

2024 Spring Meetings

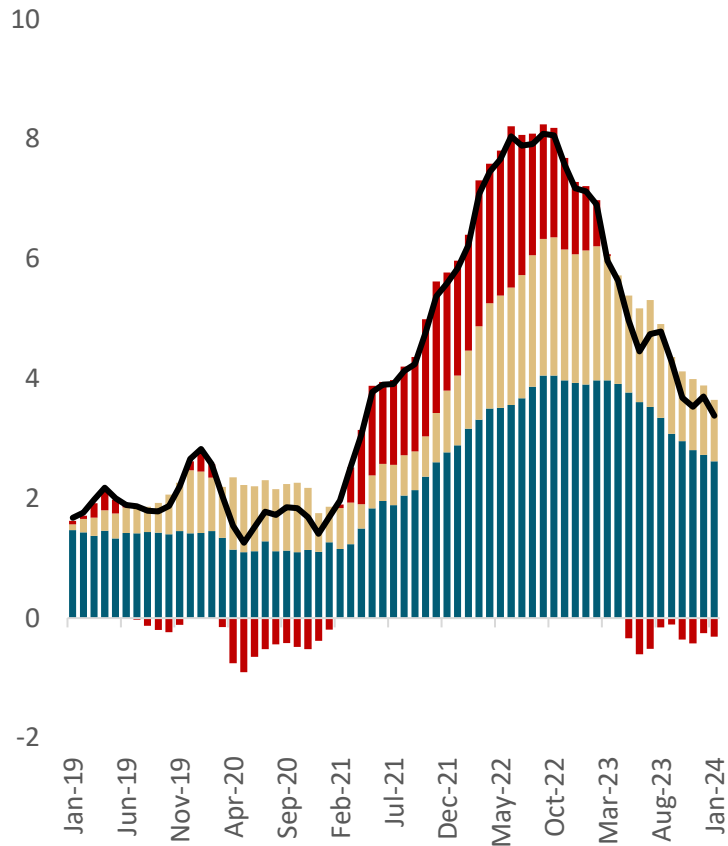
Economic Outlook and Agenda BC#

Roberto Campos Neto

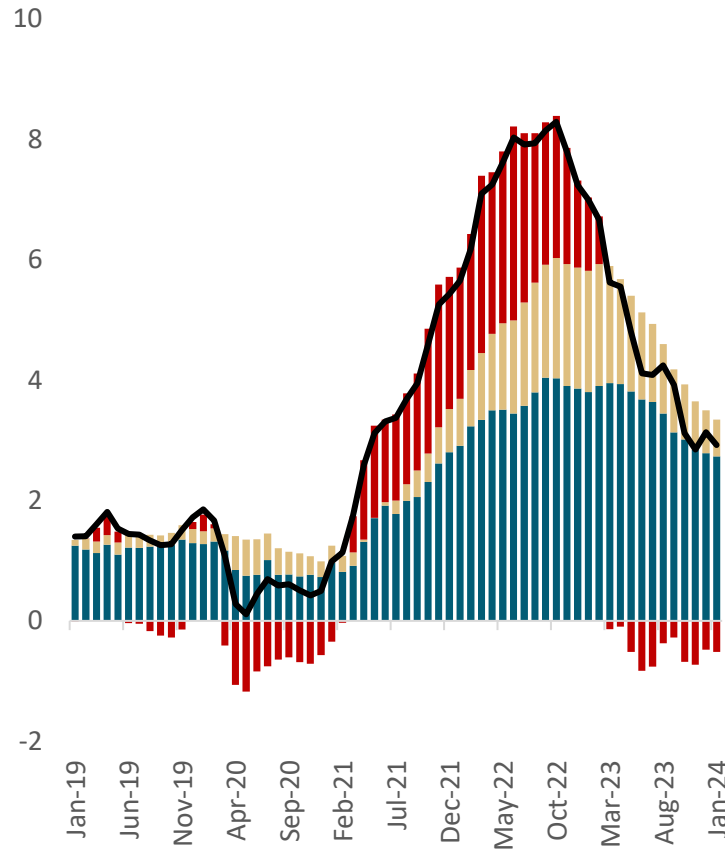
Governor of the Banco Central do Brasil

Decline in global inflation remains, but with debates about the speed of disinflation in many countries.

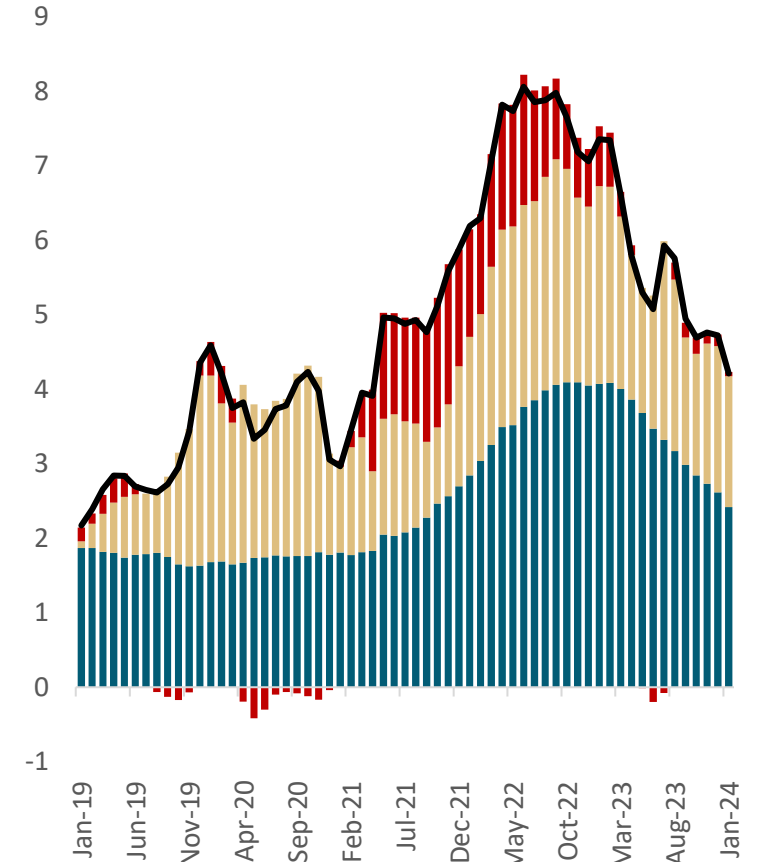
Global inflation
(% YoY)



Advanced economies
(% YoY)



Emerging markets
(% YoY)



■ Core ■ Food ■ Energy — Headline

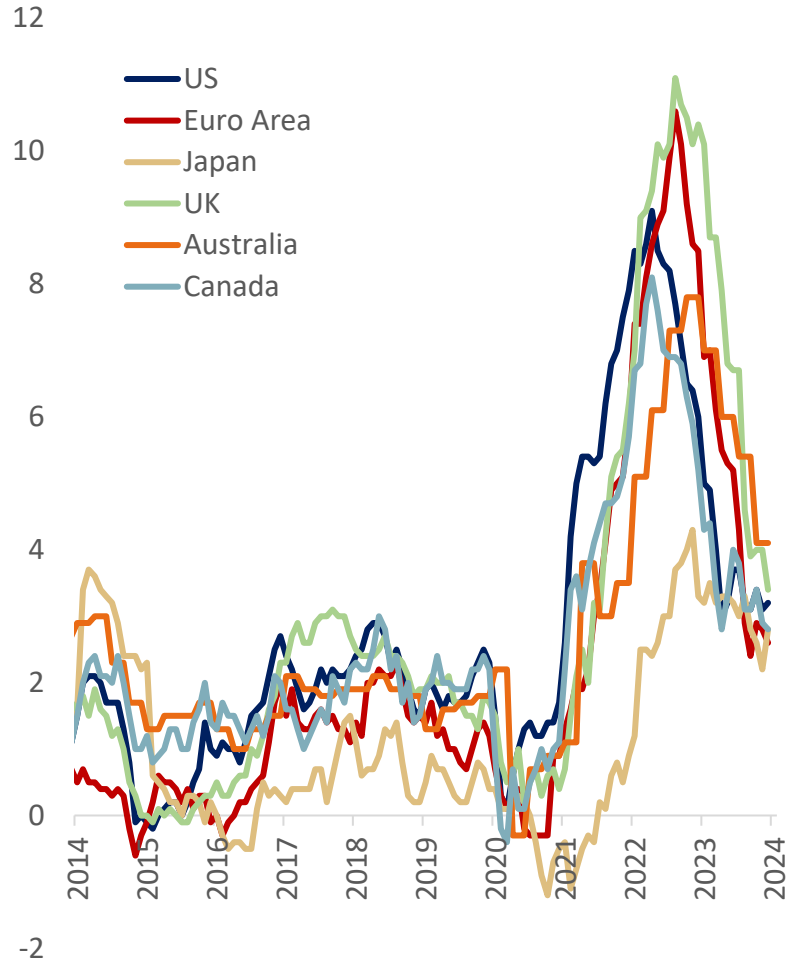
*Corresponds to 66% of global GDP except China

Countries: DE, FR, GB, IT, BE, NE, IE, SP, CH, NO, SE, DK, FI, CA, US, JP, BR, MX, CL, CO, IN, NR, ZA, BG, CZ, HU, PL, RO, SK.

Core inflation remains declining, but levels are still high. Services inflation slowly decelerating.

