NATIONAL BANK OF ROMANIA

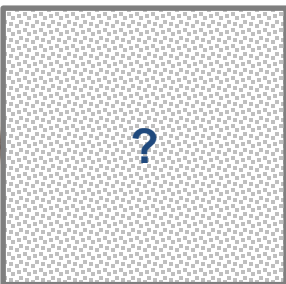# Crisis and reality

Csaba Bálint, CFA
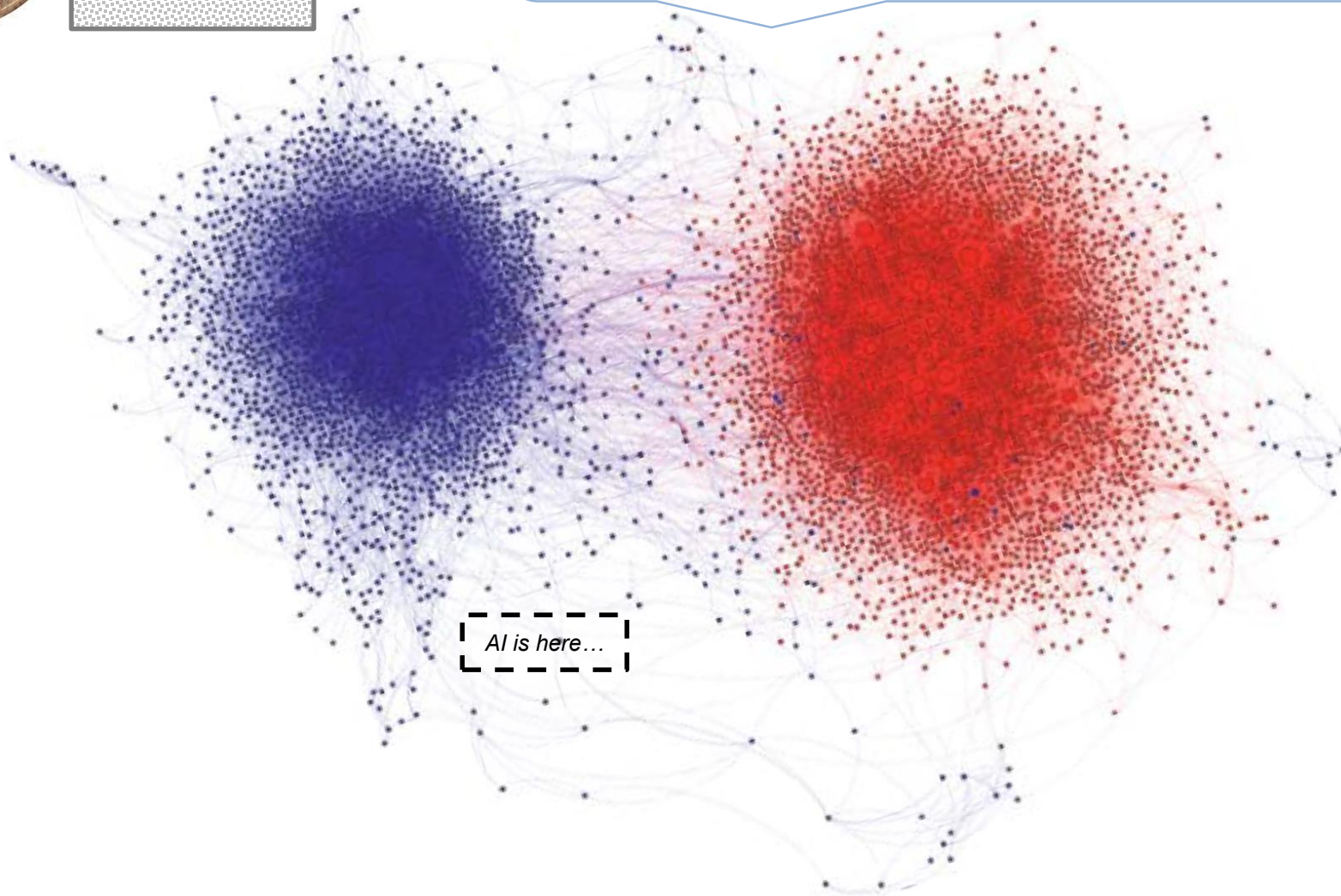*Member of the Board*

September 27-28, 2023

Can you tell what is on the other side of the 50 bani coin?...
Despite the fact that this coin is used on a daily basis, only a rather small fraction of people can instantly answer the question.
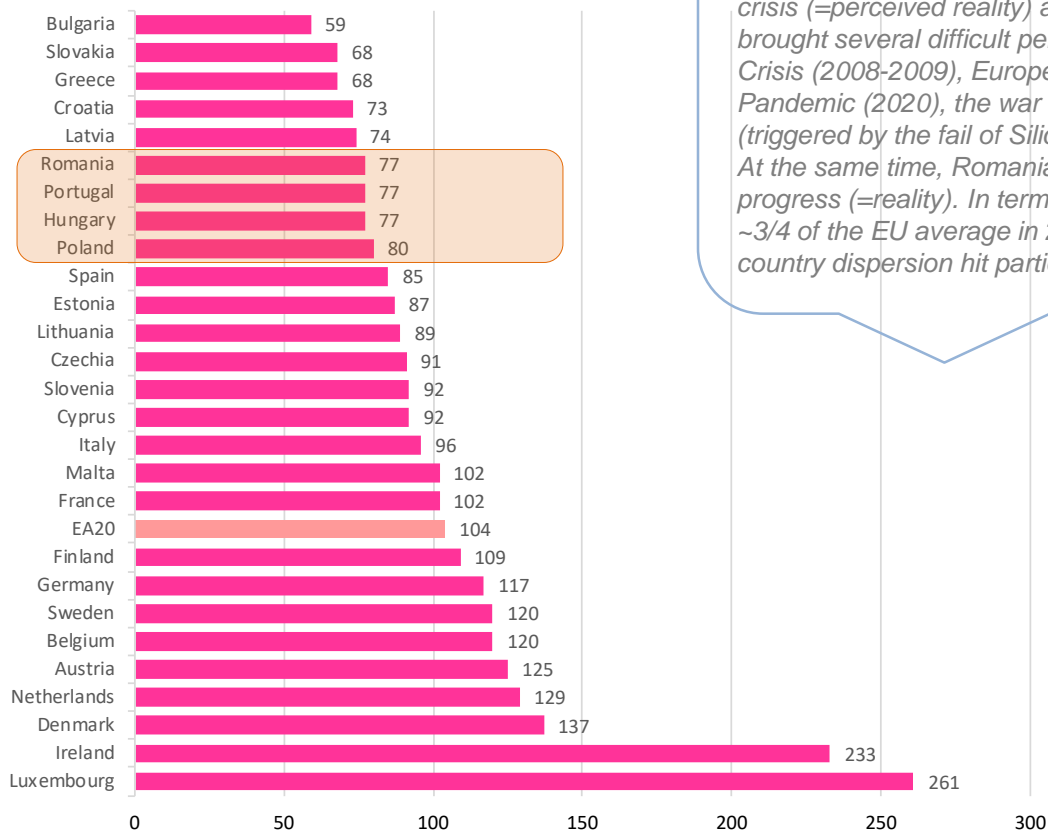*Human nature works in a manner, which tends to look only at one side of (economic, political etc.) reality. This, coupled with an upsurge of social media that enhance polarization, may lead to information bubbles: the chart below shows a retweet network on X (former Twitter), among people sharing posts about US politics.*

AI is here…

Sources: Filippo Menczer, Santo Fortunato, Clayton A. Davis, 2020, A First Course in Network Science

Google searches for **_"criza"_**
in Romania

Index of GDP per capita, 2022, (EU=100)
(in purchasing power standards)

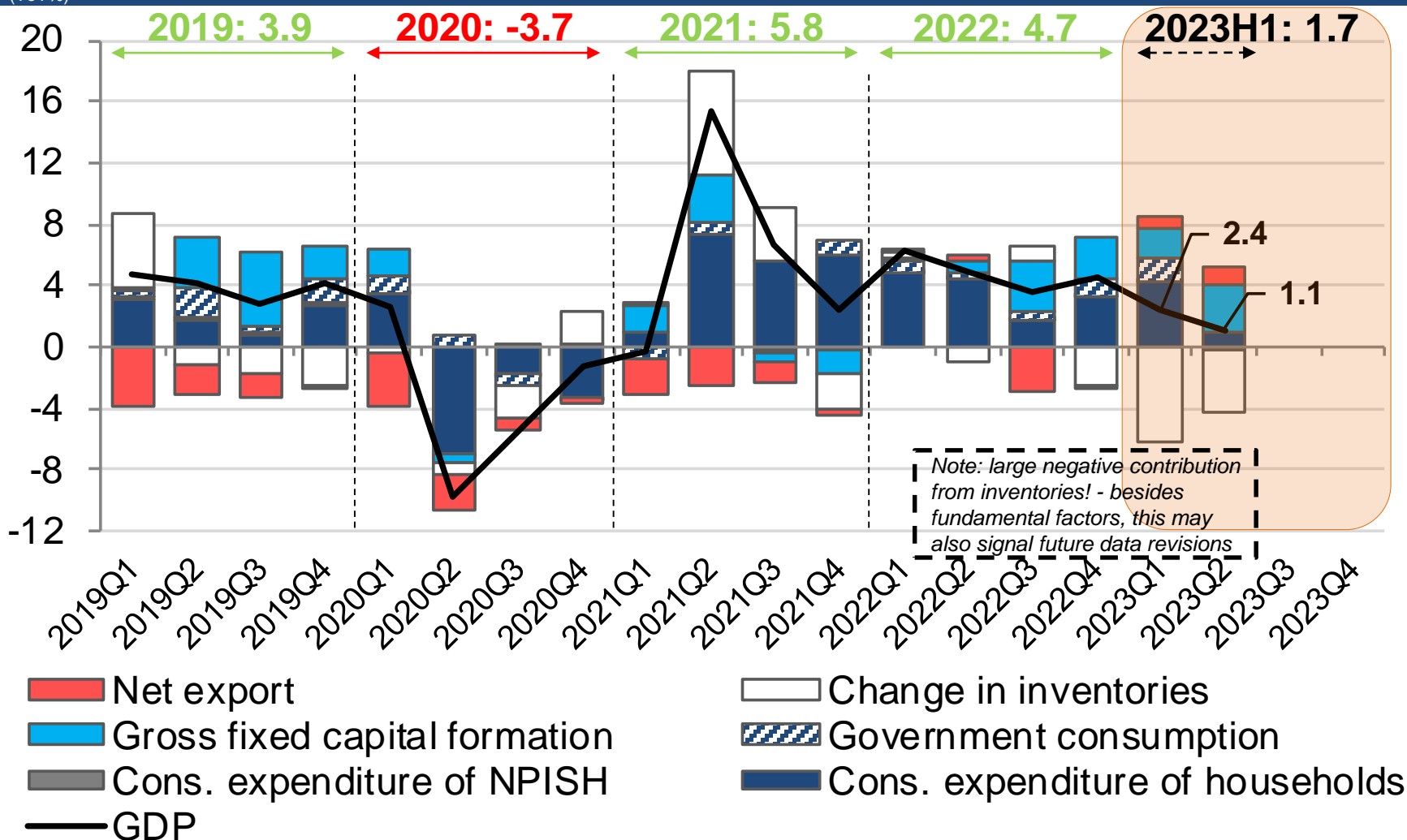| Country	Value
Bulgaria	59
Slovakia	68
Greece	68
Croatia	73
Latvia	74
Romania	77
Portugal	77
Hungary	77
Poland	80
Spain	85
Estonia	87
Lithuania	89
Czechia	91
Slovenia	92
Cyprus	92
Italy	96
Malta	102
France	102
EA20	104
Finland	109
Germany	117
Sweden	120
Belgium	120
Austria	125
Netherlands	129
Denmark	137
Ireland	233
Luxembourg	261

It may seem that our lifetime is characterized by almost constant crisis (=perceived reality) and, indeed, the past two decades brought several difficult periods, such as the Great Financial Crisis (2008-2009), European Debt Crisis (2010), SARS-COV-2 Pandemic (2020), the war in Ukraine (2022), US banking crisis (triggered by the fail of Silicon Valley Bank - 2023).
At the same time, Romania has achieved a remarkable economic progress (=reality). In terms of per capita GDP, Romania reached ~3/4 of the EU average in 2022, up from ~1/4 in 2000 (yet, intra-country dispersion hit particularly high levels).

Sources: Google Trends, Eurostat

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Real Economy

After 2021-2022's rapid recovery, in H1 2023, Romania's economy was characterized by a sharp and (on the production side, broad-based) deceleration due to several reasons…
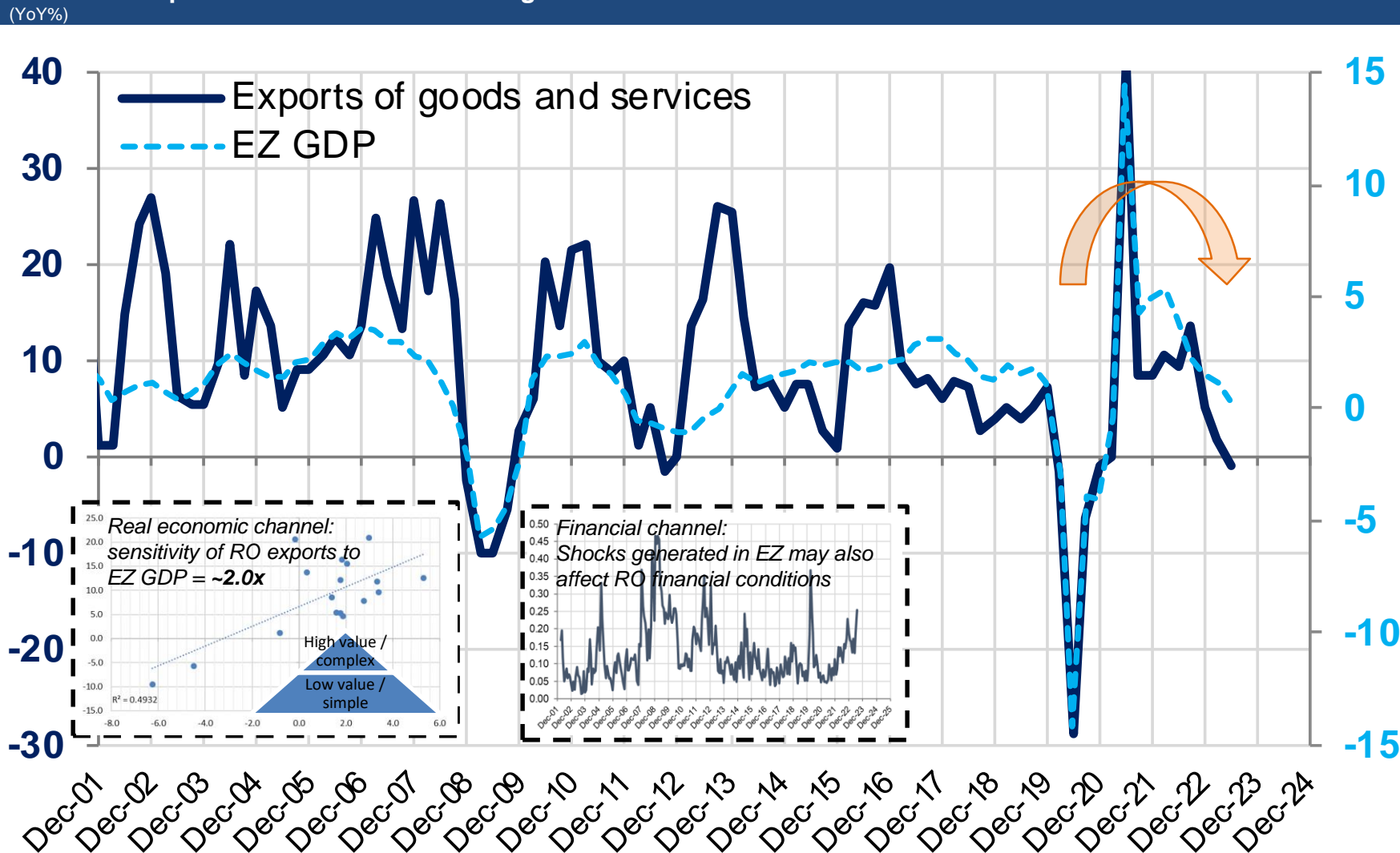
Decomposition of GDP growth by expenditure-side items
(YoY%)

