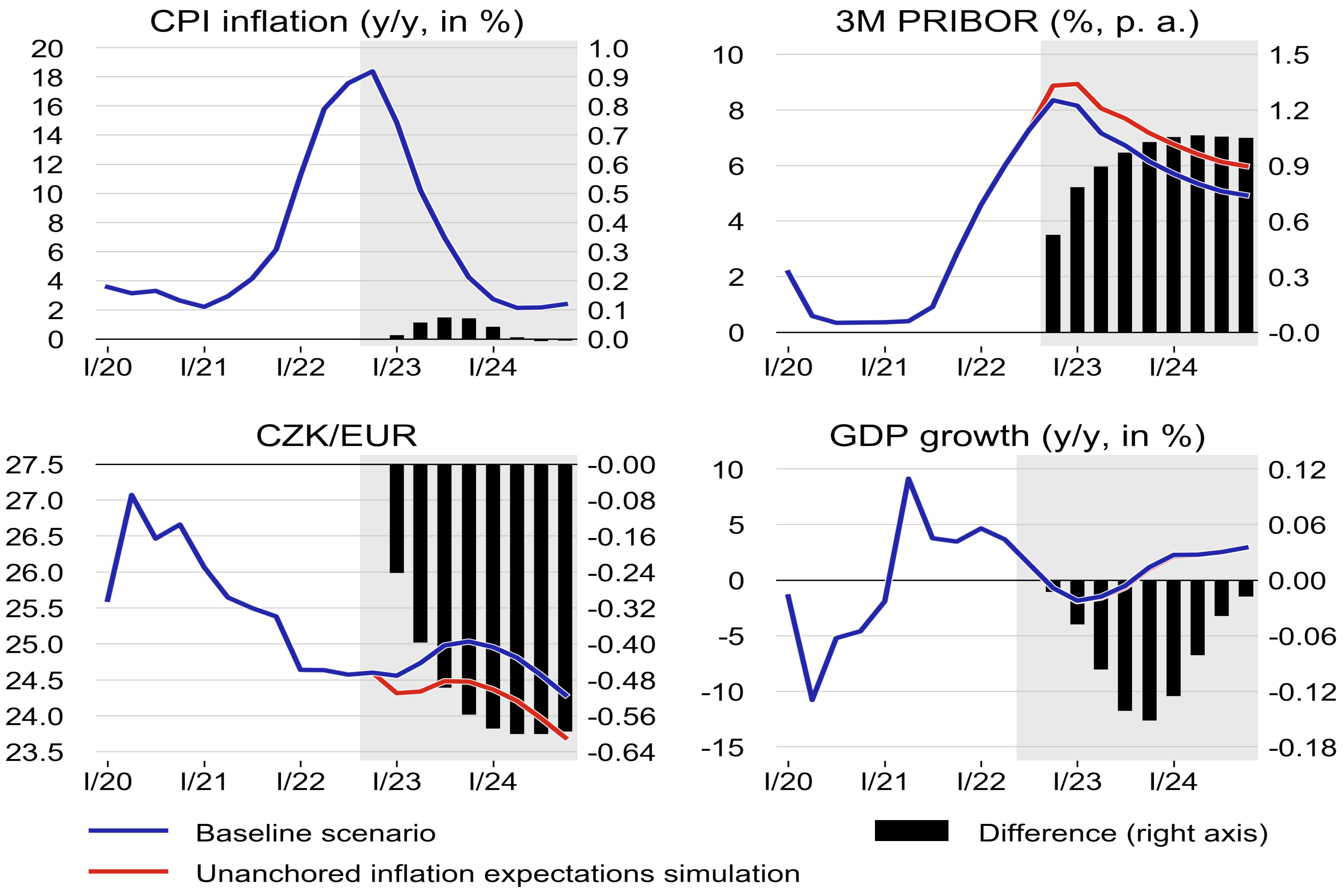
Unanchored inflation expectations scenario



- Even a fairly benign departure from the assumption of well-anchored inflation expectations (based on the survey of professional forecasters) would call for **visibly higher interest rate path compared to the baseline** projection.
- IMF Staff Report, Nov. 2022: *While a careful tread between high inflation and weakening economic activity is needed, priority should be given to decisively quelling inflation. Staff* ***recommends further hikes*** *to the policy rate in the short term, to bring down high inflation and to ensure fulfillment of the inflation target over the medium term, while* ***reducing the risk of inflation expectations becoming untethered****.*

Conclusions

Soaring inflation well above targets has **brought challenges** to central banks.

Inflation spike was driven by **supply-side disruptions** and **energy prices** initially. However, it has become broad based nowadays.

Domestic demand (business cycle), structural **convergence aspects**, and **accommodative polices** also contributed to soaring inflation.

These factors also explain at least a part of inflation **differentials** across countries on the **administrative measures** (caps, VAT exemptions, etc.).

The **Czech Republic will likely fall down in the inflation ranking** among the EU countries soon. But it is crucial to maintain reasonably well-anchored inflation expectations and avoid a wage-price spiral.

Thank you for your attention

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