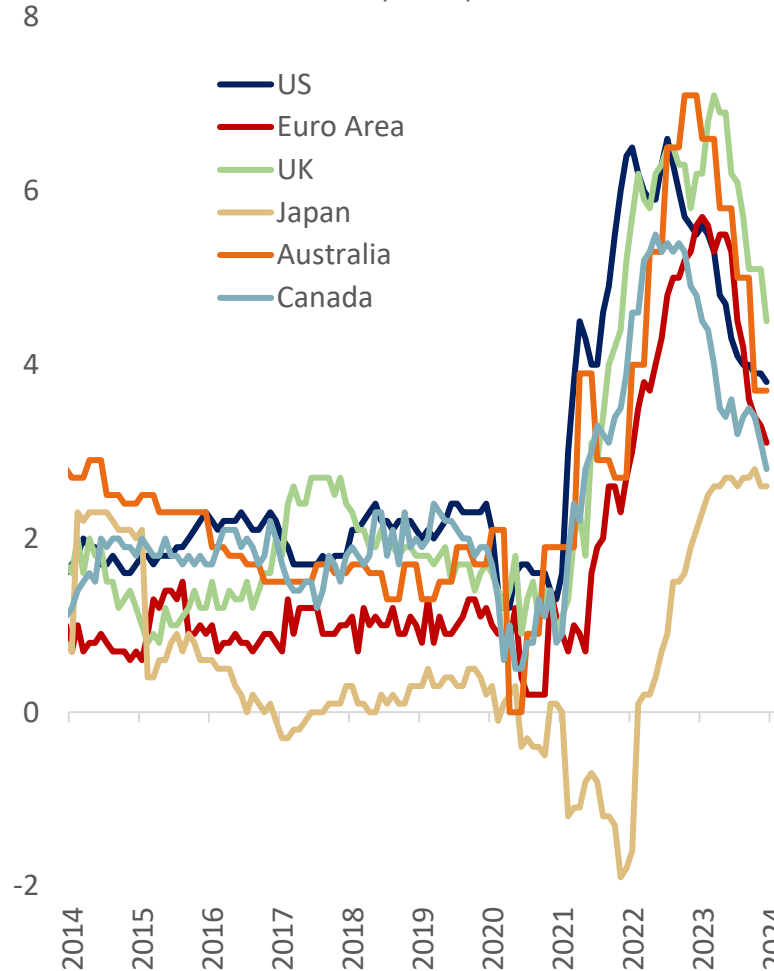
AEs: headline inflation

(% YoY)



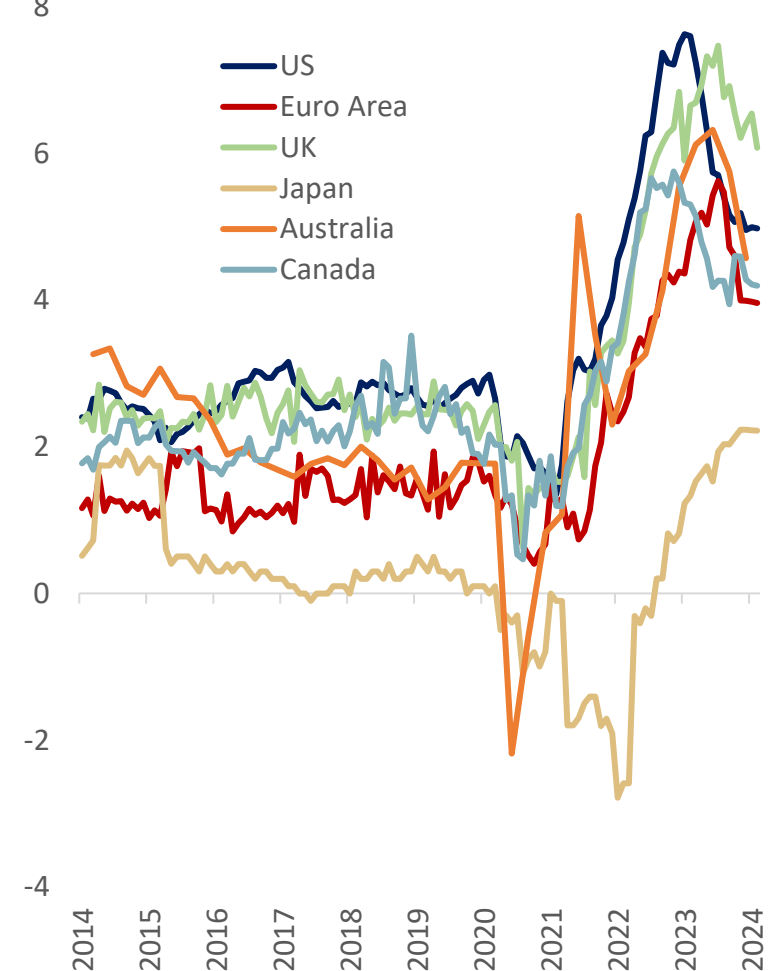
AEs: core inflation

(% YoY)



AEs: services CPI

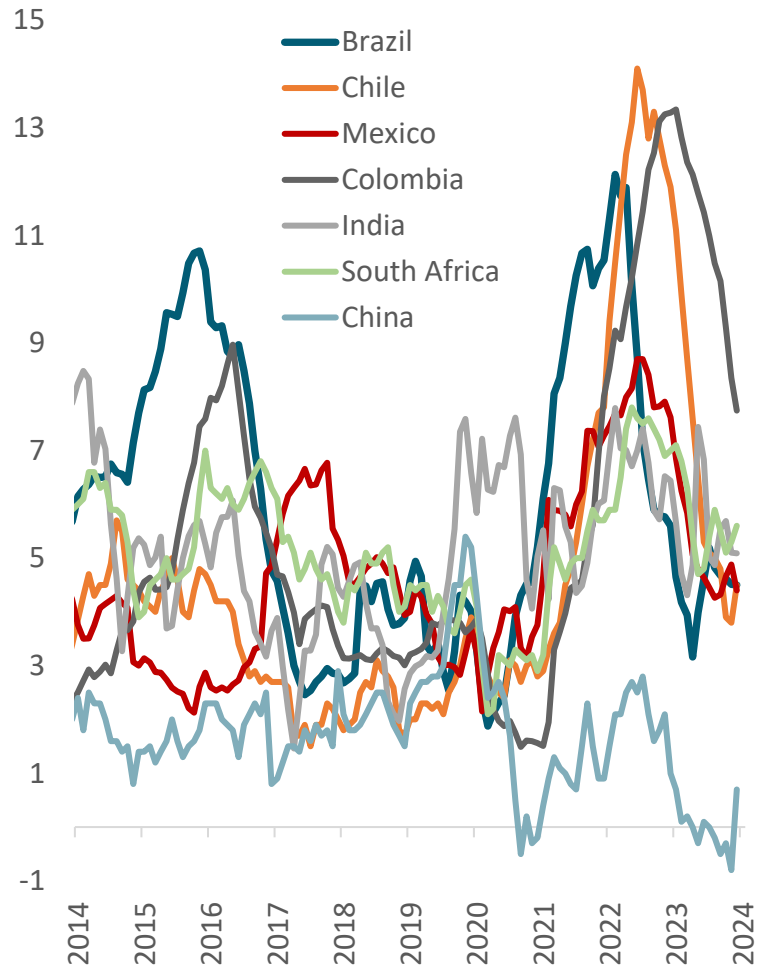
(% YoY)



Core inflation remains declining, but levels are still high. Services inflation slowly decelerating.

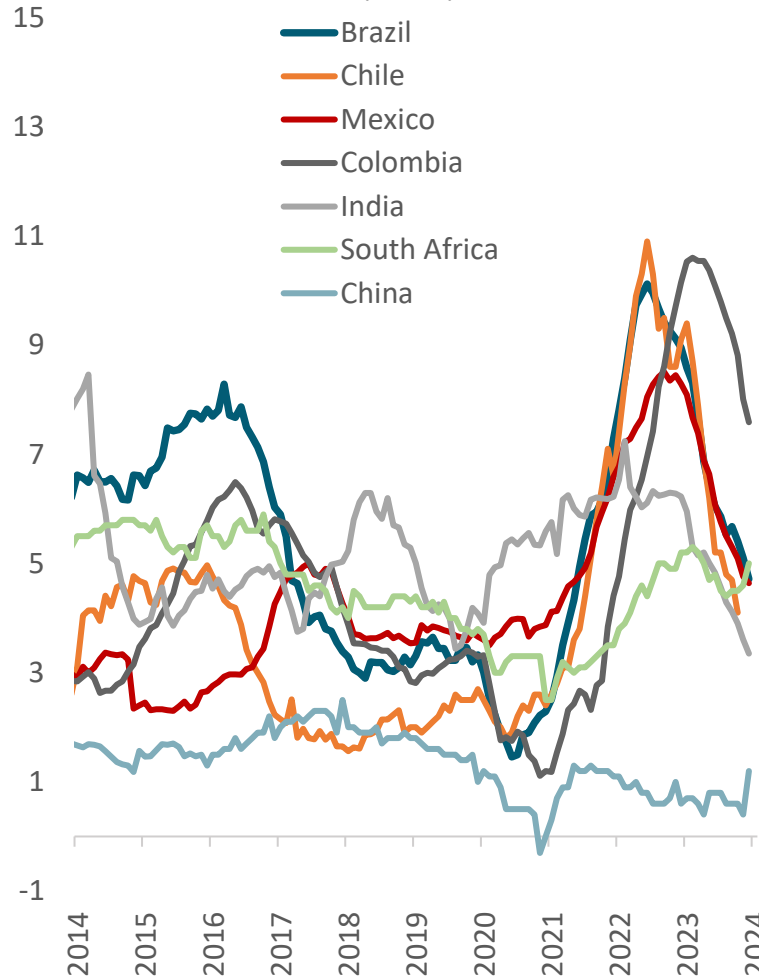
EMEs: headline inflation

(% YoY)