2019: 3.9   2020: -3.7   2021: 5.8   2022: 4.7   **2023H1: 1.7**

Note: large negative contribution from inventories! - besides fundamental factors, this may also signal future data revisions

Legend:
- Net export
- Gross fixed capital formation
- Cons. expenditure of NPISH
- GDP
- Change in inventories
- Government consumption
- Cons. expenditure of households

…such as an unsupportive global context (fading reopening boost, fight against inflation, the war in Ukraine is not over yet etc.), resulting in much weaker external demand that drags down export growth.
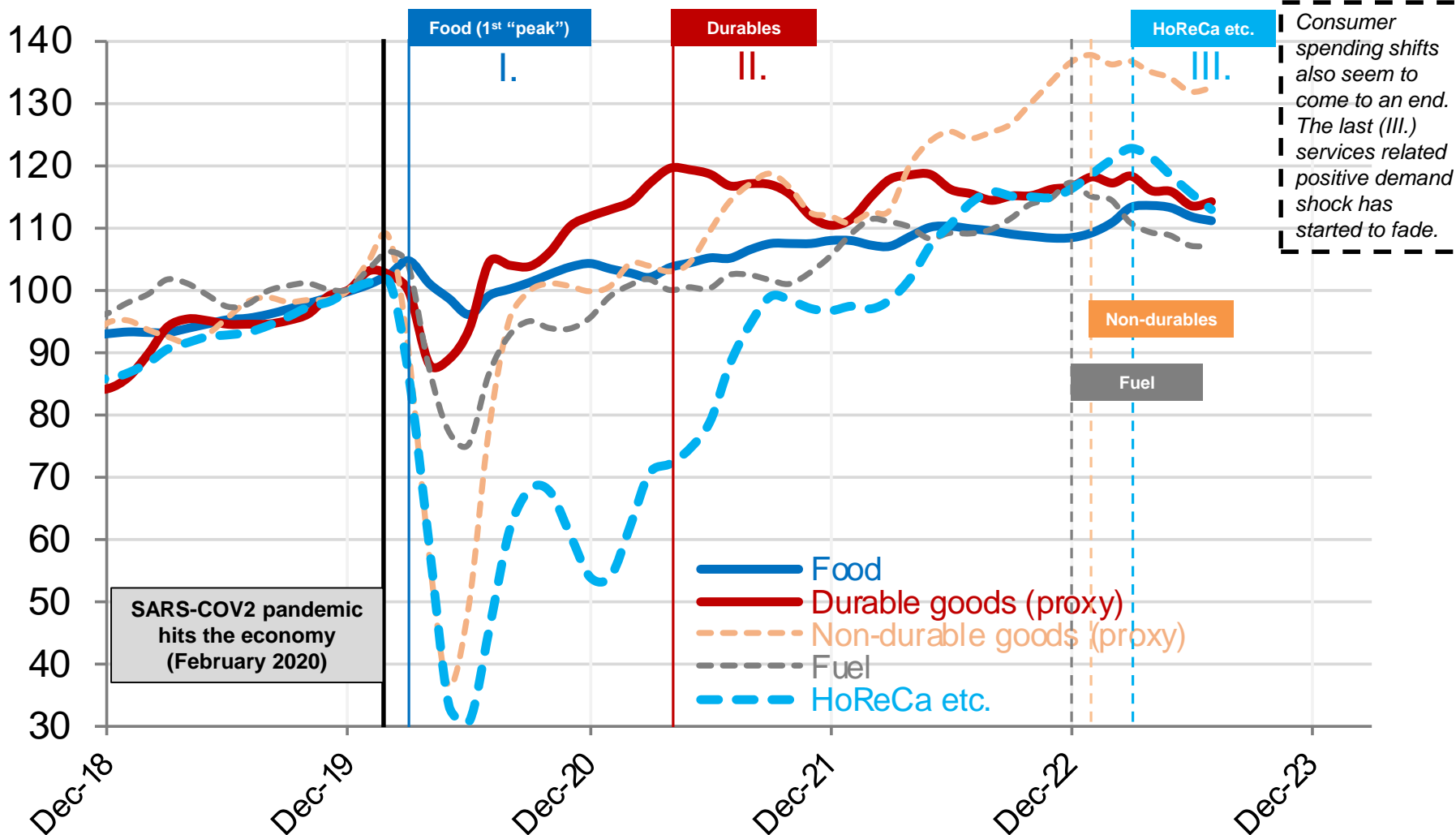
Romanian export volume vs. EZ real GDP growth
(YoY%)

Legend:
- Exports of goods and services
- EZ GDP

Inset (left): *Real economic channel: sensitivity of RO exports to EZ GDP = ~2.0x*
R² = 0.4932
High value / complex
Low value / simple

Inset (right): *Financial channel: Shocks generated in EZ may also affect RO financial conditions*

Meanwhile, consumption also softened significantly as the reopening effect faded…

Consumption proxy indicators
(2019 Q4 = 100, SA, 3MMA)

Food (1st "peak") I.

Durables II.

HoReCa etc. III.

Non-durables

Fuel

Consumer spending shifts also seem to come to an end. The last (III.) services related positive demand shock has started to fade.

SARS-COV2 pandemic hits the economy (February 2020)

Legend:
— Food
— Durable goods (proxy)
- - Non-durable goods (proxy)
- - Fuel
- - HoReCa etc.

Y-axis: 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140

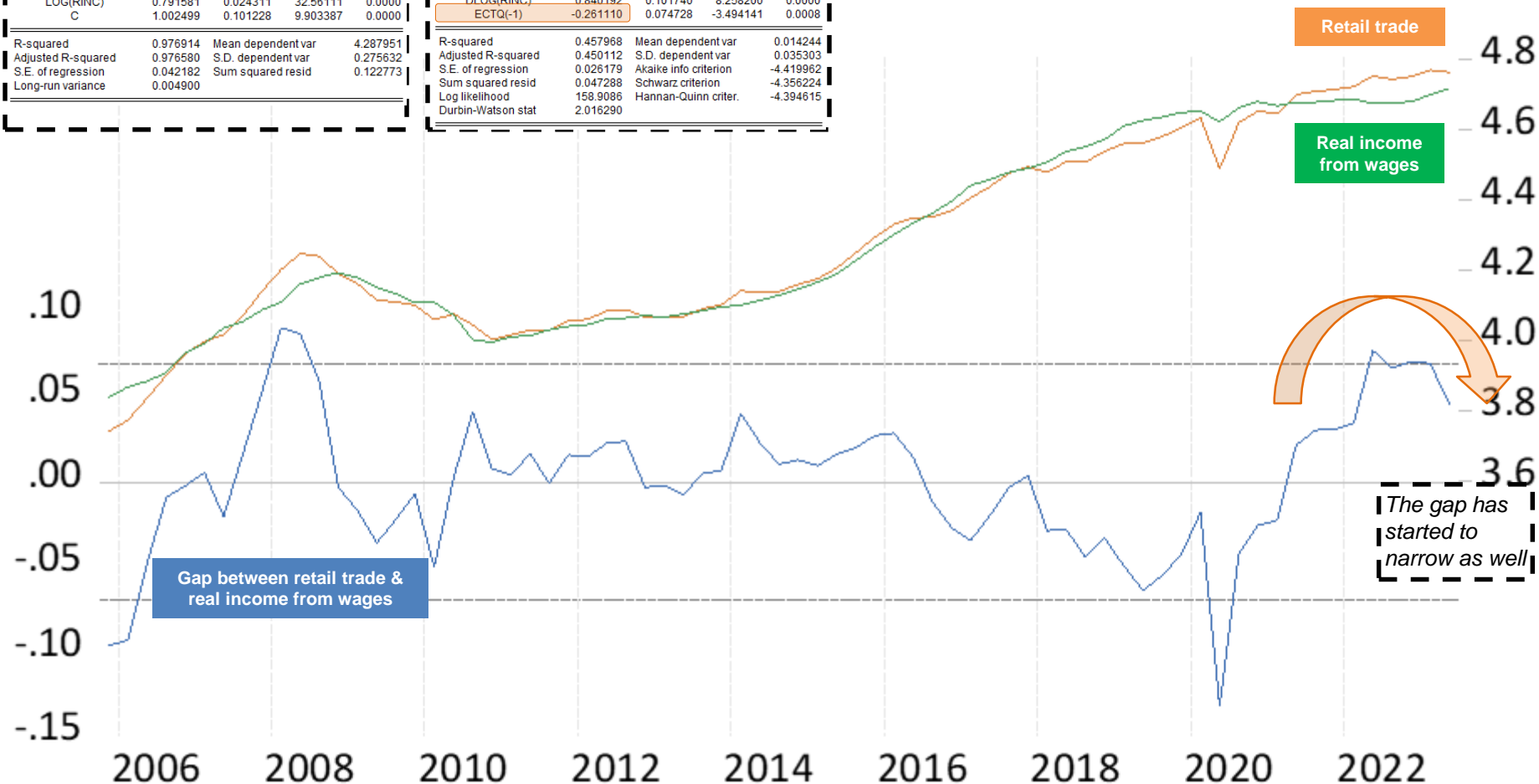X-axis: Dec-18, Dec-19, Dec-20, Dec-21, Dec-22, Dec-23

…and as households became much more prudent…

Long-term relationship between retail trade and real disposable income from wages
(logarithm)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(RINC)	0.791581	0.024311	32.56111	0.0000
C	1.002499	0.101228	9.903387	0.0000
R-squared	0.976914	Mean dependent var		4.287951
Adjusted R-squared	0.976580	S.D. dependent var		0.275632
S.E. of regression	0.042182	Sum squared resid		0.122773
Long-run variance	0.004900			

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(RINC)	0.840192	0.101740	8.258200	0.0000
ECTQ(-1)	-0.261110	0.074728	-3.494141	0.0008
R-squared	0.457968	Mean dependent var		0.014244
Adjusted R-squared	0.450112	S.D. dependent var		0.035303
S.E. of regression	0.026179	Akaike info criterion		-4.419962
Sum squared resid	0.047288	Schwarz criterion		-4.356224
Log likelihood	158.9086	Hannan-Quinn criter.		-4.394615
Durbin-Watson stat	2.016290			

Retail trade

Real income from wages

Gap between retail trade & real income from wages

The gap has started to narrow as well

Sources: NIS, author's calculation

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…focusing more on savings (encouraged also by more attractive interest rates on RON term-deposits).

Household loan and deposit flows
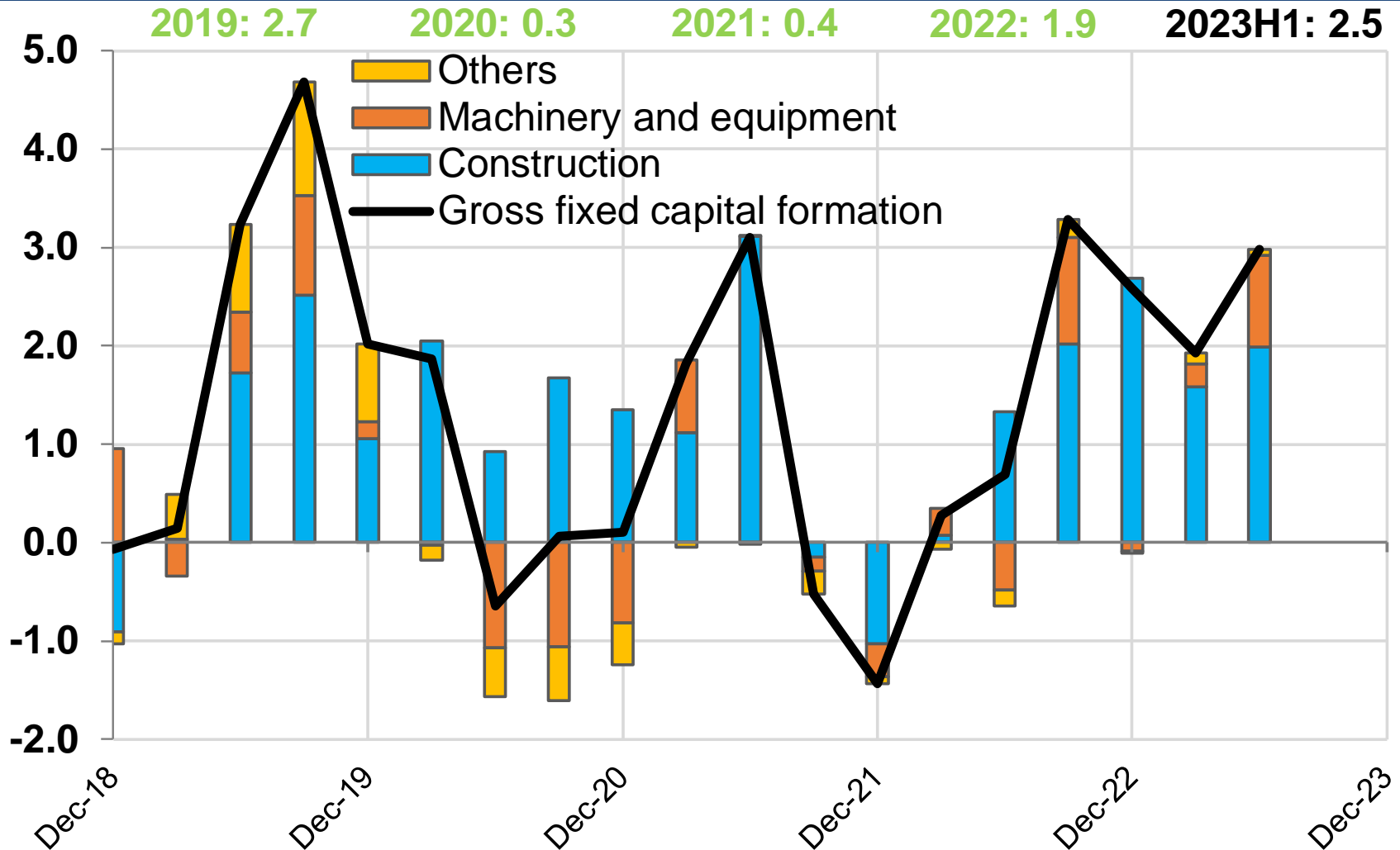(SA, % of GDP, annualized; trend 6MMA)

Household loans

Household deposits

As of August 2023 (YoY, FX adj. data):
- Term deposits: +46%
- Sight deposits: -10%
&
- RON deposits: +25%
- EUR deposits: -6%