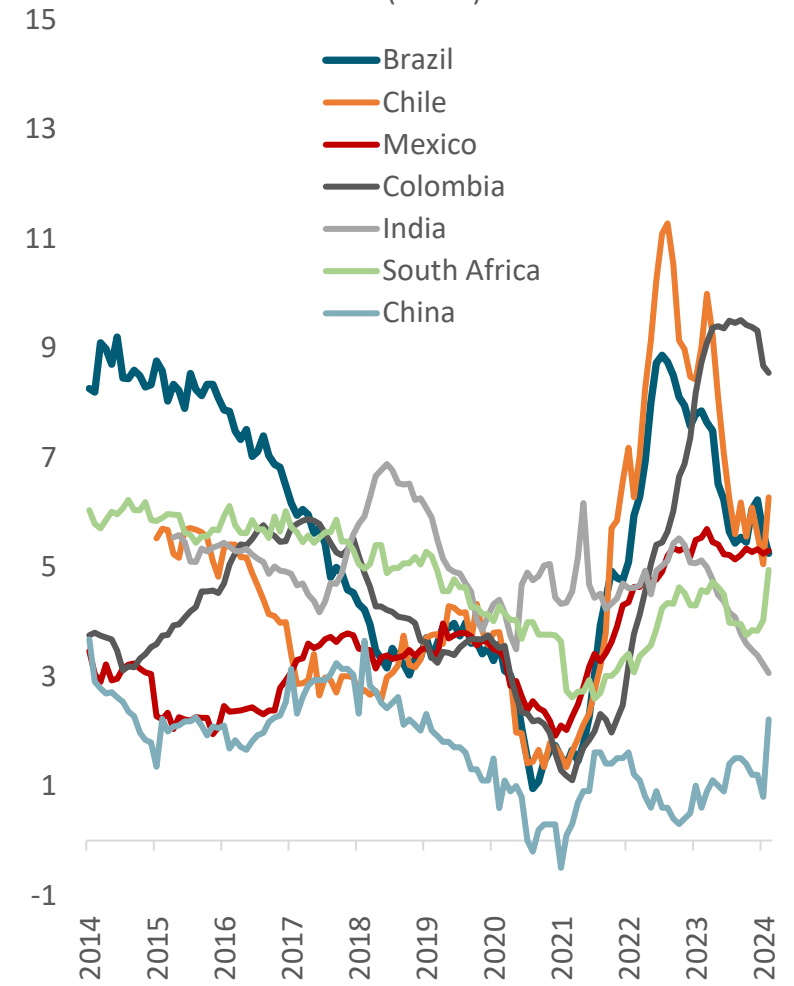
EMEs: core inflation

(% YoY)



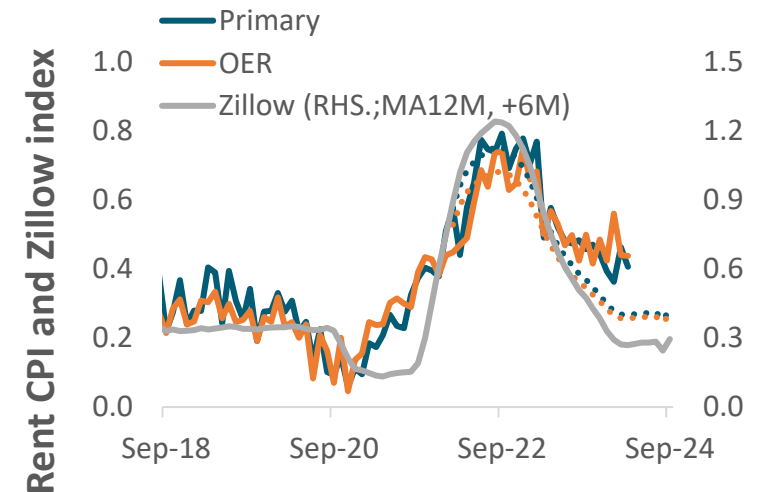
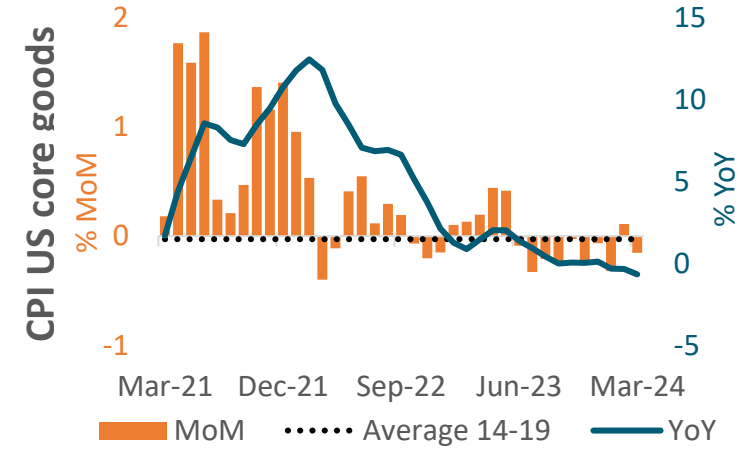
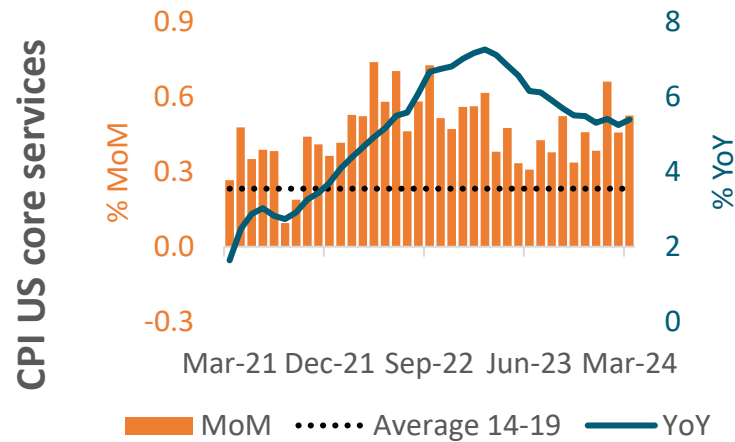
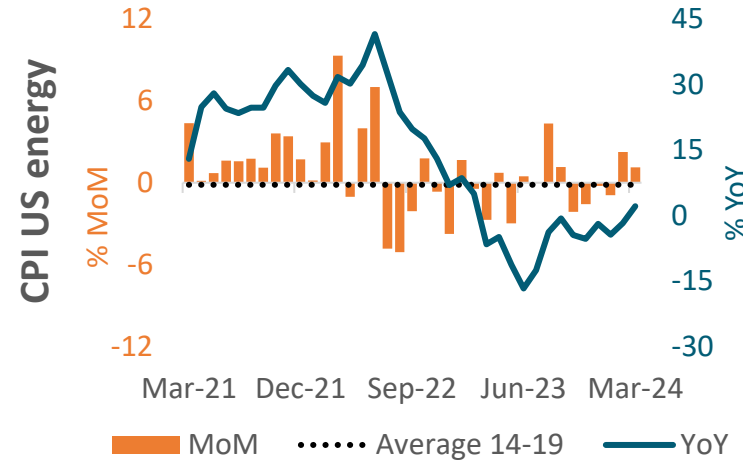
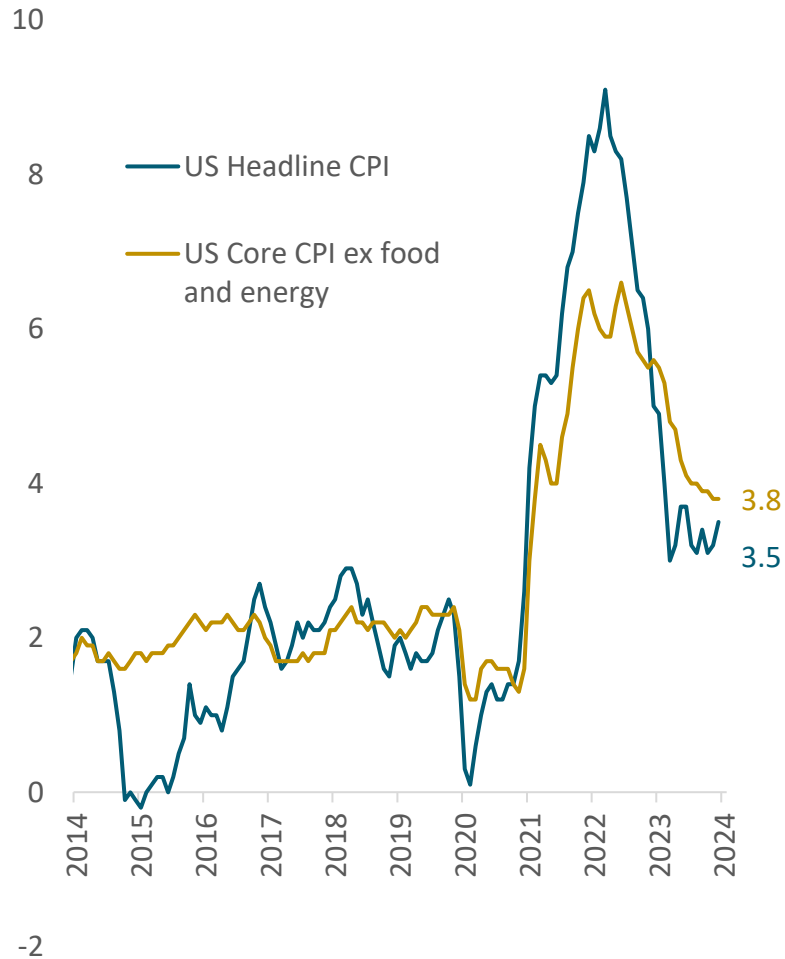
EMEs: services CPI