Forced savings

Prudent shift

Reopening
(& war effect)
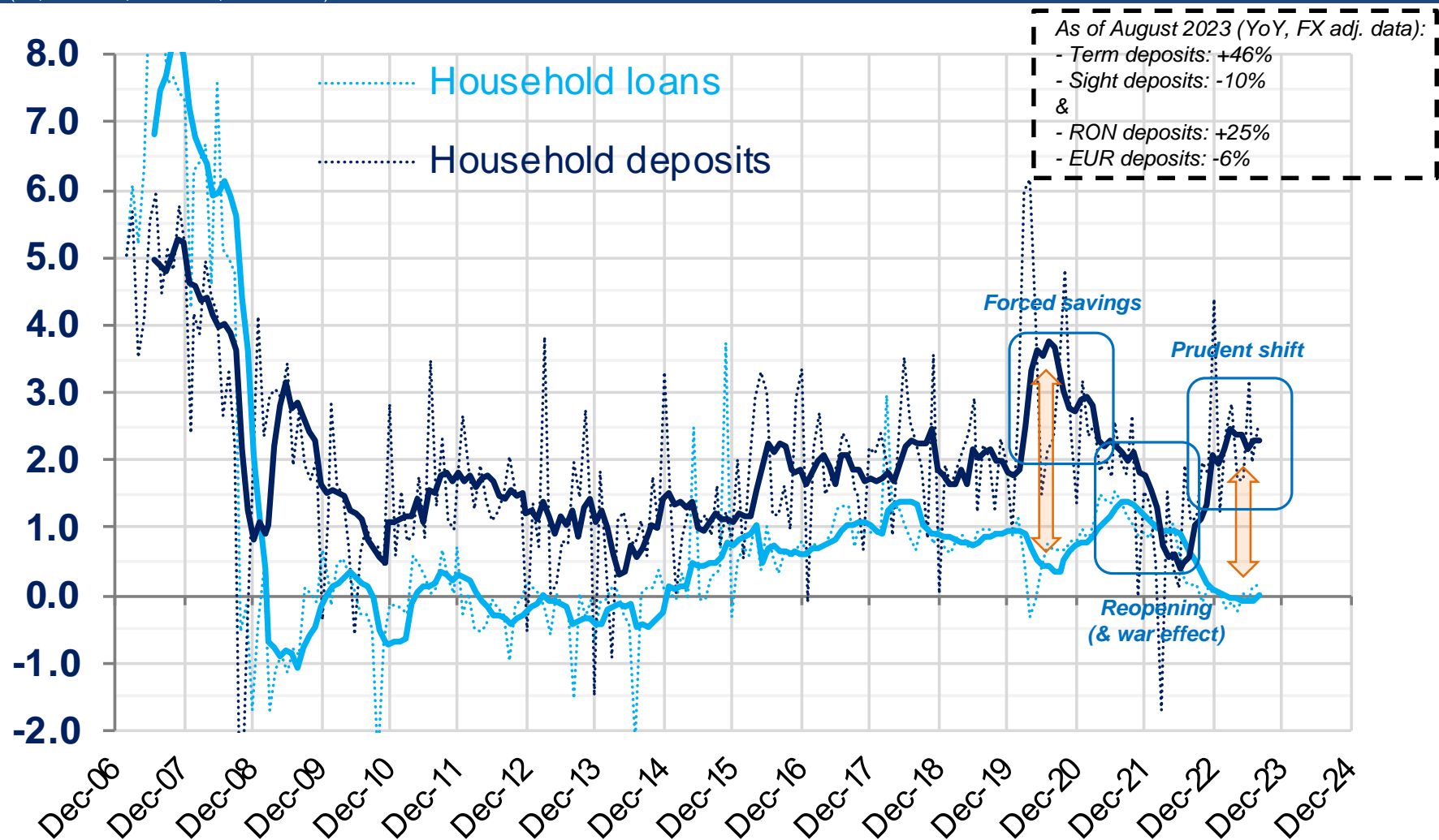
Despite higher interest rates, investments fared well, driven primarily by constructions as well as the segment of machinery and equipment (including means of transport) …

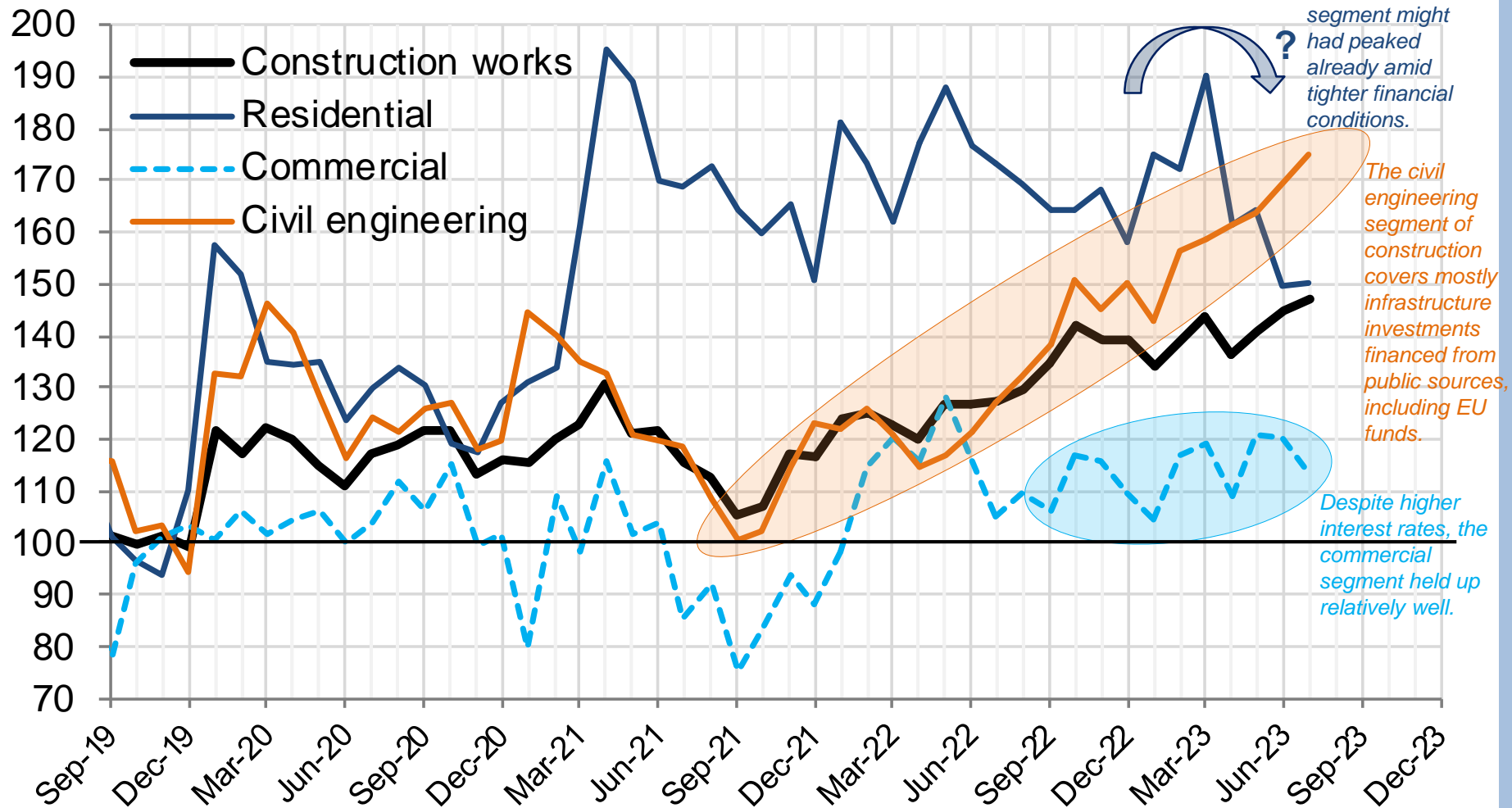**Contribution of GFCF to the annual real GDP growth by components**
(pps)

Legend:
- Others
- Machinery and equipment
- Construction
- Gross fixed capital formation

2019: 2.7   2020: 0.3   2021: 0.4   2022: 1.9   **2023H1: 2.5**

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Construction works
(2019Q4 = 100, SA)

Legend:
- Construction works
- Residential
- Commercial
- Civil engineering

The residential segment might had peaked already amid tighter financial conditions.

The civil engineering segment of construction covers mostly infrastructure investments financed from public sources, including EU funds.

Despite higher interest rates, the commercial segment held up relatively well.

Sources: NIS, author's calculation

…while auto sales hit an all-time high.

Trade with motor vehicles and motorcycles
(2019Q4 = 100, SA)

Sources: NIS, author's calculation

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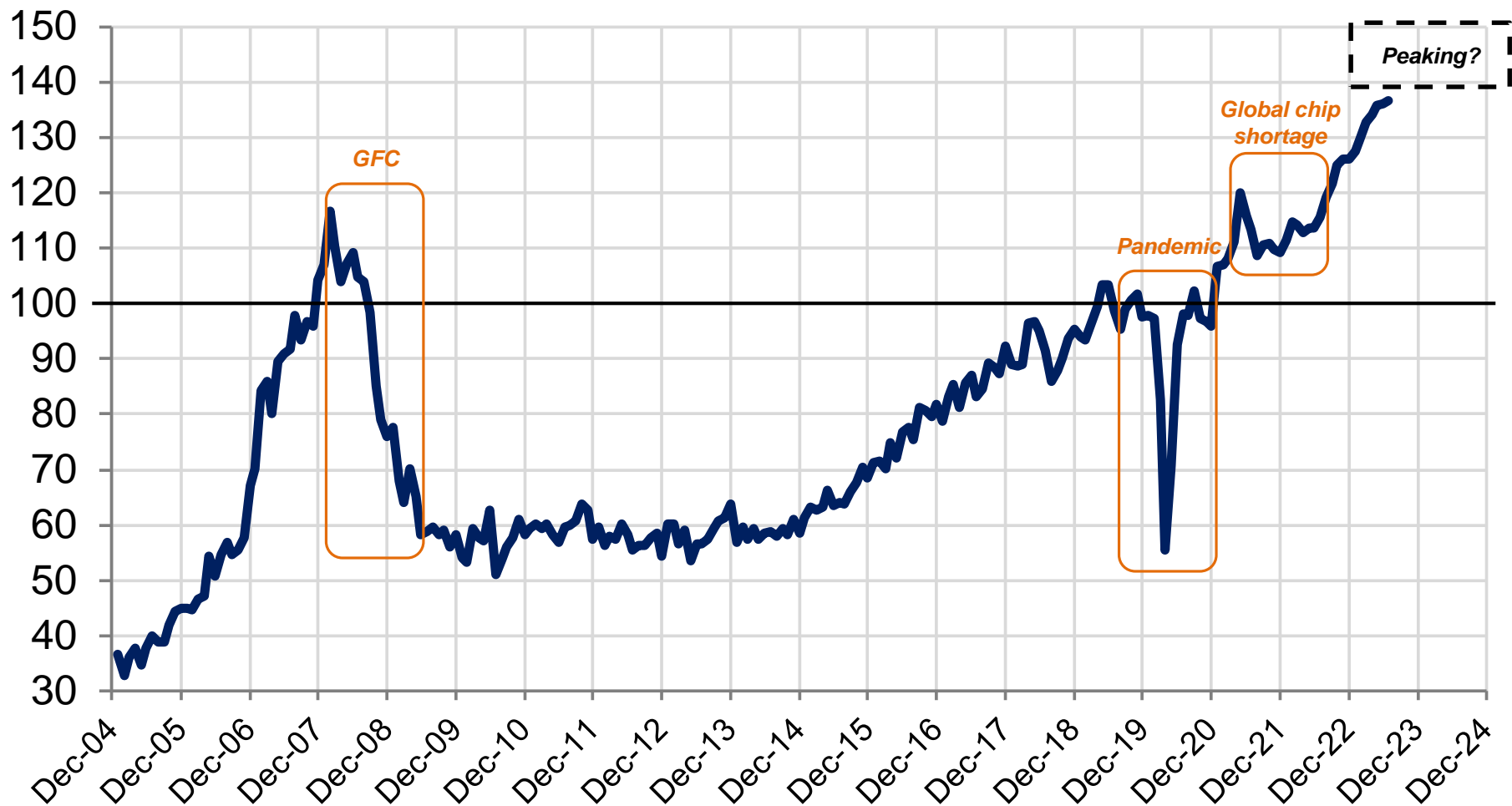
On the production side, industry suffered the most, but market services are also losing momentum…

Decomposition of GDP growth by production-side items
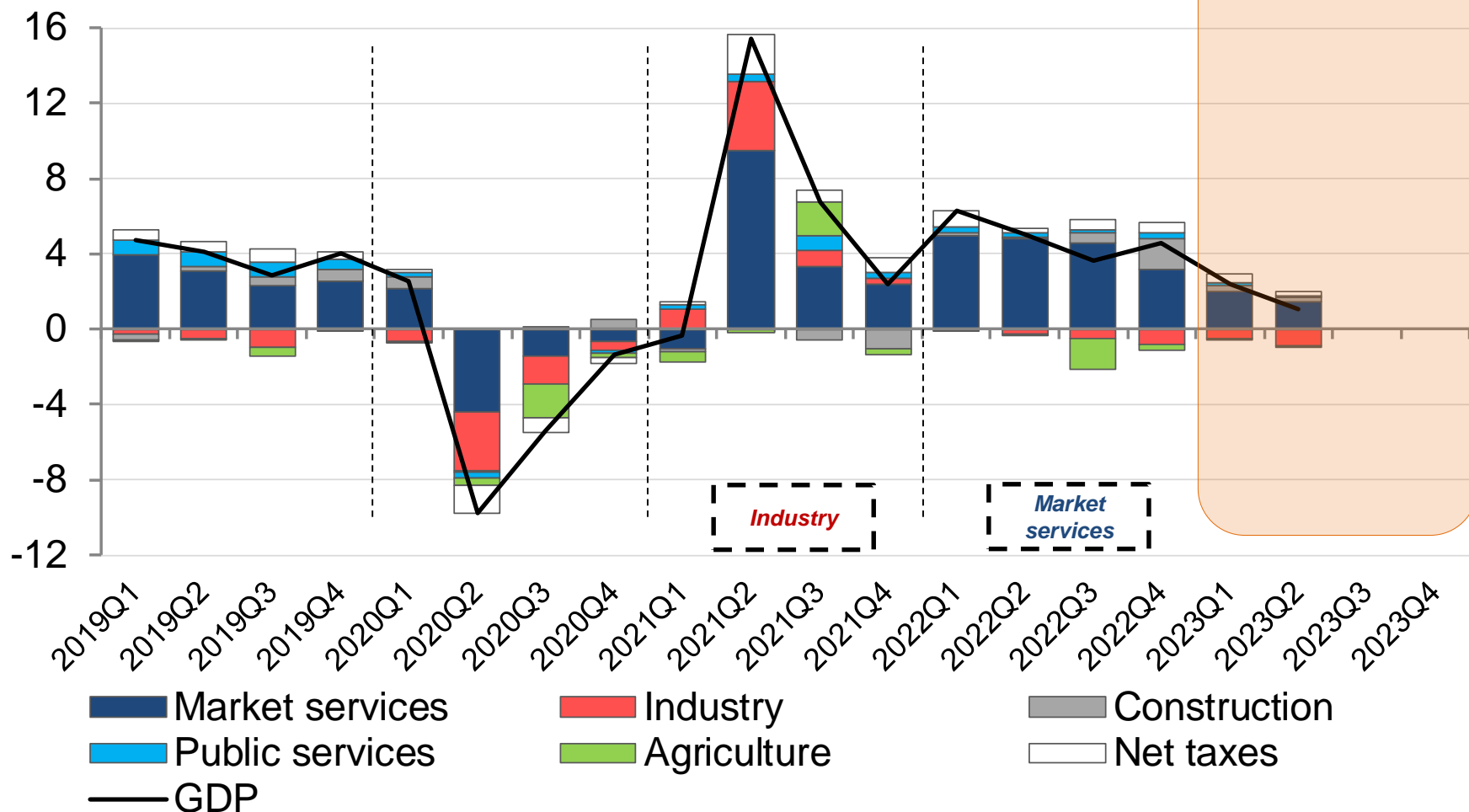(YoY%)
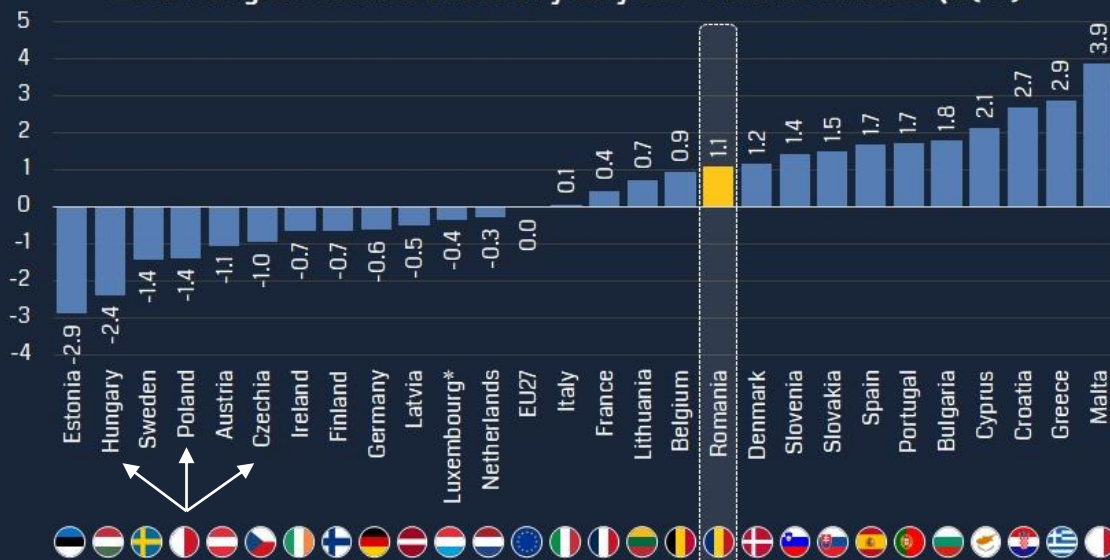
2019: 3.9　**2020: -3.7**　**2021: 5.8**　**2022: 4.7**　**2023H1: 1.7**

Industry

Market services

Legend:
- Market services
- Industry
- Construction
- Public services
- Agriculture
- Net taxes
- GDP

Sources: NIS, author's calculation

The Romanian GDP in 2023 Q2
Source: Eurostat (Unadjusted data)

EU ranking of countries based on yearly GDP evolution in 2023 Q2 (%)

Country	Value
Estonia	-2.9
Hungary	-2.4
Sweden	-1.4
Poland	-1.4
Austria	-1.1
Czechia	-1.0
Ireland	-0.7
Finland	-0.7
Germany	-0.6
Latvia	-0.5
Luxembourg*	-0.4
Netherlands	-0.3
EU27	0.0
Italy	0.1
France	0.4
Lithuania	0.7
Belgium	0.9
Romania	1.1
Denmark	1.2
Slovenia	1.4
Slovakia	1.5
Spain	1.7
Portugal	1.7
Bulgaria	1.8
Cyprus	2.1
Croatia	2.7
Greece	2.9
Malta	3.9

A sluggish (+1.1%, well below Romania's long-term average) growth pace may feel like a crisis… but it is not an outright economic recession.

Evolution of the yearly GDP in Romania, 2019 Q1 – 2023 Q2 (%)

The beginning of the COVID-19 pandemic in Romania

The beginning of the Russian invasion of Ukraine

2023 GDP growth forecast: +1.8%

	2019				2020				2021				2022				2023	
Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Value	4.7	4.1	2.9	4.1	2.6	-9.8	5.4	-1.3	-0.3	15.4	6.7	2.4	6.3	5.0	3.7	4.5	2.4	1.1

*Missing data 2023 Q2, 2023 Q1 vs 2022 Q1

Romanian real GDP evolution:
- *2023Q2 vs. 2019Q4: +8%*
- *2012Q1 vs. 2008Q3: -4%*

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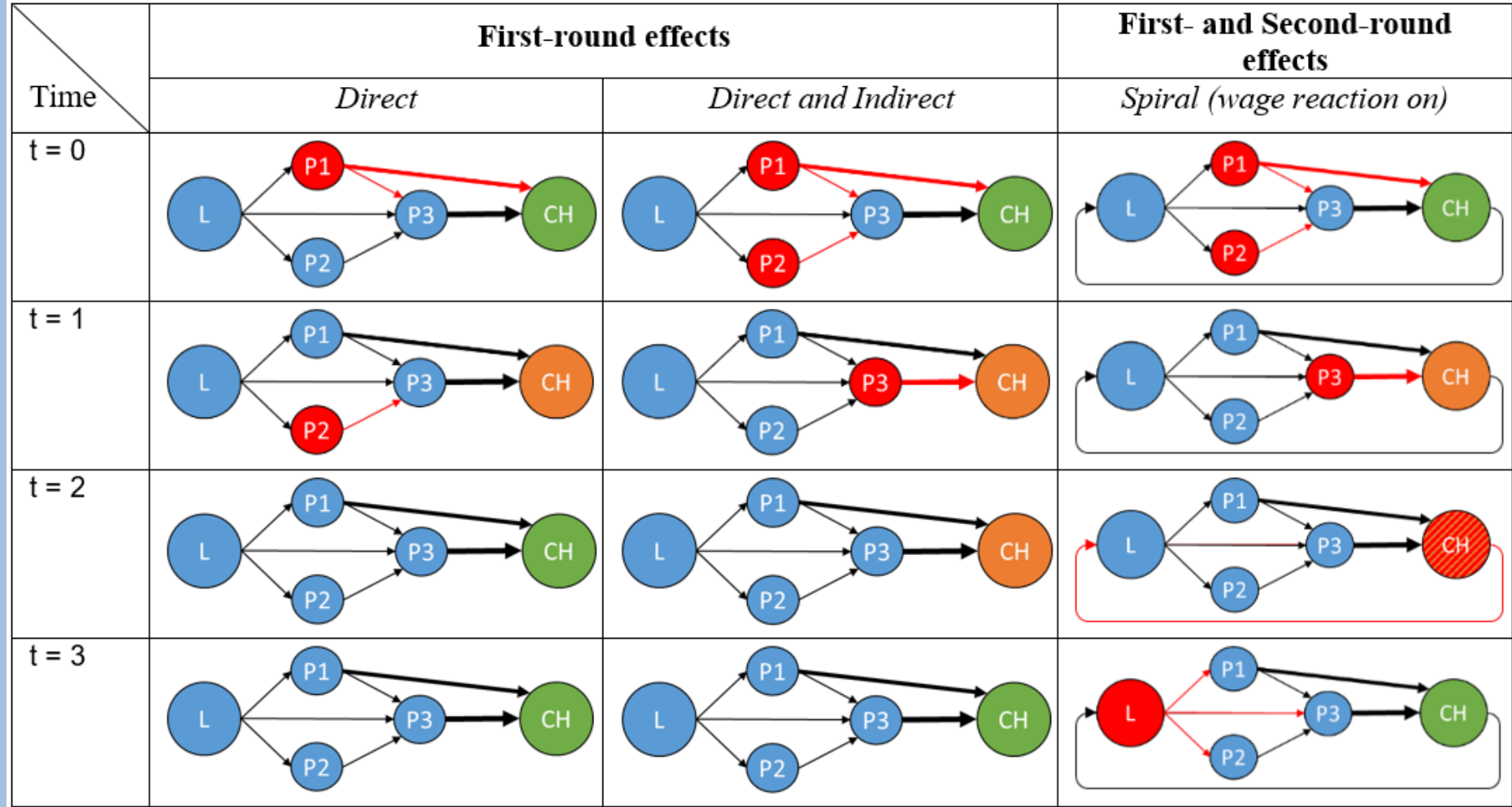**Romanian Economic Monitor**
econ.ubbcluj.ro/roem

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A stylized framework about how global- and domestic factors as well as fiscal- and monetary policy shocks may influence certain GDP components:
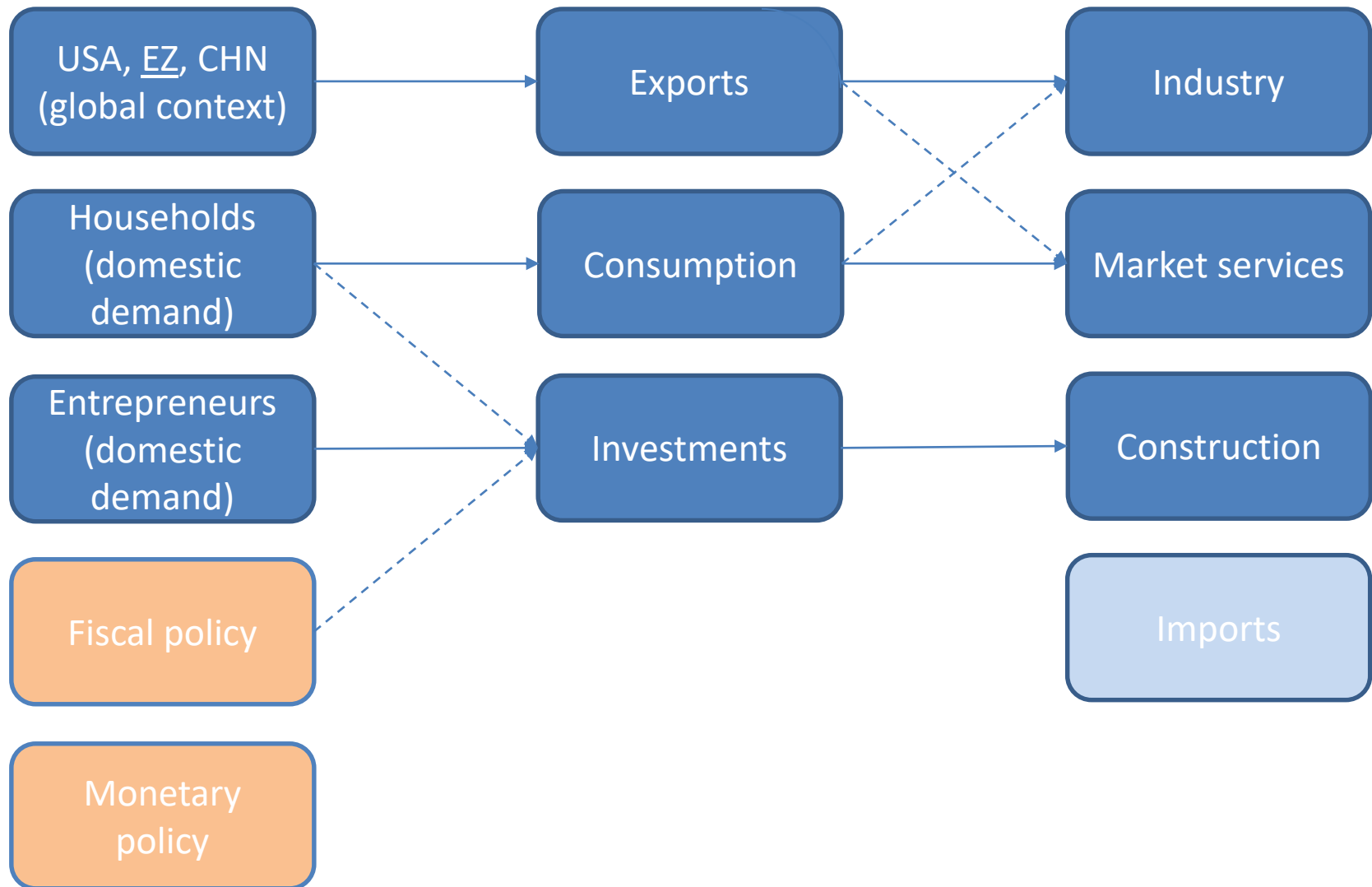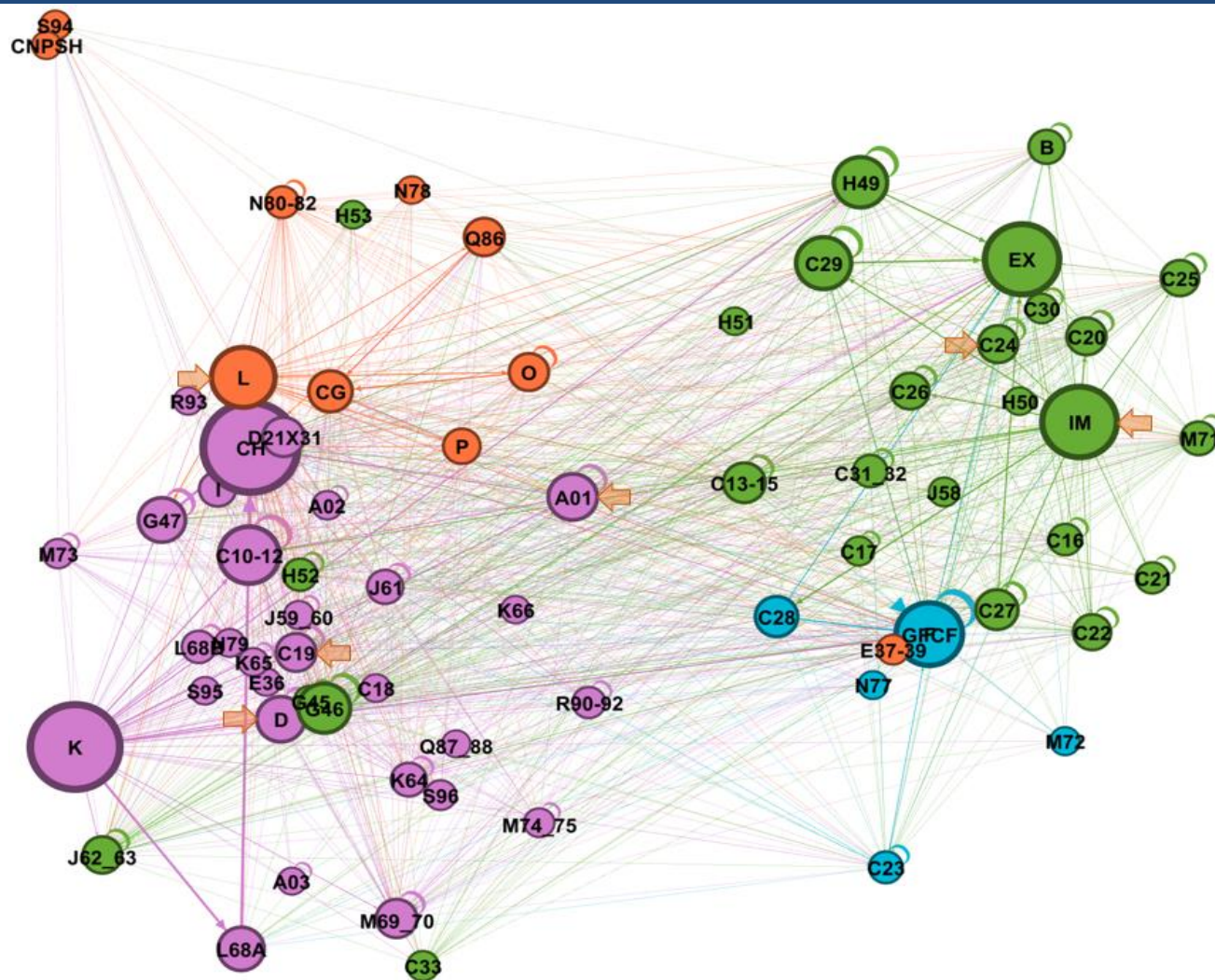
Inflation

A stylized representation of first-round direct and indirect effects, as well as second-round impacts of diverse price shocks in a simplified network:

Stylised price shock propagation

Notes: L represents labor market; P1, P2, P3 correspond to diverse producing sectors; CH marks households' consumption.
Source: C. Bálint (2022) - Sectorial price shock propagation via input-output linkages, *Romanian Journal of Economic Forecasting*

Owing to unfavourable global developments, energy sectors (NACE code: D and C19) as well as agriculture (A01) generated large price shocks in Romania's economic network…

Romania's economic network as derived from the supply and use table (2015)

Source: C. Bálint (2022) - Sectorial price shock propagation via input-output linkages, *Romanian Journal of Economic Forecasting*

…the magnitude of sectoral cost shocks experienced in early 2022 corresponds to an extreme - fat tail - event, with no other similar episode since the introduction of inflation targeting in Romania.