(% YoY)



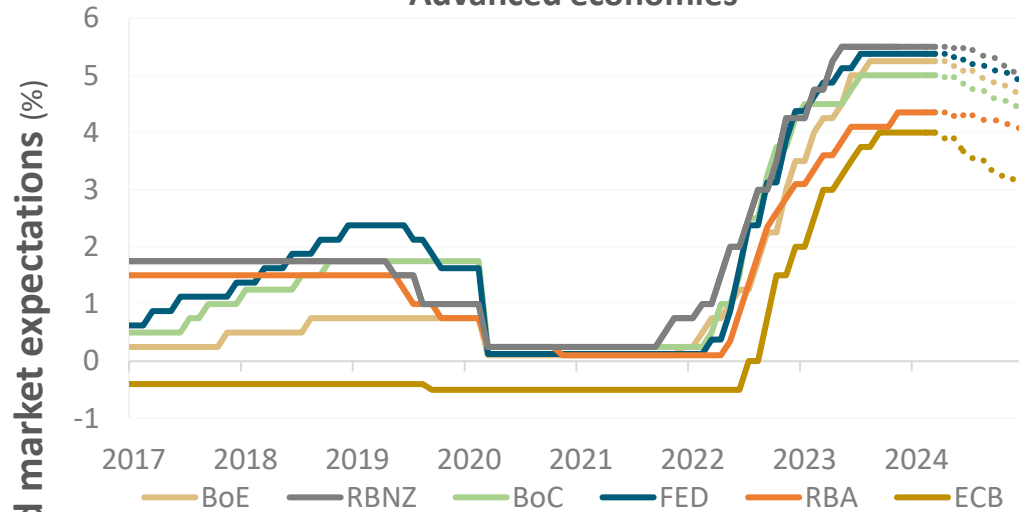
Core inflation continues with gradual deceleration. Services inflation remains resilient.

CPI: US headline and core

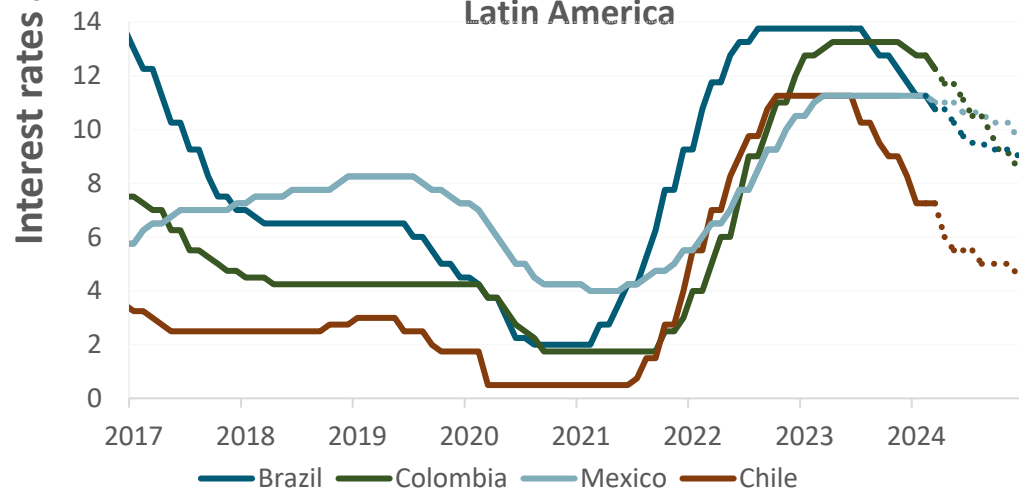


The global environment remains volatile, with debates about the beginning of the easing cycle in major economies.