Factual historical data for the sectorial price pressure index
(QoQ%)

Source: C. Bálint (2022) - Sectorial price shock propagation via input-output linkages, *Romanian Journal of Economic Forecasting*
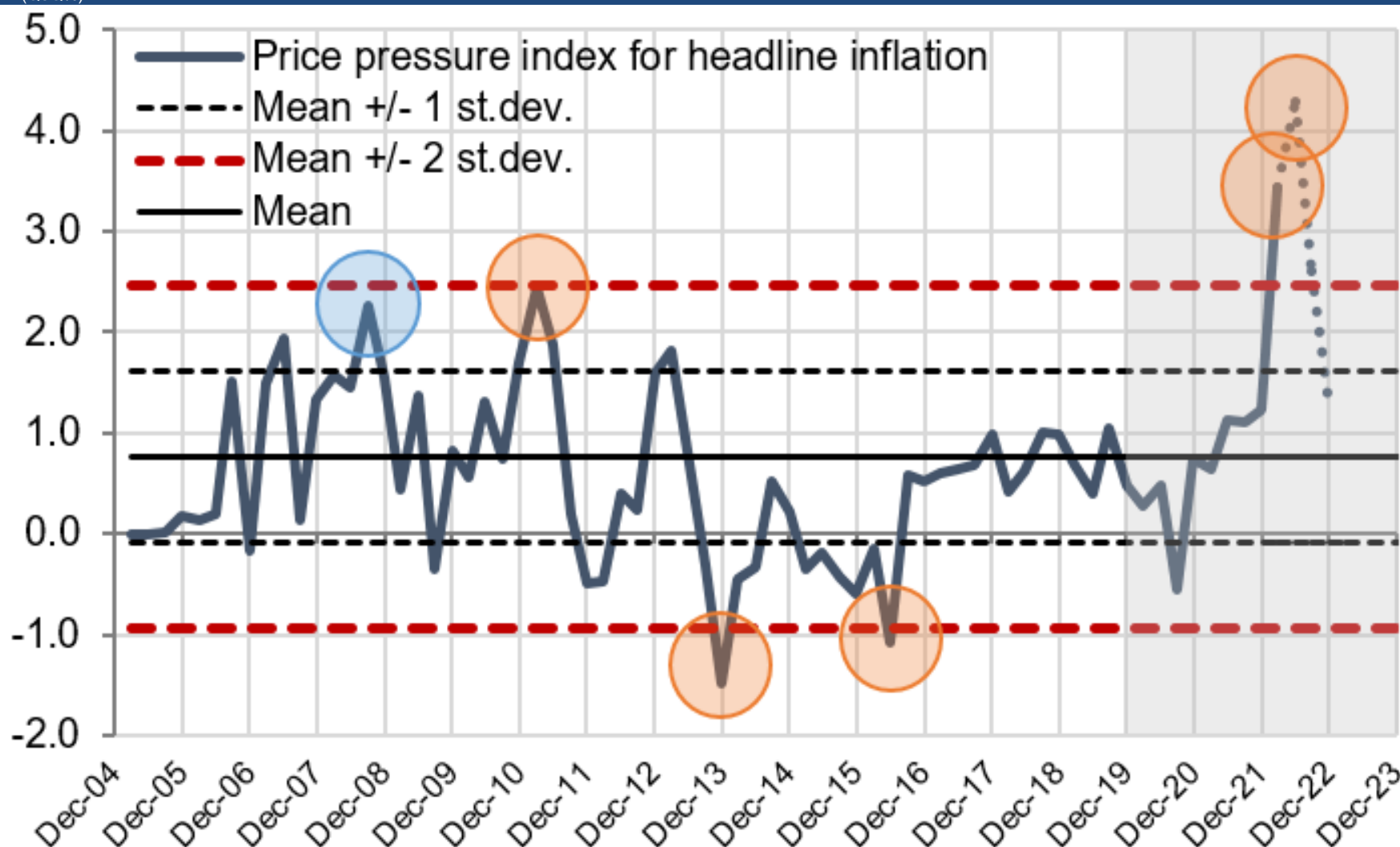
Significant progress (headline inflation fell in single-digit territory!), but we are not there (=inflation target of 2.5% +/- 1%) yet…

Consumer price inflation indicators
(YoY%)

2019: 3.8   2020: 2.6   2021: 5.0   **2022: 13.8**   **2023M1-M8: 12.0**

Headline
CORE3

Sources: NIS, author's calculation
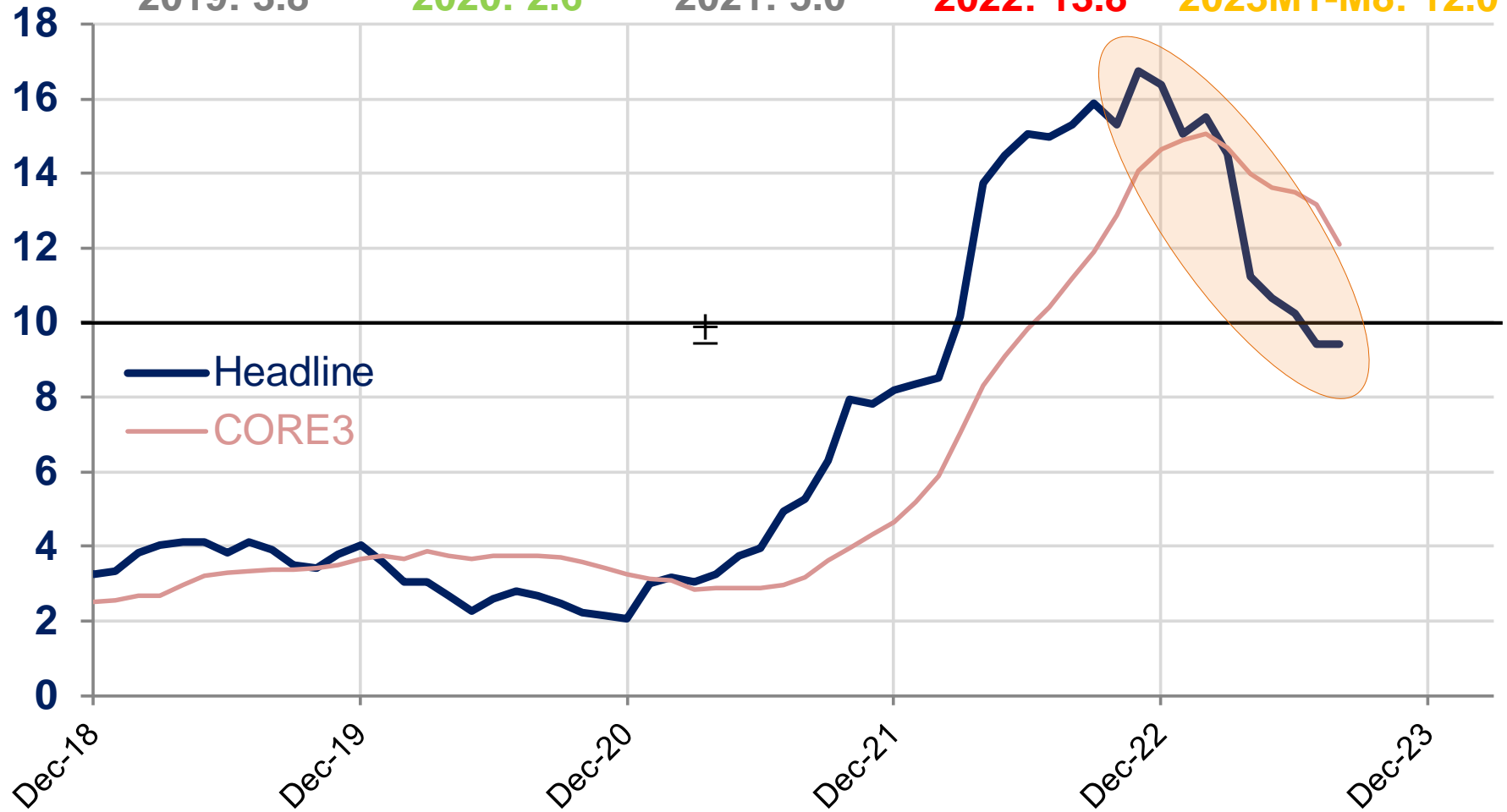
Inflation "waves" triggered by the global cost shock

Diverse consumer price inflation indicators vs. net wages
(YoY%, 3MMA)

Energy inflation (the most representative segment for capturing the direct effects of the global cost shock) peaked in mid-2022.

Processed food inflation (which suffered the most from the indirect effects of higher energy & agro-commodity prices) changed direction in early 2023.

Super-CORE (and particularly market services) inflation – which is more sensitive for domestic factors such as the output gap and unit labor costs – may peak later in 2023.

Legend:
- Energy
- Processed food
- Super-CORE (goods&services)
- Net wages

Note: the super-CORE indicator is an underlying inflation measure that excludes processed food as well as several other components, such as highly FX-sensitive items (e.g. cars, auto and bike accessories and spare parts, telecommunication, rents) and insurances.
Sources: NIS, author's calculation

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Inflation heat map

(YoY %, standardized)

	02' 03' 04' 05' 06' 07' 08' 09' 10' 11' 12' 13' 14' 15' 16' 17' 18' 19' 20' 21' 22' 23'
1. **CPI inflation, out of which:**	
2. Non-CORE	
3. **CORE, out of which:**	
4. Processed food	
5. **Super-CORE, out of which:**	
6. Durable goods (excl. cars etc.)	
7. Non-durable goods	
8. Services (excl. telecom etc.)	
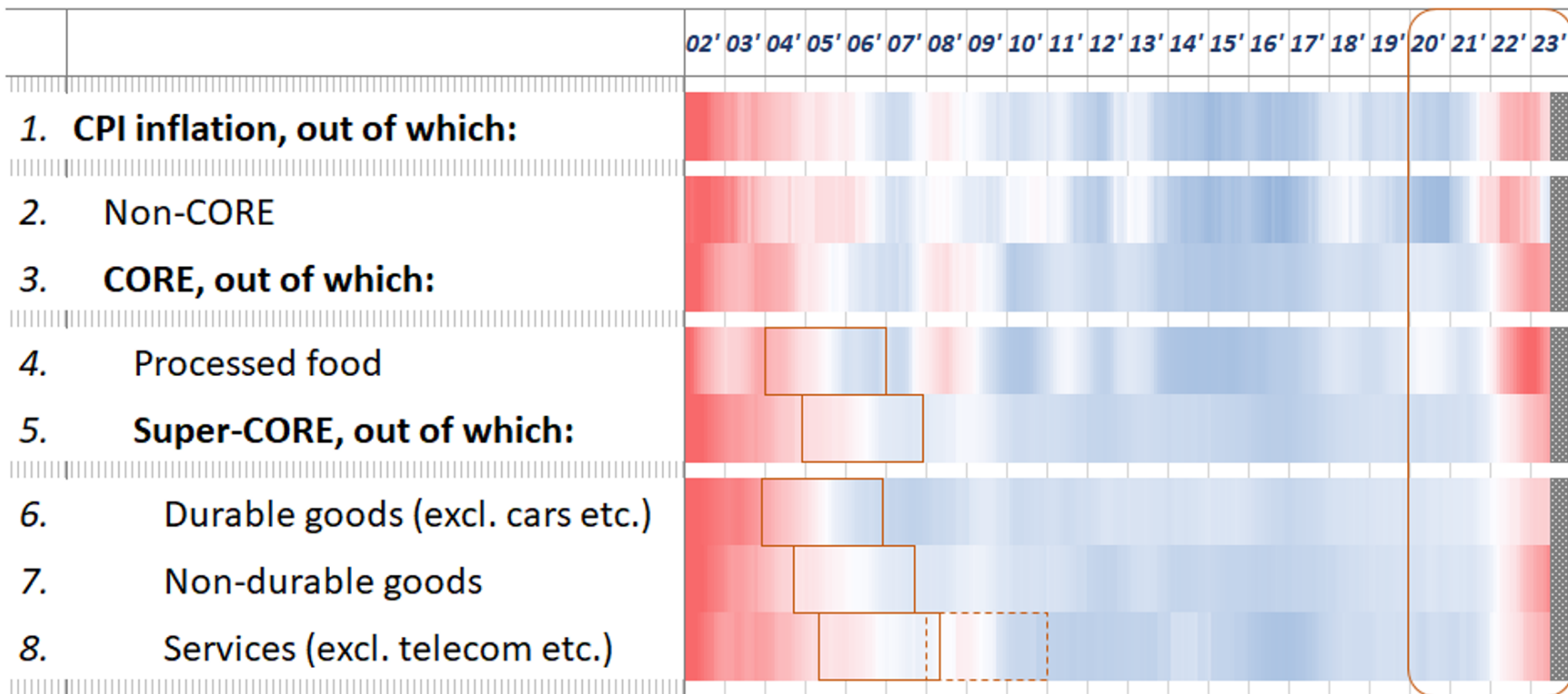
Unit labour costs are largest contributor to domestic inflation, while profits contribute less

GDP deflator –
income side decomposition
(annual percentage changes, percentage points contributions)

Legend:
- Labour productivity
- Unit profits
- ◆ Unit labour costs
- Wages
- Unit net taxes
- GDP deflator
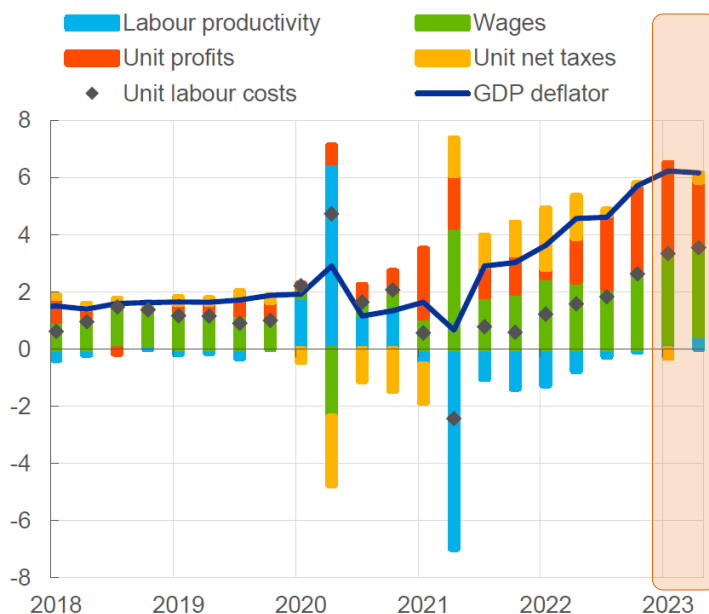
Sources: Eurostat and ECB staff calculations.
Latest observation: 2023 Q2.

Labour productivity per hour
(index 2019 Q4 = 100)
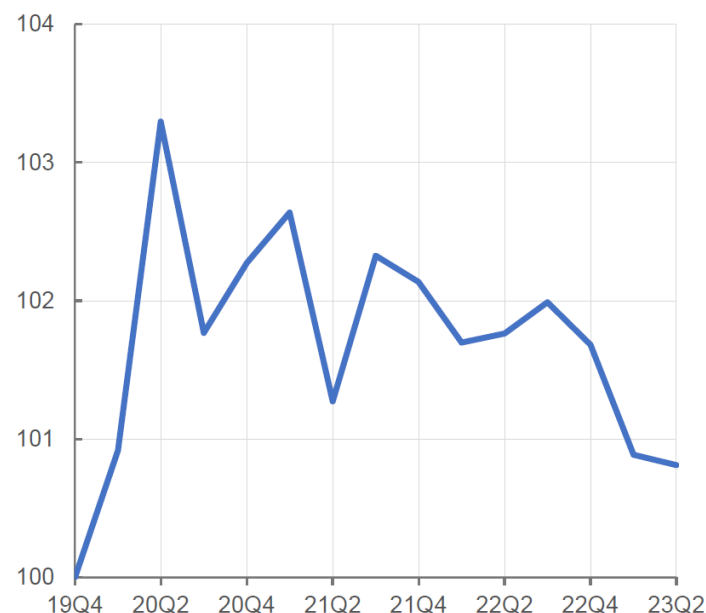
Sources: ECB calculation based on Eurostat data.
Latest observation: 2023 Q2.

Source: "Challenges for monetary policy at times of stubborn inflation", Isabel Schnabel, Member of the Executive Board of the European Central Bank (Frankfurt, 20 September 2023)

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Selected Subjects

Monetary policy: in order to tame inflation, central banks raised interest rates

Policy rates
(%)

Sources: Refinitiv, CBs, author's calculation

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The impact of higher interest rates in the EZ (1)

Money flows
(SA, % of GDP, annualized)

Legend:
- Currency in circulation (flow; LHS)
- Overnight dep. (flow; LHS)
- Other short-term dep. (flow; LHS)
- ECB key rate (%; RHS)

The impact of higher interest rates in the EZ (2)
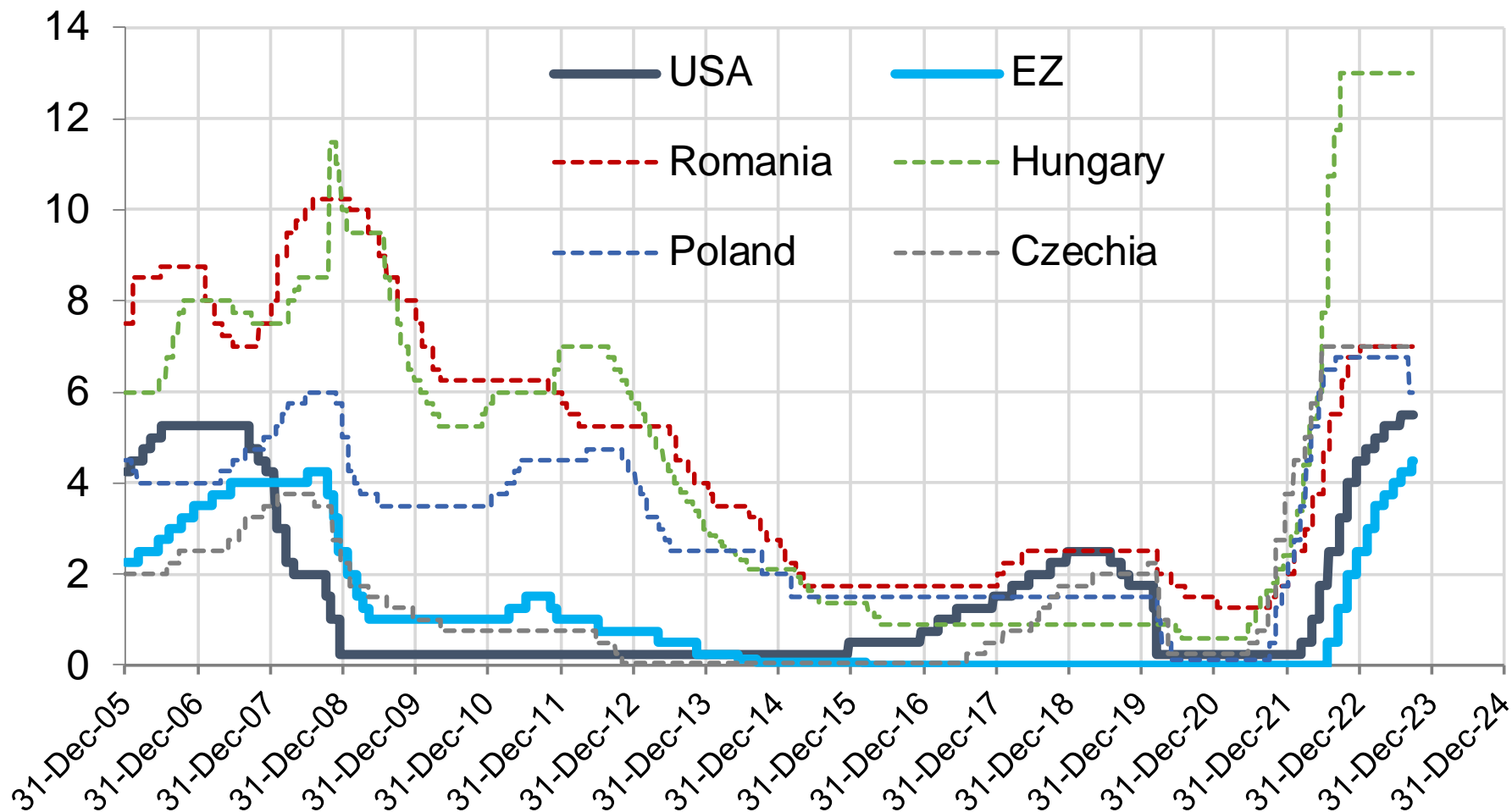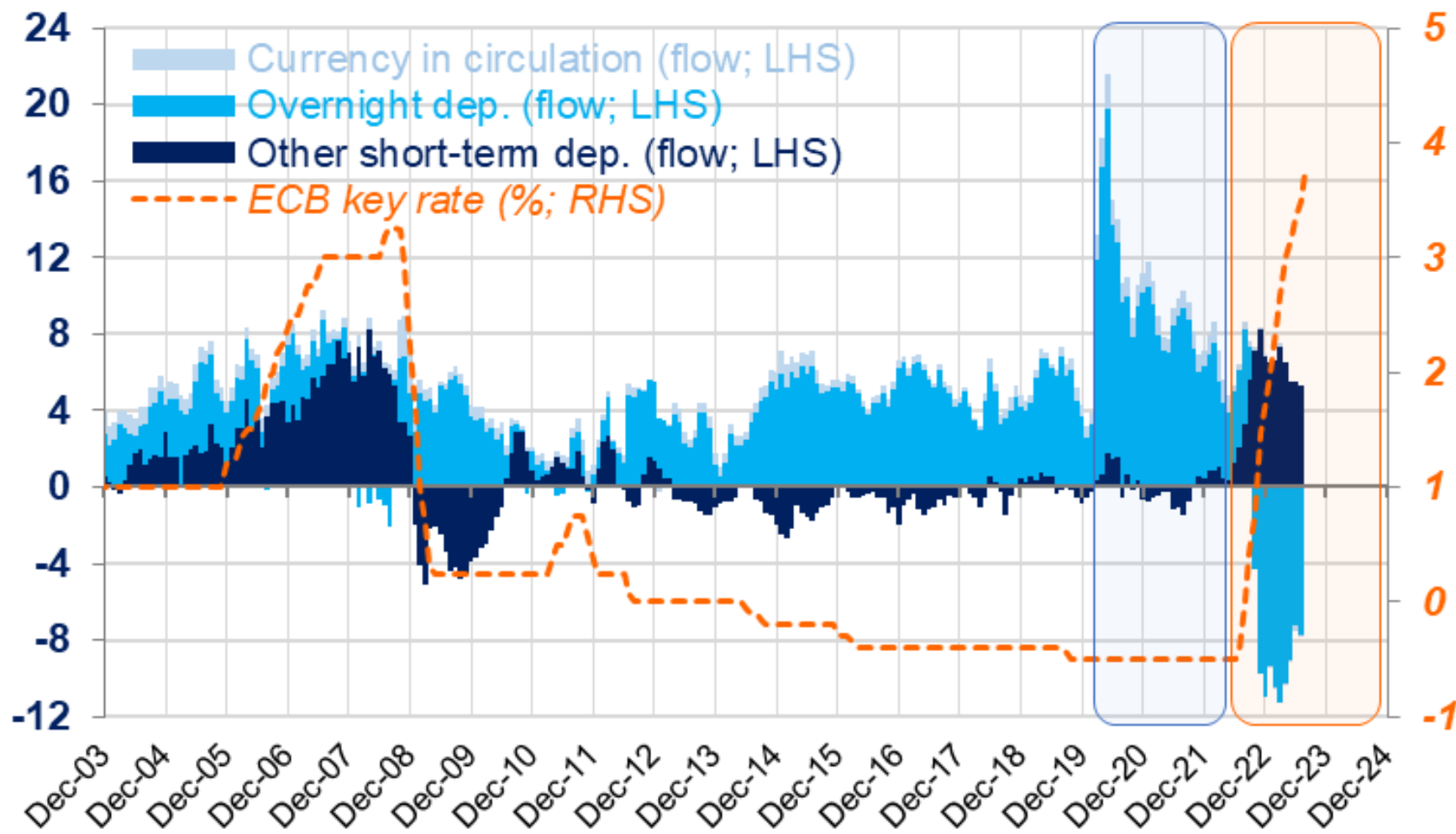
Credit flows
(SA, % of GDP, annualized; 3MMA)

Legend: Others, NFC, HH, Total, ECB key rate (%; RHS)

Sources: ECB, Eurostat, author's calculation

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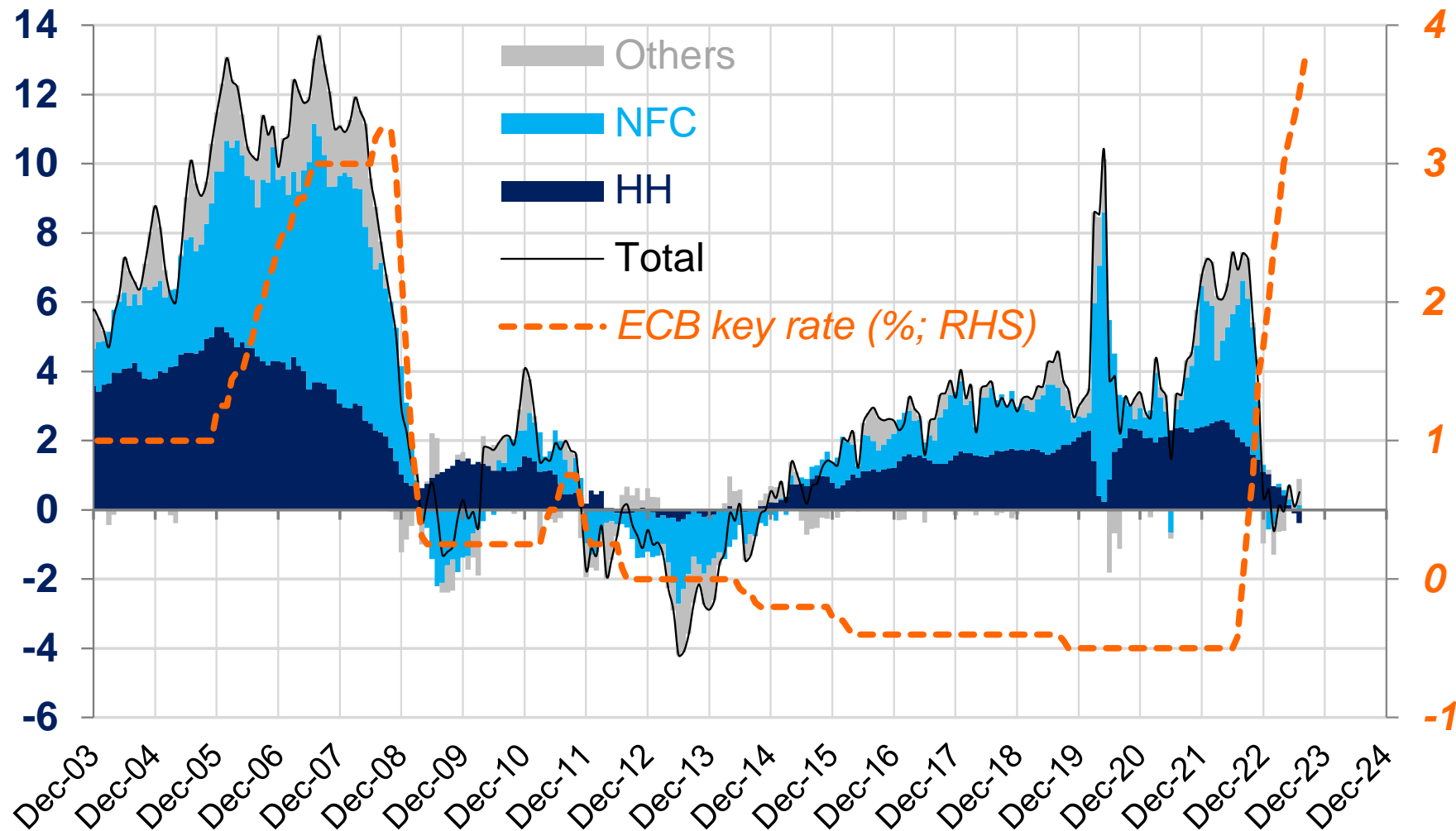
Financial developments: the relatively stable exchange rate helped limit inflationary pressures

FX rates
(%)