Advanced economies



Latin America

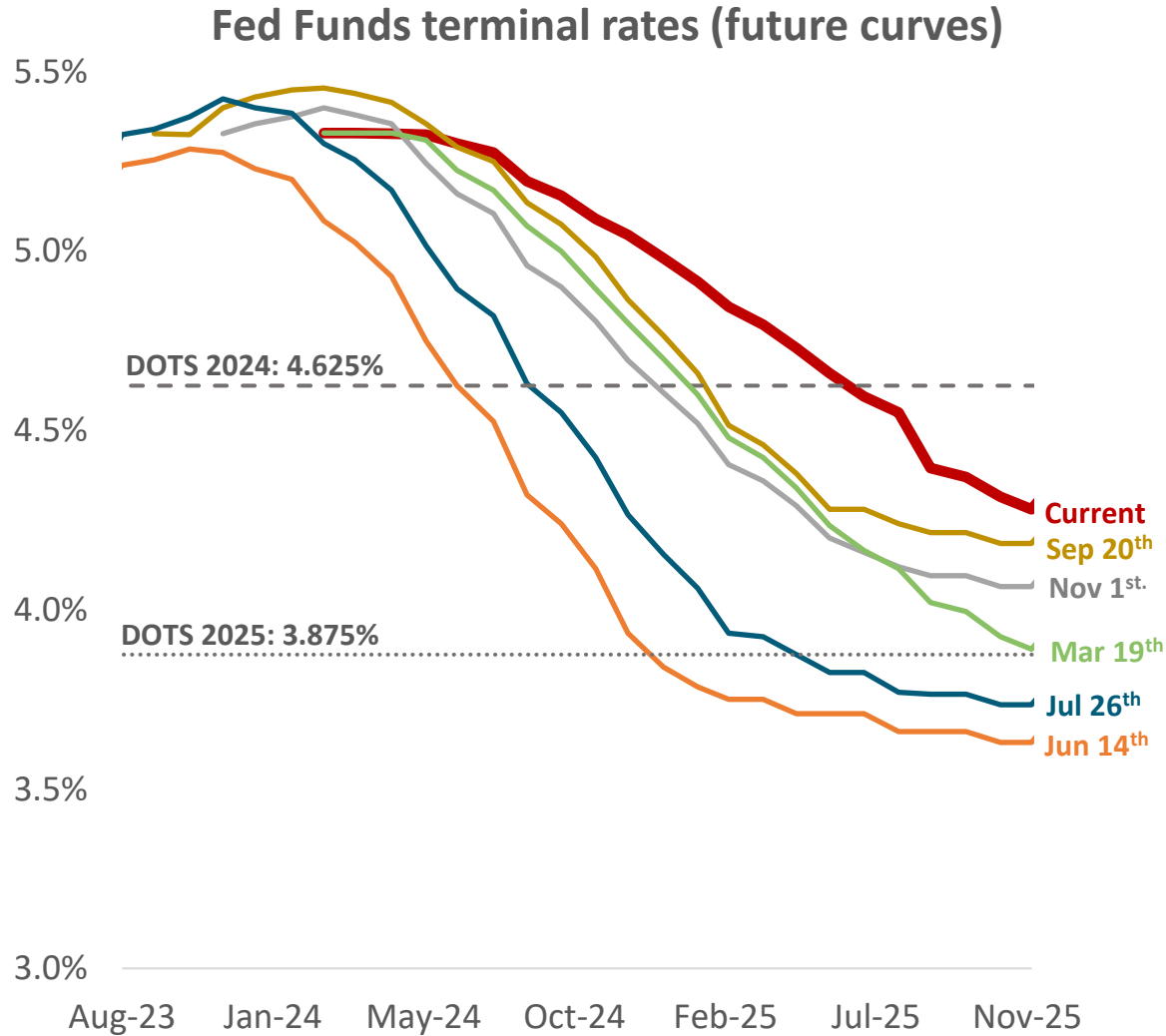


Monetary policy pricing

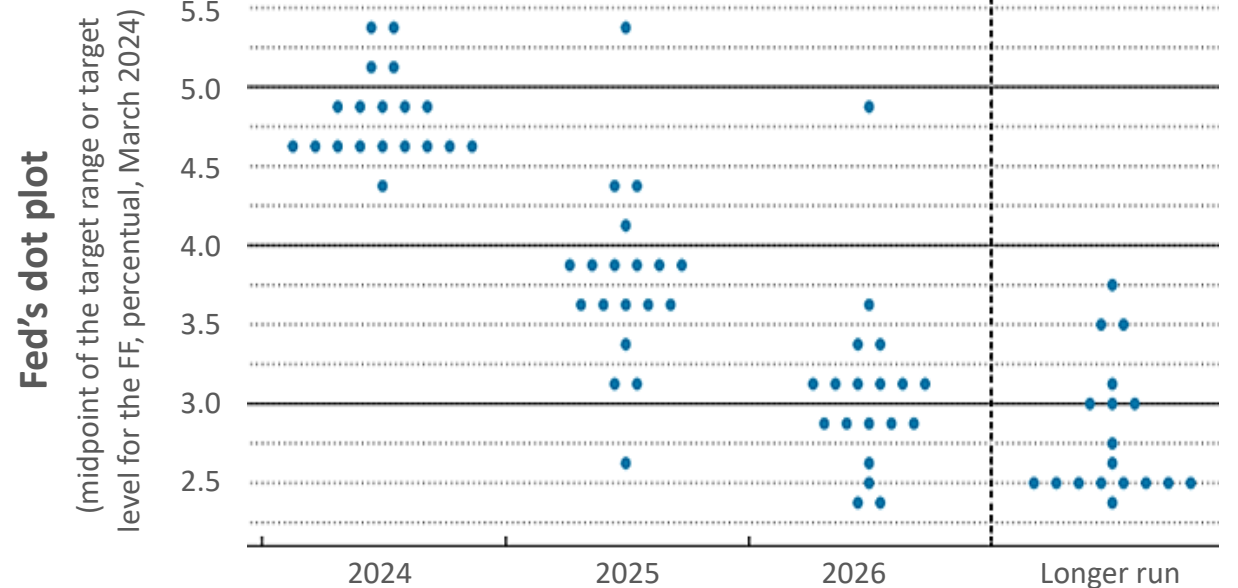
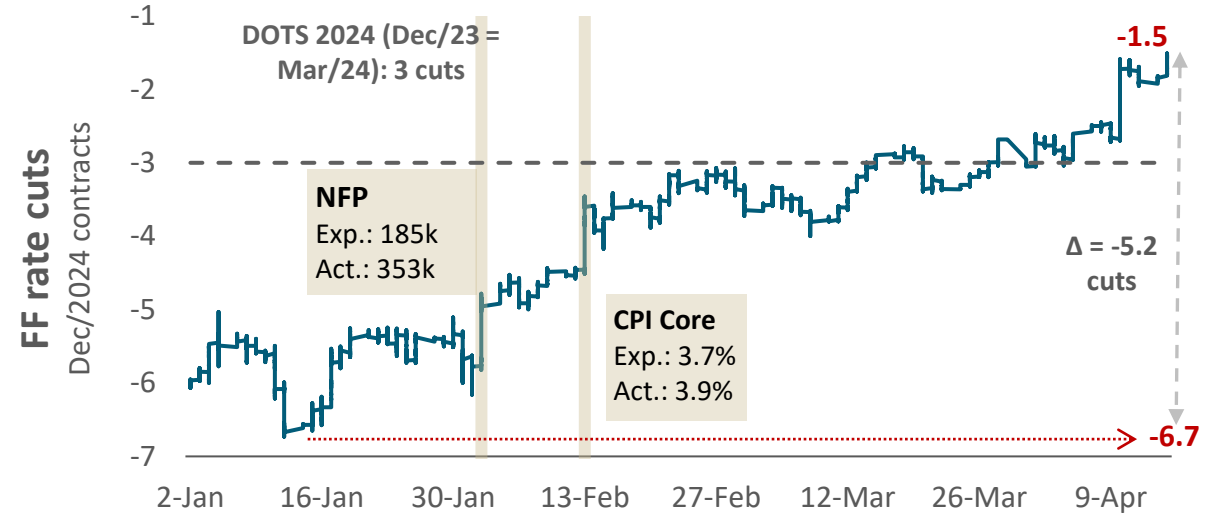
MONETARY POLICY PRICING				
04/12/2024				
Country	Rate (%) <small>last decision</small>	Pricing 6 Months <small>base points</small>	Pricing 1 Year <small>base points</small>	Interval of Monetary Policy rate <small>Since 2008 vs. current rate</small>
AEs				
US	5.38	-26	-65	US
Canada	5.00	-46	-84	CANADA
Euro area	4.00	-65	-115	EURO
UK	5.25	-34	-73	UK
Australia	4.35	-15	-35	AUSTRALIA
New Zealand	5.50	-19	-58	NEW ZEALAND
Japan	0.10 ↑	+15	+34	JAPAN
EMEs				
Mexico	11.00 ↓	-40	-104	MEXICO
Chile	6.50 ↓	-99	-140	CHILE
Brazil	10.75 ↓	-74	-42	BRAZIL
Colombia	12.25 ↓	-181	-351	COLOMBIA
Russia	16.00	-122	-82	RUSSIA
South Africa	8.25	+1	-4	SOUTH AFRICA
China	1.80 ↓	+0	-3	CHINA
India	6.50	-5	-19	INDIA
Korea	3.50	-6	-10	KOREA

Sources: Bloomberg, central banks, BCB.

Fed funds rate kept between 5.25%-5.5% at March meeting, as expected.

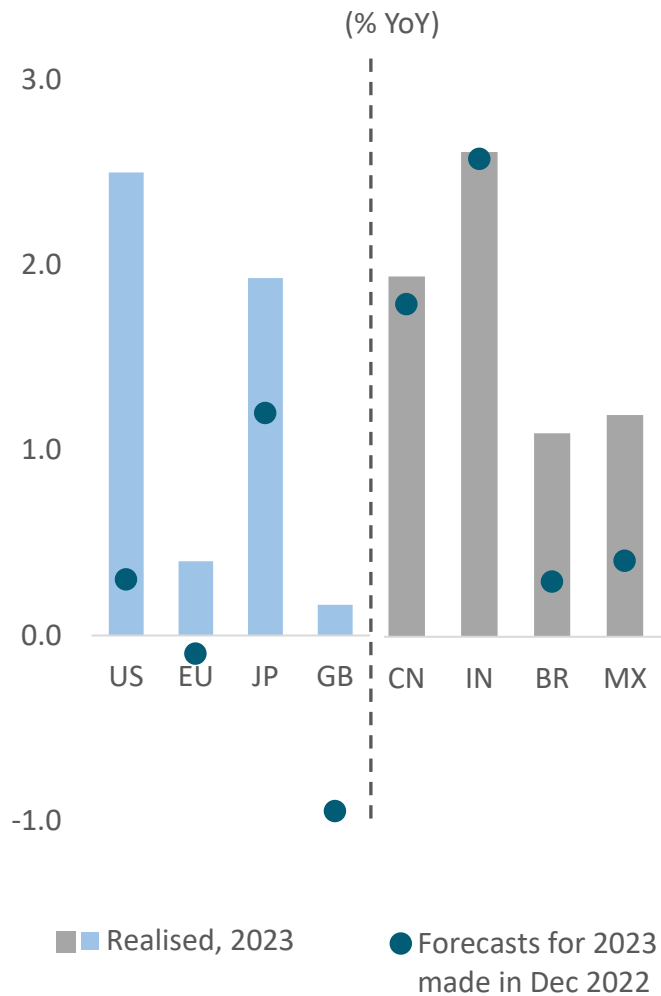


Sources: Bloomberg, Fed.

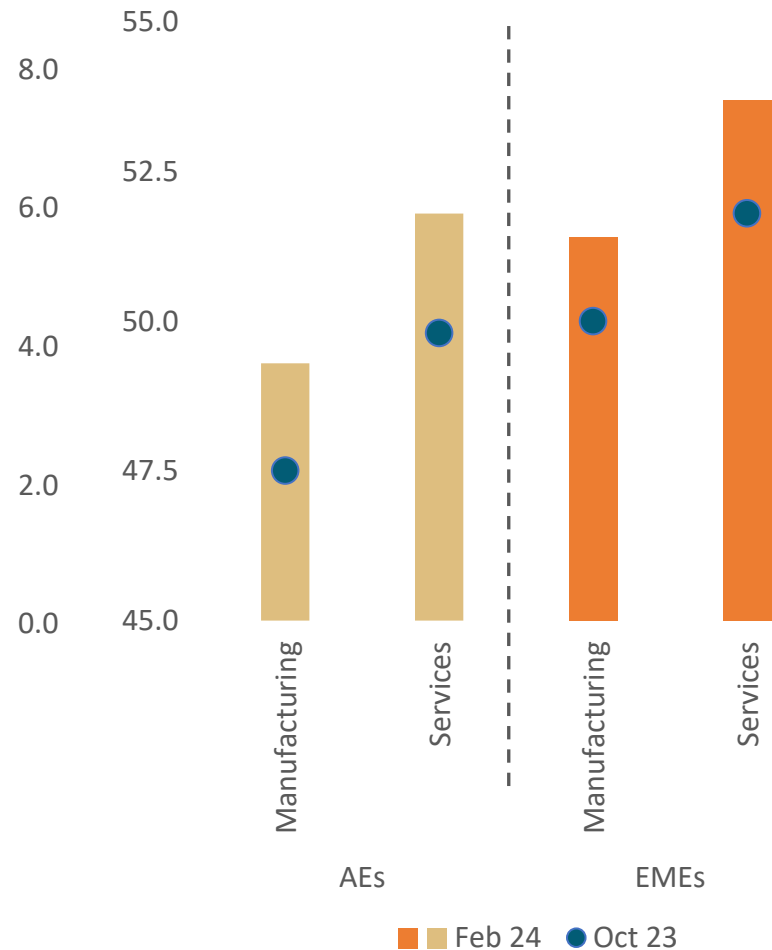


Global economic activity has been resilient. Recent economic data continues to surprise to the upside.