Legend: EUR/RON, EUR/HUF, EUR/PLN, EUR/CZK

Sources: NBR, author's calculation
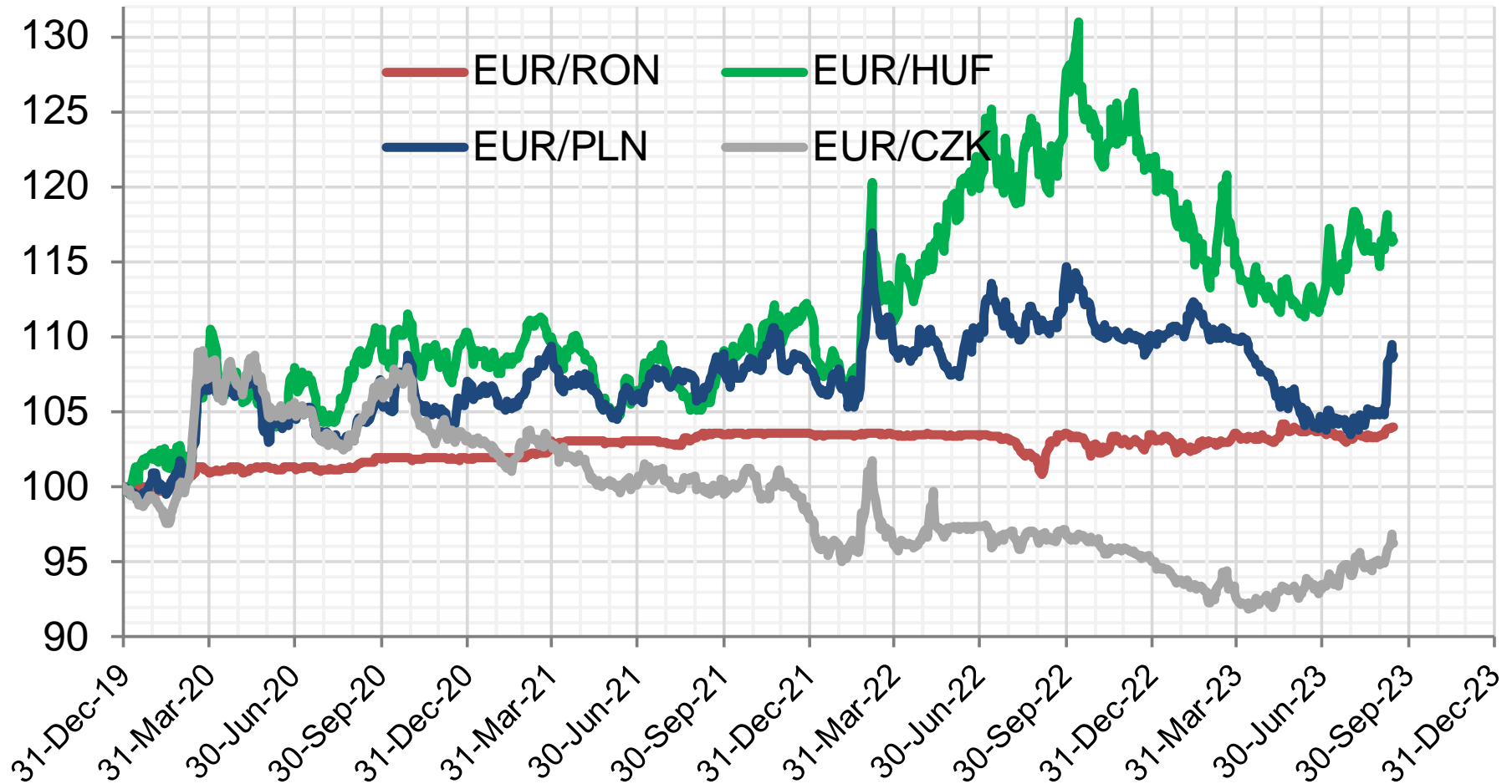
Financial developments: as the interest rate spread narrows, the dynamics of euro-denominated loans lose momentum

Loan growth differential vs. interest rate spread - NFCs
(%)

Loan growth differential (LHS)

Interest rate spread (6M adv.; RHS)

Note: the spread measure is calculated as the difference between EUR- and RON interest rates applied by credit institutions to non-financial corporations (NFCs) on new loans.
Sources: NBR, author's calculation
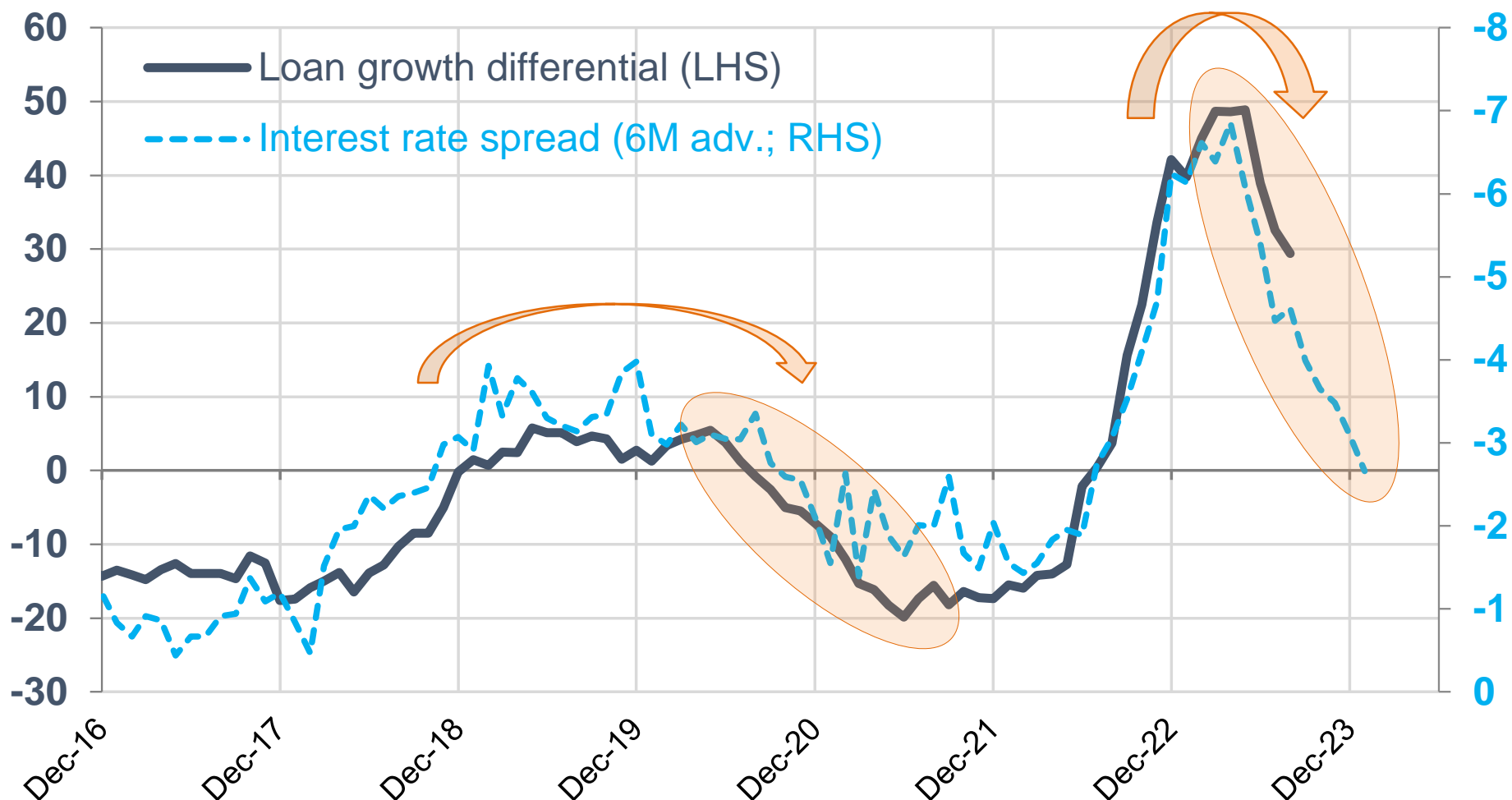
List of European countries by the government budget balance
In percentage of GDP (%), average of 2022 Q2 – 2023 Q1
Source: Eurostat

Country	Surplus (+) / Deficit (−)		Revenue	Expenditure
Norway	25.2		65.6	40.4
Denmark	3.3		48.0	44.7
Cyprus	2.3		42.2	39.9
Ireland	2.0		23.2	21.2
Croatia	0.4		46.0	45.6
Sweden	0.3		47.7	47.4
Switzerland	0.3		32.7	32.4
Portugal	0.1		44.1	44.0
Netherlands	−0.2		43.2	43.3
Luxembourg	−0.3		43.9	44.1
Finland	−0.8		52.6	53.4
Lithuania	−1.1		36.2	37.3
Estonia	−1.2		38.6	39.8
Slovakia	−2.5		40.1	42.6
Bulgaria	−2.8		38.1	41.0
Greece	−2.9		50.3	53.2
Germany	−3.0		46.5	49.6
Slovenia	−3.1		42.1	45.2
Austria	−3.4		49.1	52.5
EU27	−3.5		46.1	49.6
Poland	−3.8		39.7	43.5
Latvia	−4.0		36.3	40.3
Czechia	−4.0		41.2	45.1
Iceland	−4.2		41.7	45.9
Spain	−4.3		42.8	47.2
France	−4.5		53.5	58.0
Belgium	−4.6		49.3	53.9
Malta	−4.9		34.8	39.7
Romania	−5.9		33.3	39.2
Hungary	−7.8		41.7	49.5
Italy	−8.3		48.3	56.6

Very low government budget revenues and particularly high deficit... In order to keep Romania's economy on a sustainable path, fiscal consolidation is unavoidable

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Romanian Economic Monitor
econ.ubbcluj.ro/roem

Current account balance by its main components
(as % of GDP, 12M rolling)

Sources: NIS, NBR, author's calculation
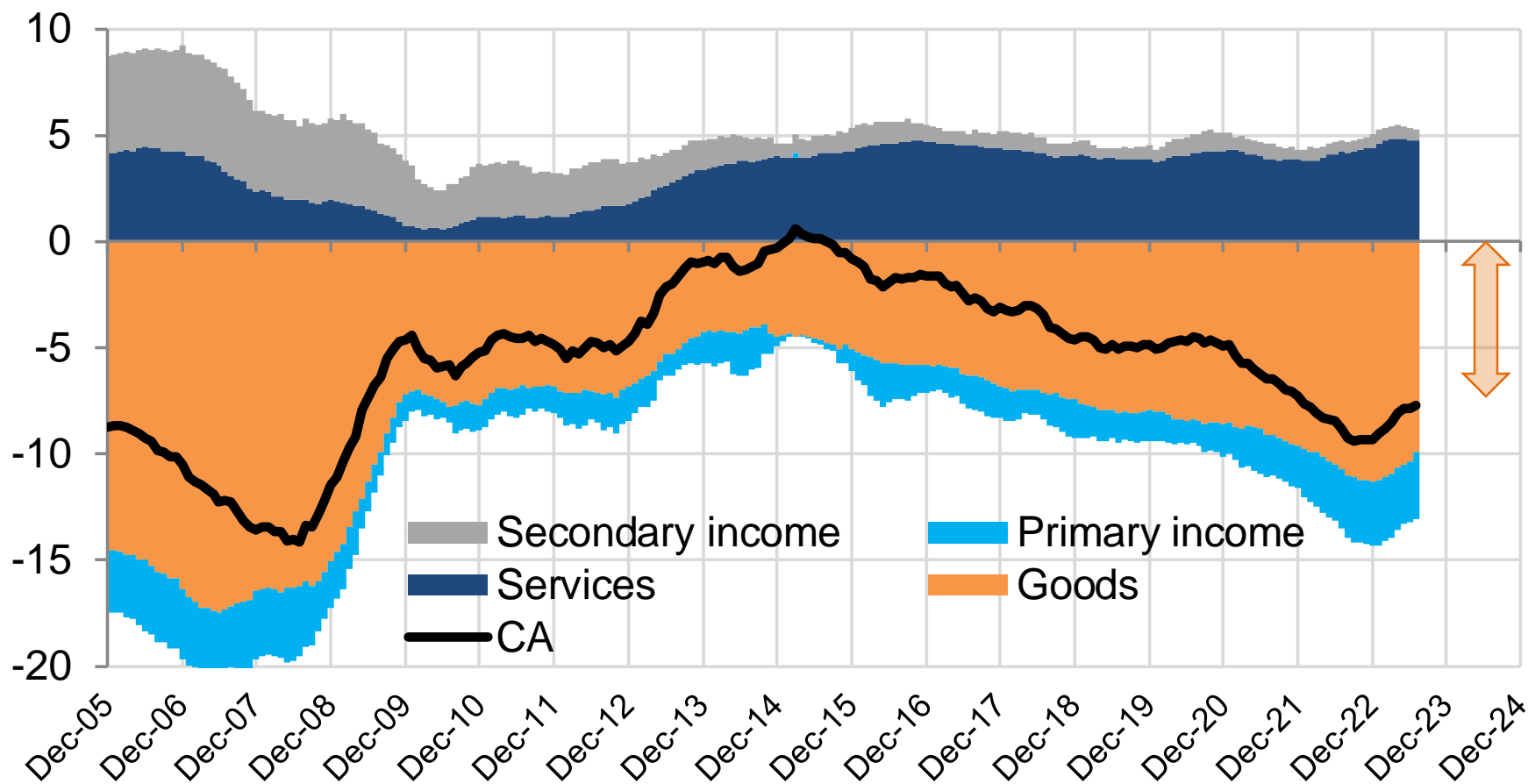
Perspectives

What to expect in 2024?... Another below trend GDP growth pace seems plausible (a relatively soft figure is also necessary to temper inflationary pressures), but downside risks are high

USA, EZ, CHN (global context) → Exports → Industry

Households (domestic demand) → Consumption → Market services

Entrepreneurs (domestic demand) → Investments → Construction

Fiscal policy

$$GDP = L * LP$$

Imports

Monetary policy
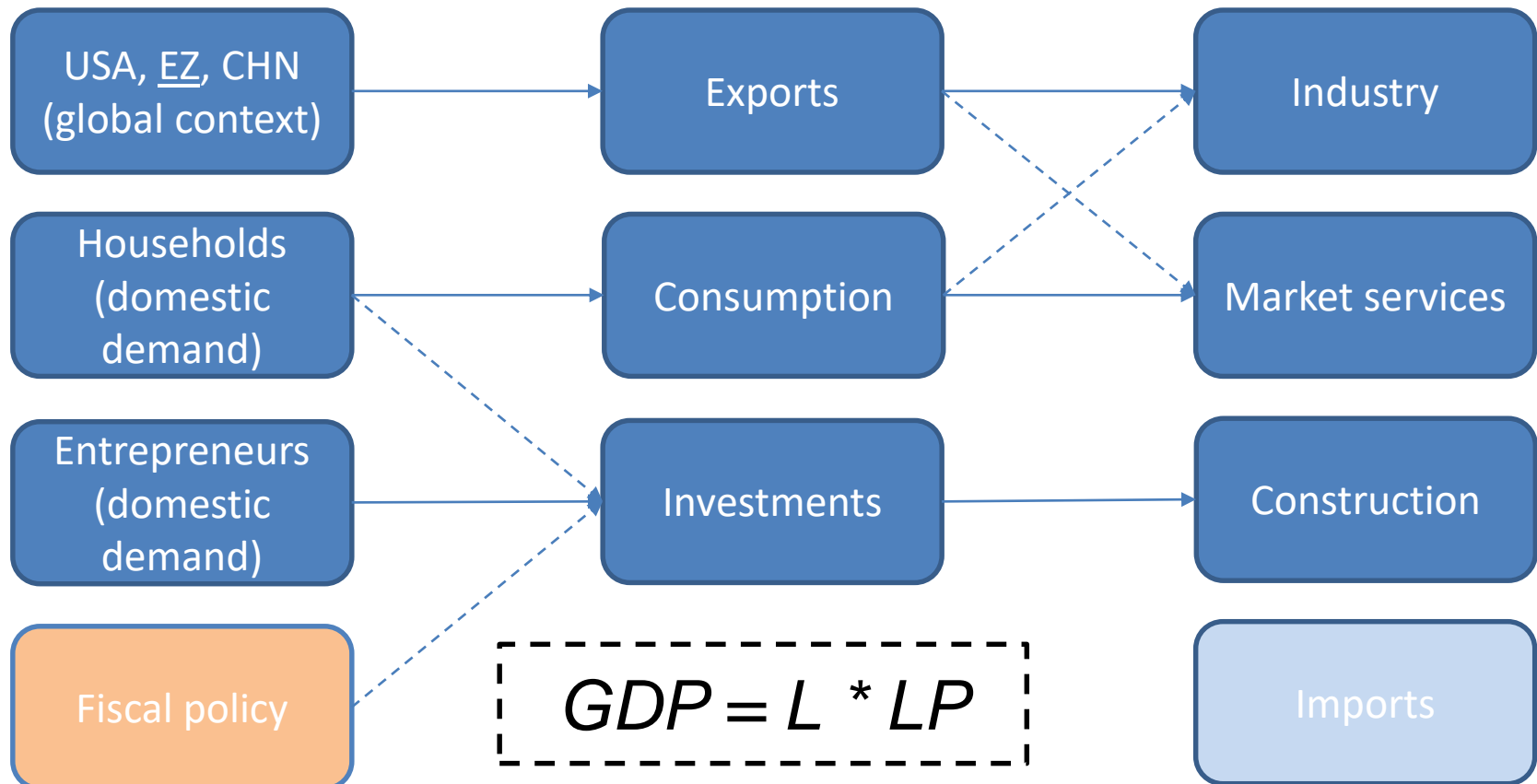
Market consensus expects a mild reacceleration for the EZ economy, yet growth will likely remain subdued and risks are also tilted to the downside -> EZ's mild recovery could help exports, translating into a minor boost for industry as well. Softening but still relatively tight labor conditions, minimum- and public wages hikes coupled with slowing inflation are expected to support households' real disposable incomes -> and consumption, yet households may remain cautious given a series of challenges and uncertainties on the external and domestic fronts. EU funds are expected to support investments next year as well. EU fund absorption remains essential for Romania's economy. Don't forget the fundamentals: labor multiplied by labor productivity defines long-term GDP, there is no free lunch.