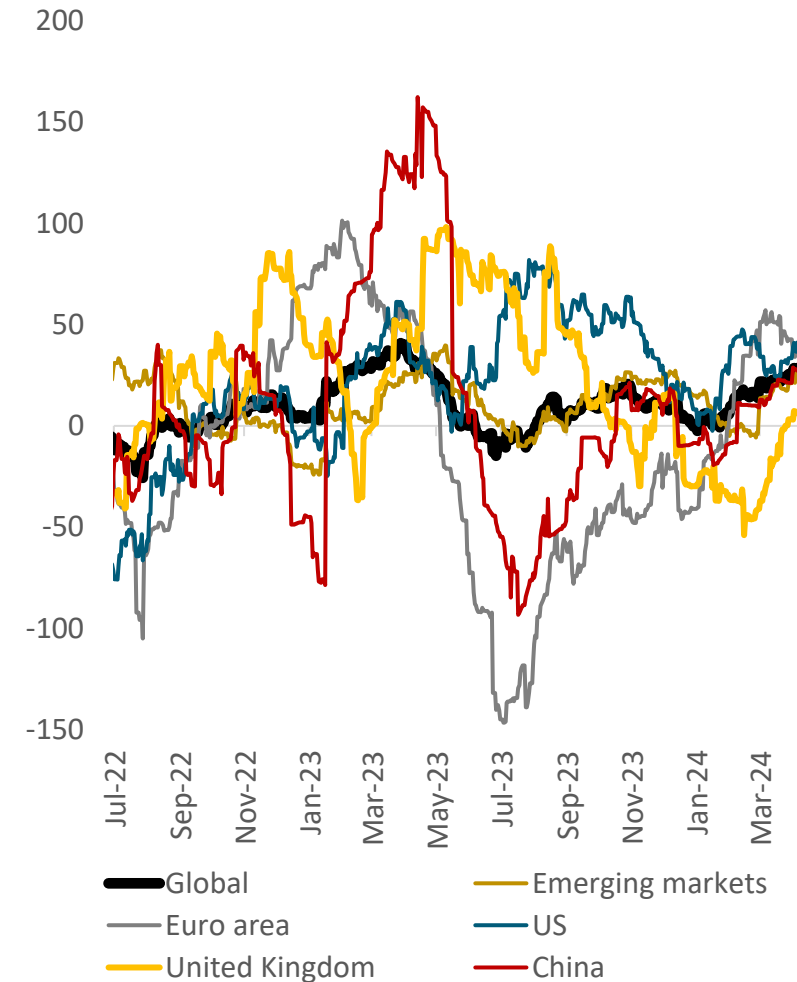
Real GDP growth



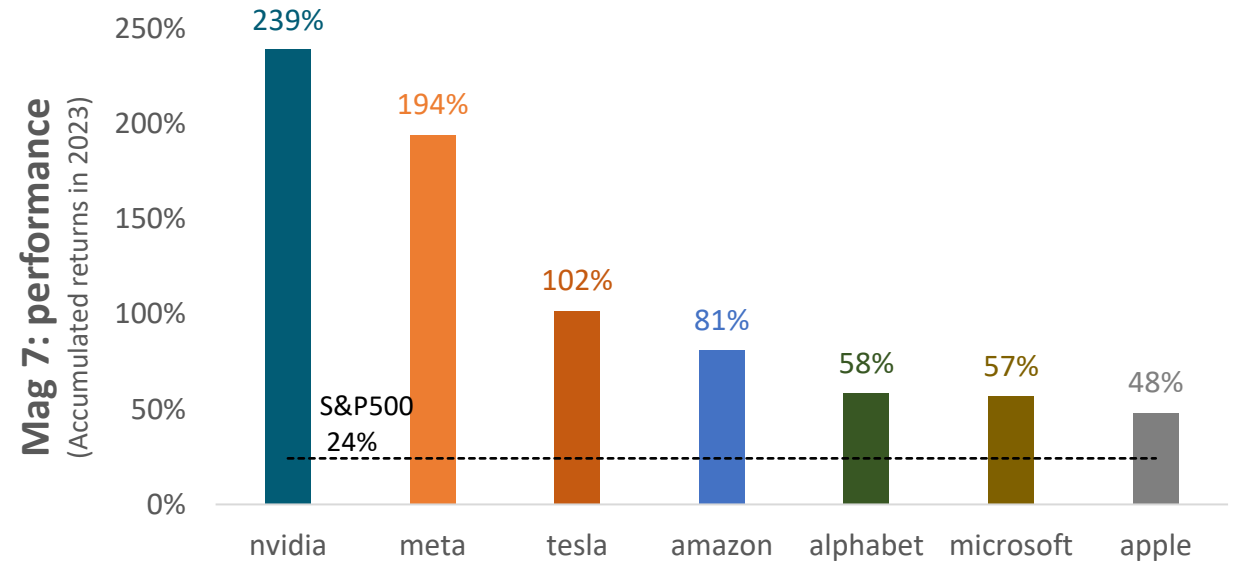
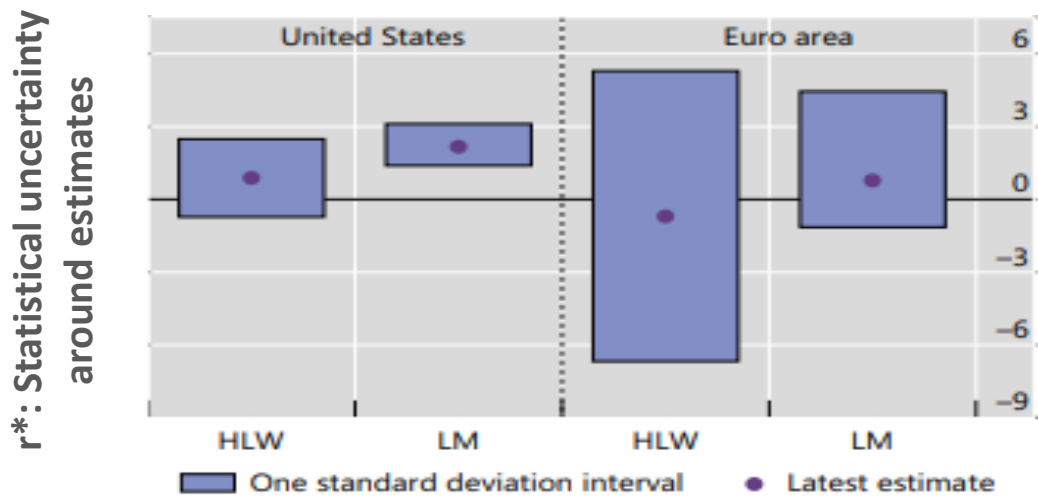
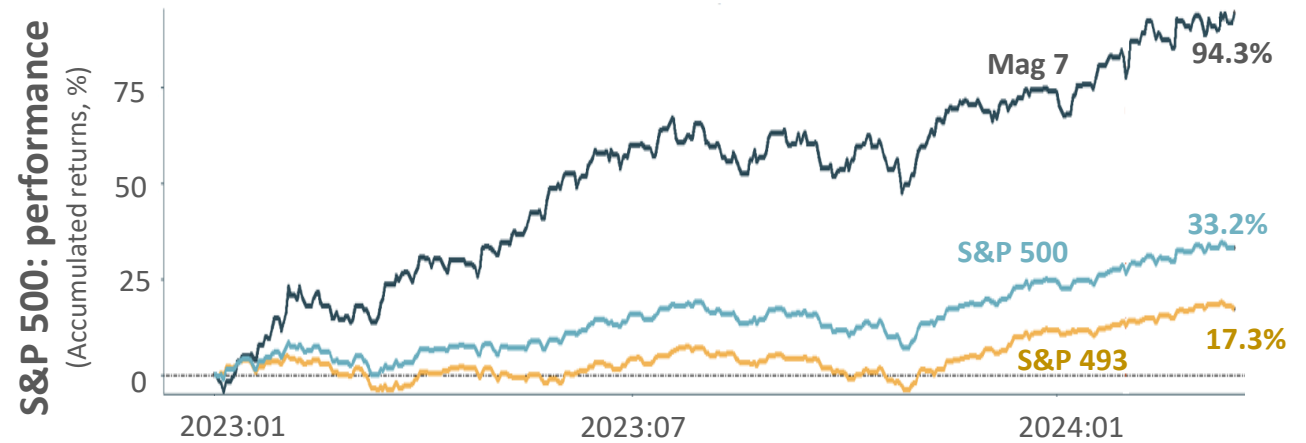
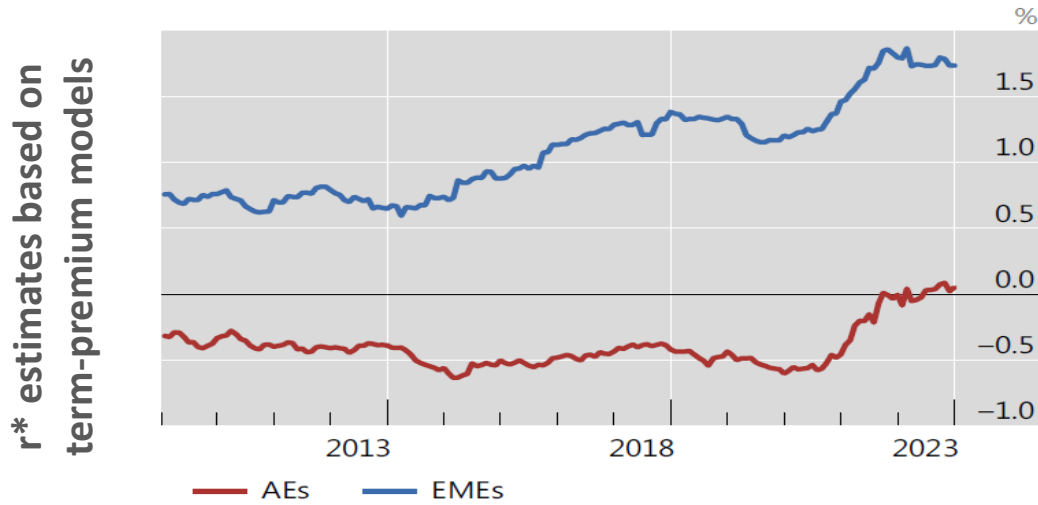
PMI: manufacturing and services



Growth surprise index



There is a debate whether the resilience of global activity is related to changes in neutral interest rates and potential productivity shocks.