Inflation perspectives: disinflation should continue, yet at a somewhat slower pace. Uncertainties (due to fiscal developments, the war in Ukraine, ECB's and the Fed's prospective monetary policy conduct etc.) are sizeable.

Inflation forecasts - as of August 2023
(YoY%)

Source: NBR
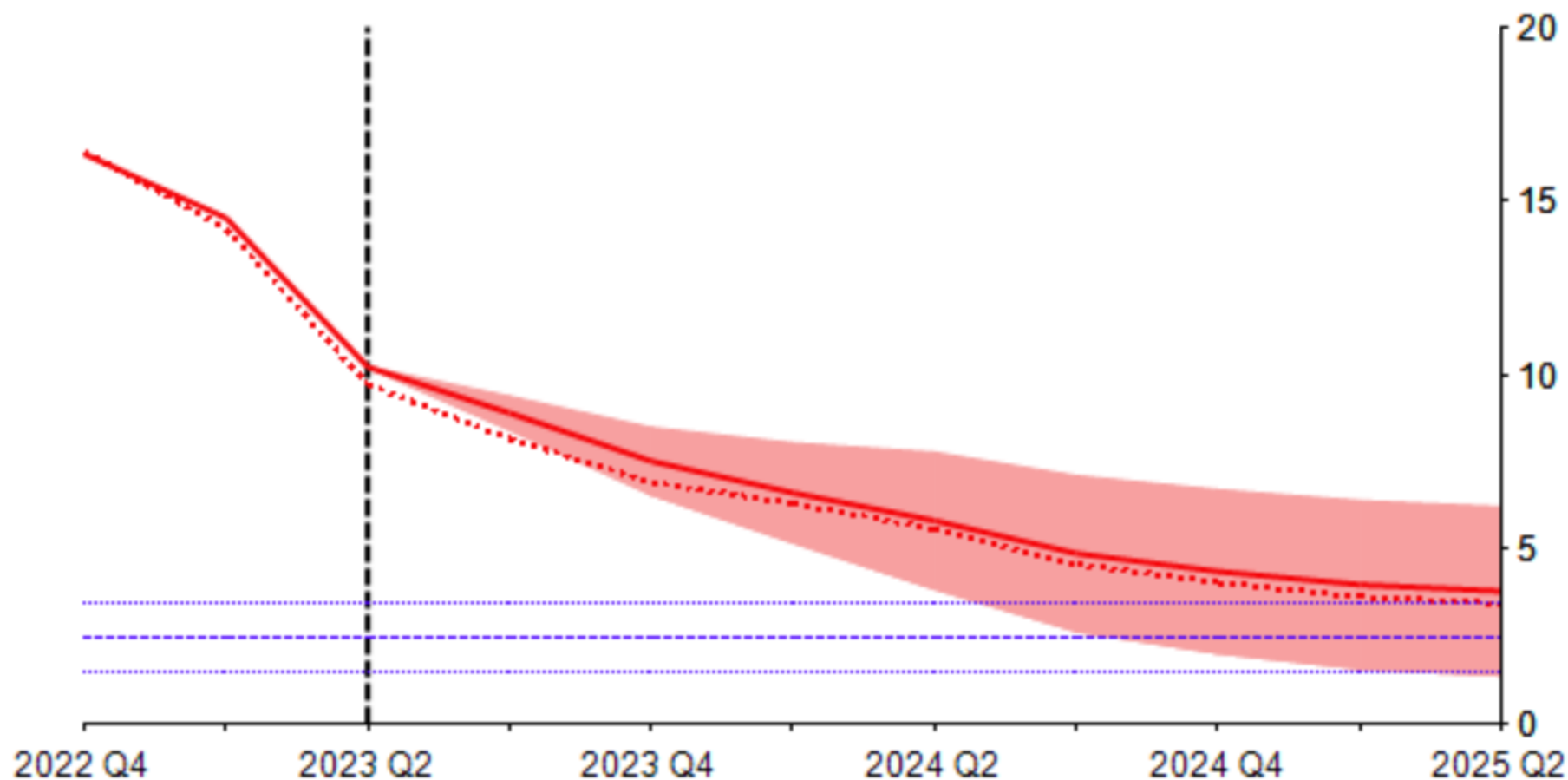
High-inflation episodes in the US 🇺🇸
(date of Peak Inflation = 0; monthly data)

Chart 1: Headline inflation *(YoY %)*

Legend: Range, Mean, Latest

Values: 9.0, 9.1, 4.8, 3.9, 4.0, 3.0
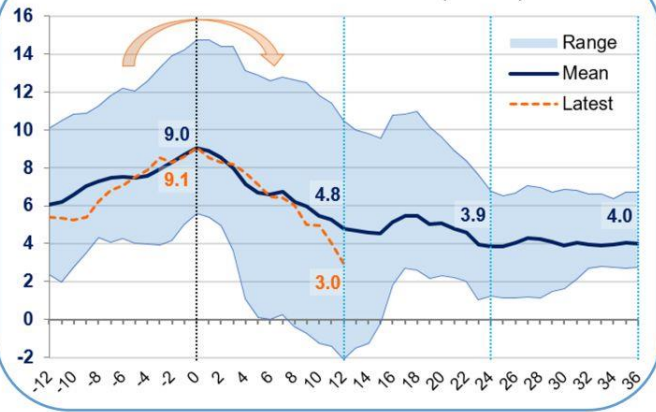
Chart 2: Core inflation *(YoY %)*

Values: 7.5, 5.8, 5.9, 4.5, 4.8, 3.8
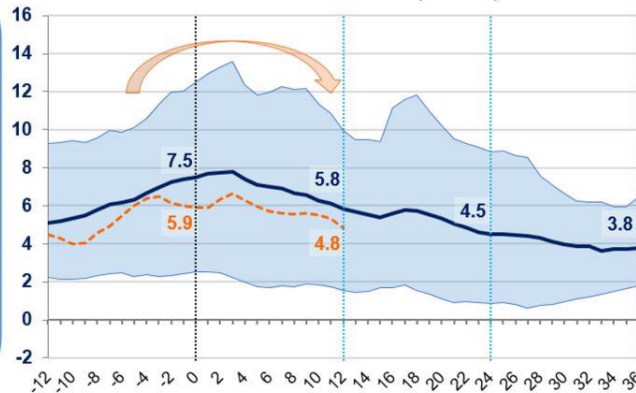
Chart 3: Fed funds rate *(%)*

Values: 9.0, 6.0, 5.4, 4.7, 5.1, 1.2
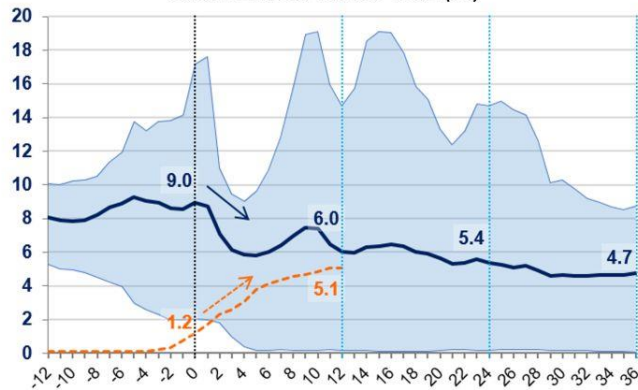
Chart 4: Frequency of recessions *(%)*

Values: 100, 20, 0, No recession (yet?)

Chart 5: S&P500 *(value at Peak Inflation dates = 1)*

Values: 1.34, 1.18, 1.12, 1.00, 1.00, 1.11
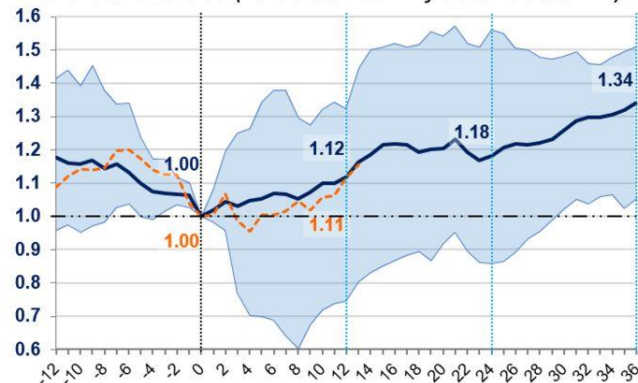
After the peak had been reached, headline inflation used to ease quickly (~4 percentage points), as Chart 1 points out. Among other things, this could be the result of strong base effects as well as a weak economy.
In the second year, however, the disinflation process frequently slows down as base effects fade out, while the economy may also start recovering.
Usually, inflation stabilises *in the third year, although at a relatively high level*. Bringing down the core indicator may take somewhat longer.

Long-term challenges:
- *Economic blocs (geo-economic tensions, nearshoring)*
- *Green and digital transition*
- *AI (wheel & writing/accounting -> AI?)*
- *…*

Note: Peak Inflation dates refer to December 1969, December 1974, March 1980, October 1990, July 2008 and June 2022; post-pandemic data is excluded from the mean and range calculations.

Sources: FRED, Refinitiv, author's calculation

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"The Two Sides of the Coin…"

Visit NBR Museum for a special exhibition, more information available on: https://www.bnro.ro/The-Two-Sides-of-the-Coin-Means-of-Exchange-%e2%80%93-Masterpieces-of-Art-26774.aspx
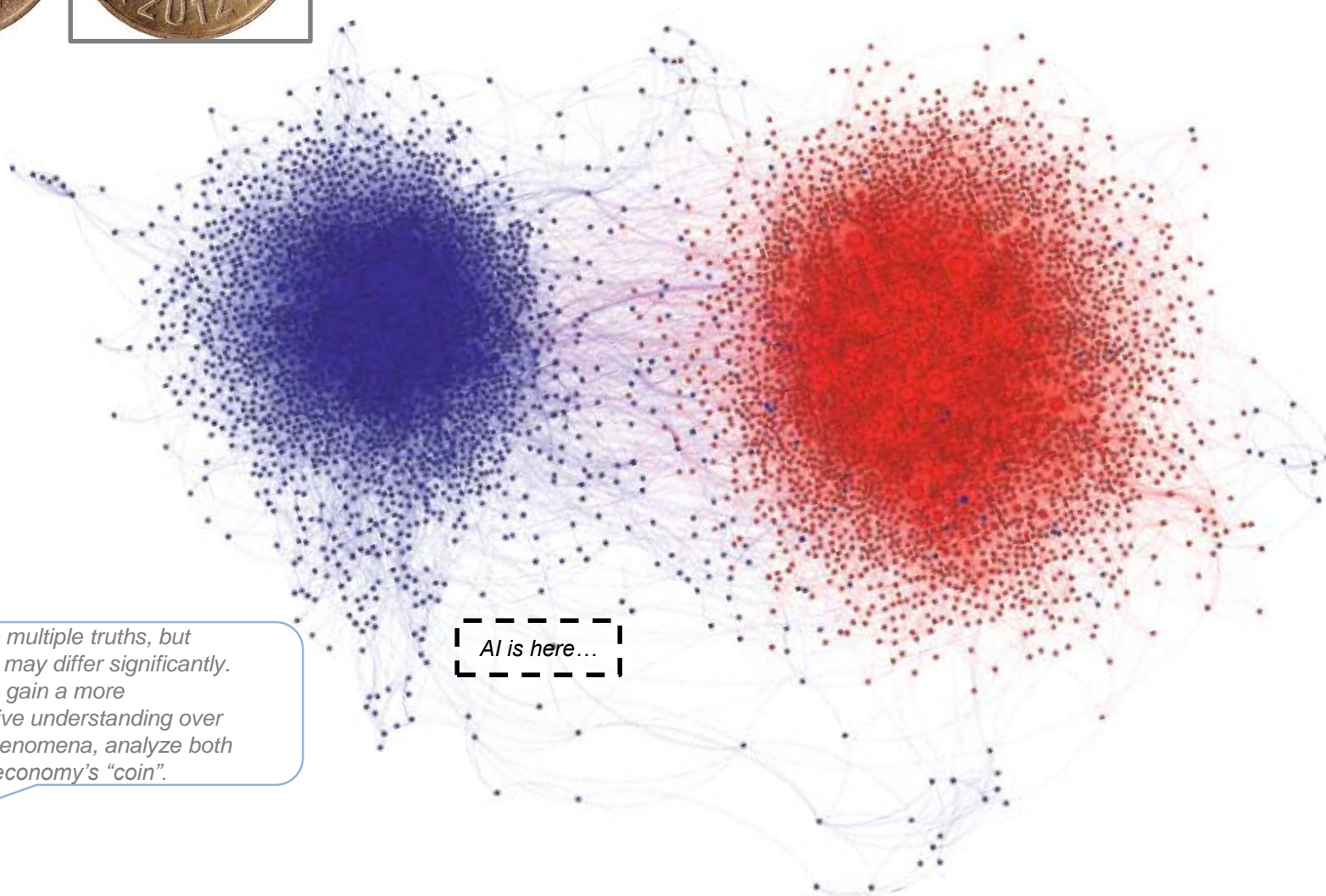
There are no multiple truths, but perspectives may differ significantly. Therefore, to gain a more comprehensive understanding over economic phenomena, analyze both sides of the economy's "coin".

AI is here…

Sources: Filippo Menczer, Santo Fortunato, Clayton A. Davis, 2020, A First Course in Network Science

More analysis on:

https://www.linkedin.com/company/bnr/

National Bank of Romania

https://www.linkedin.com/company/roeconmonitor/

Romanian Economic Monitor

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Thank you!