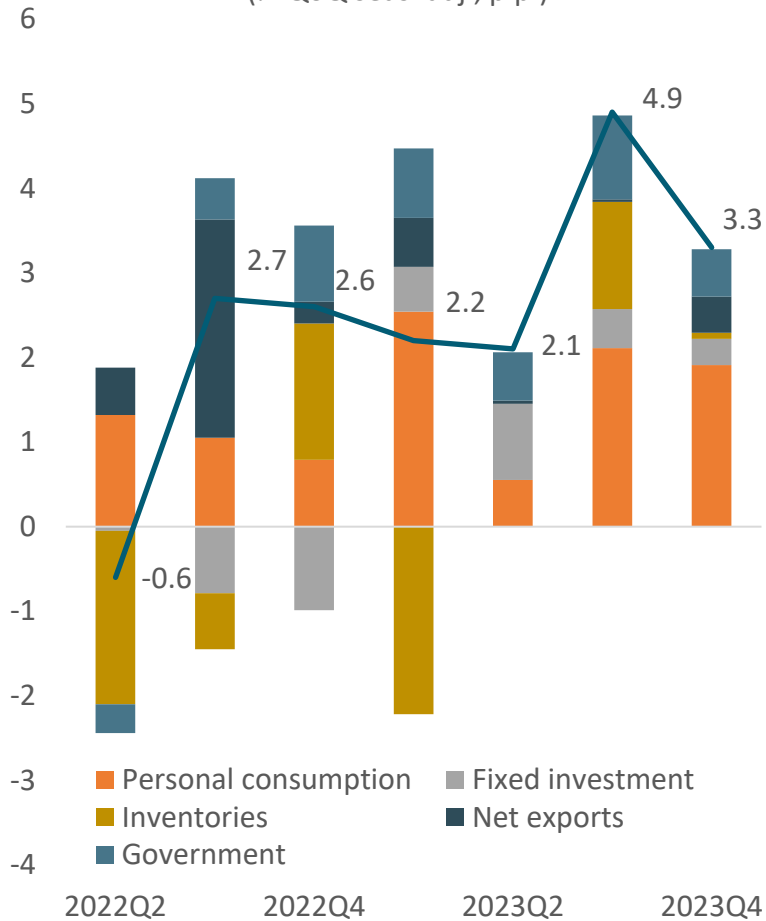


HLW = Holston et al (2023); LM = Lubik and Matthes (2015).

Economic activity has been resilient, supported mainly by consumption. Investments impacted by contractionary pressures.

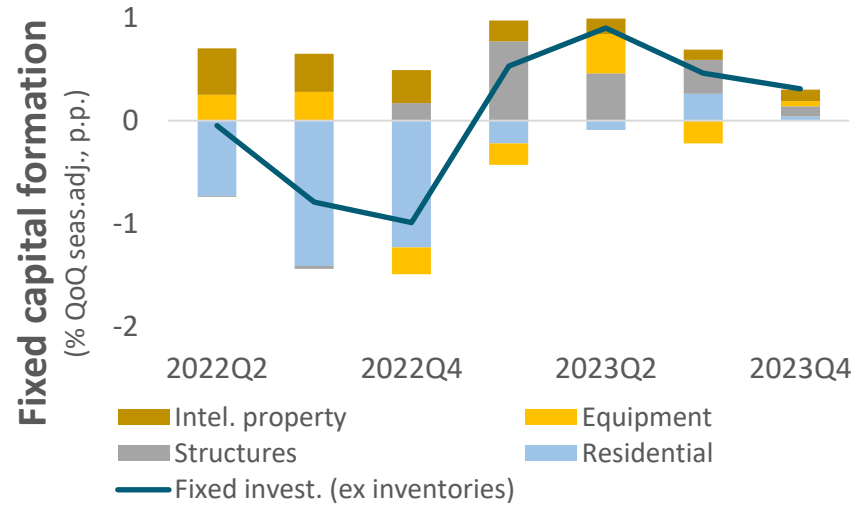
GDP and contributions

(% QoQ seas. adj., p.p.)



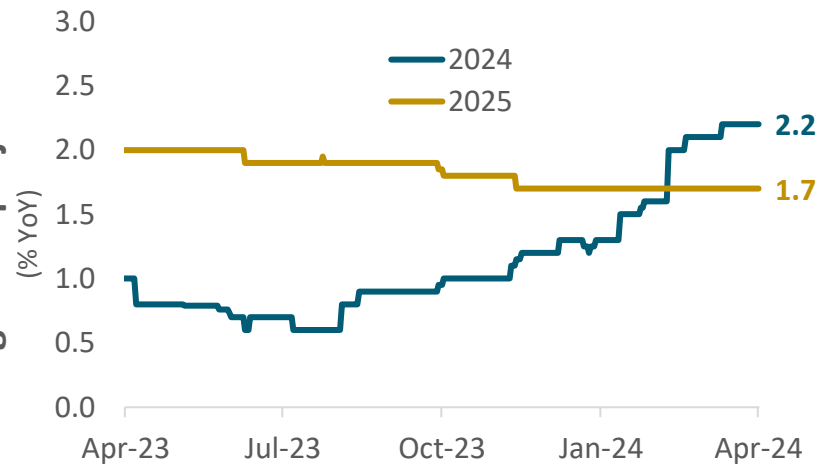
Fixed capital formation

(% QoQ seas. adj., p.p.)



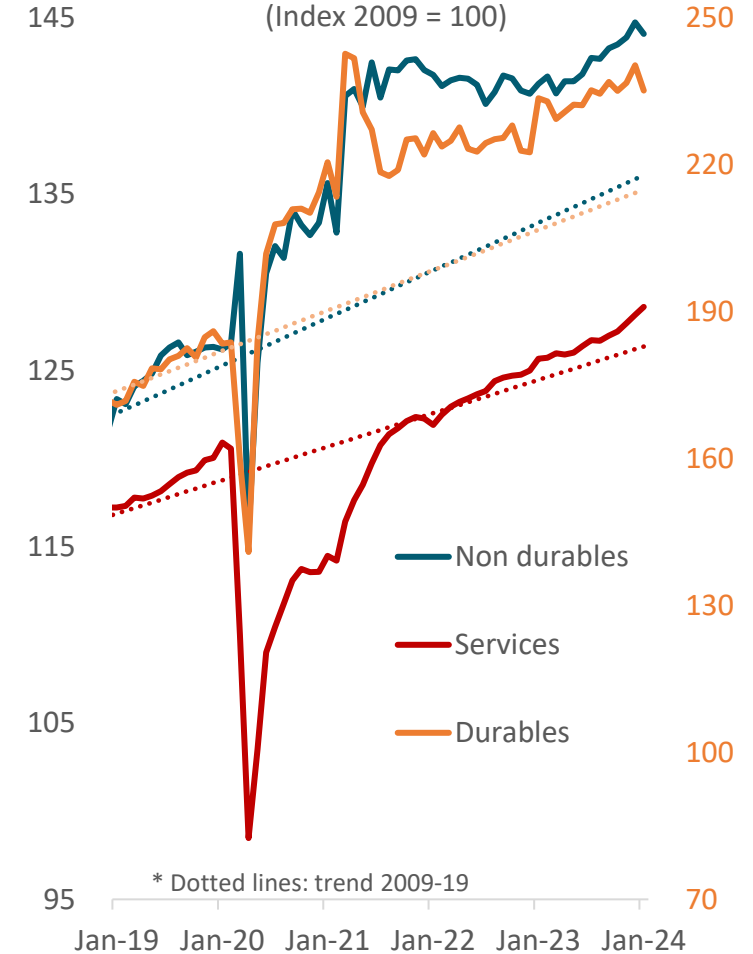
GDP growth projection

(% YoY)



Real consumption per components

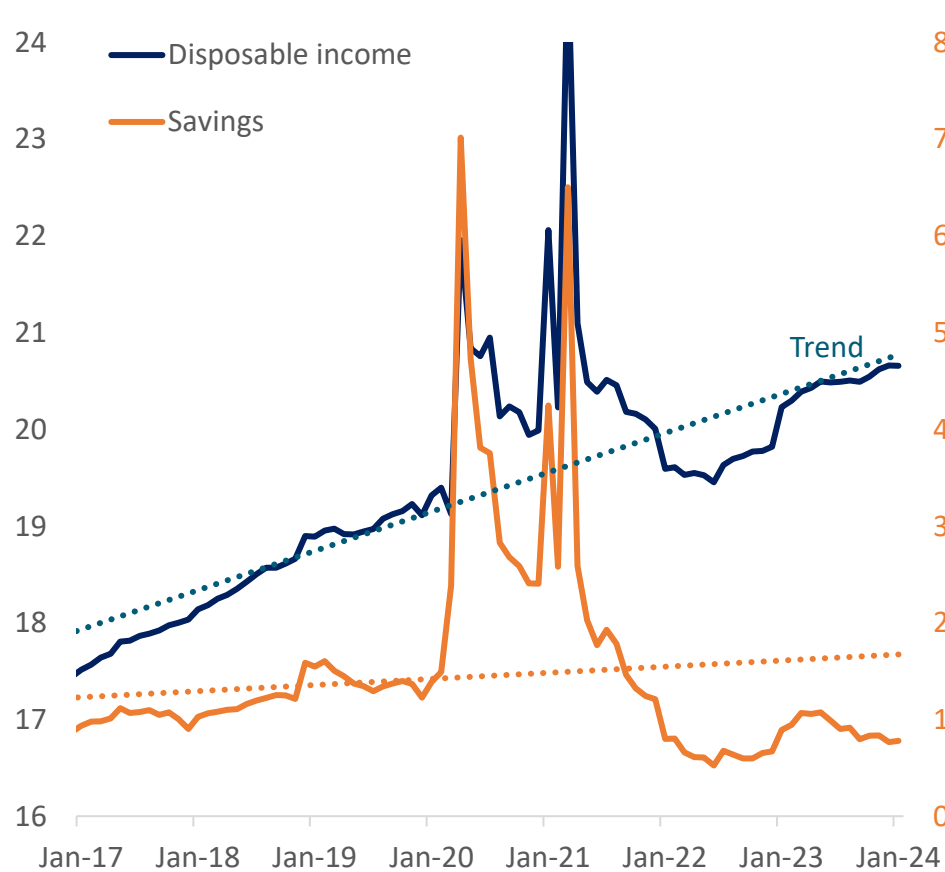
(Index 2009 = 100)



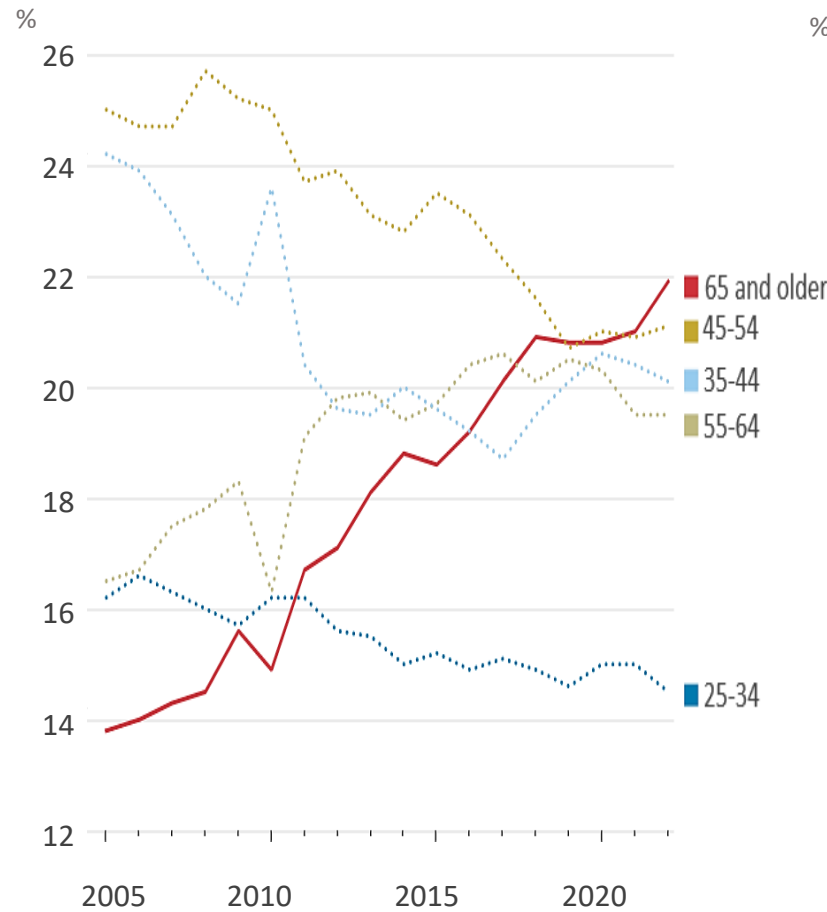
Savings and generational effects have been important drivers for consumption.

Disposable income and savings

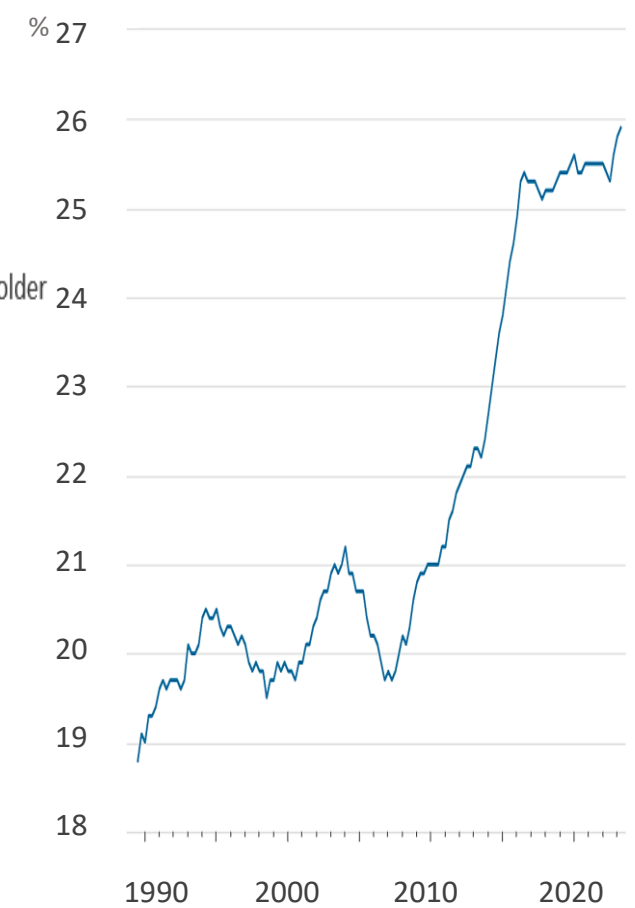
(US\$ trillion, at Jan/24 prices)



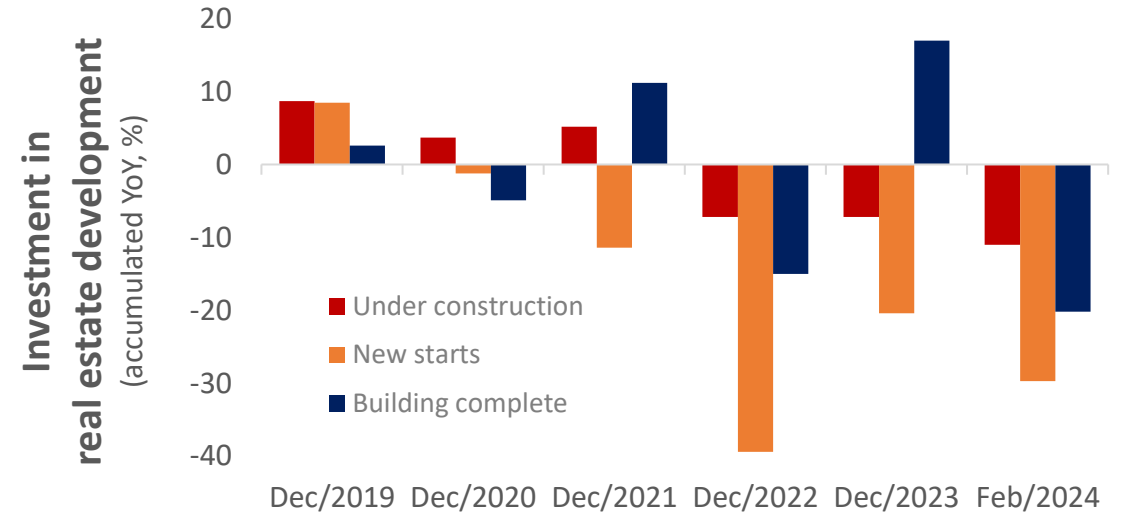
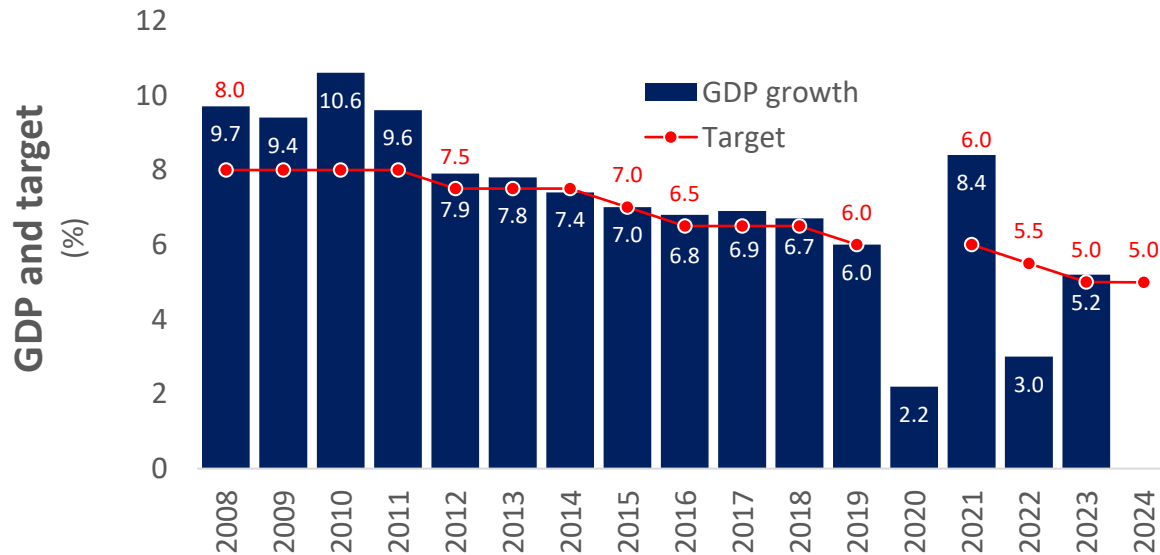
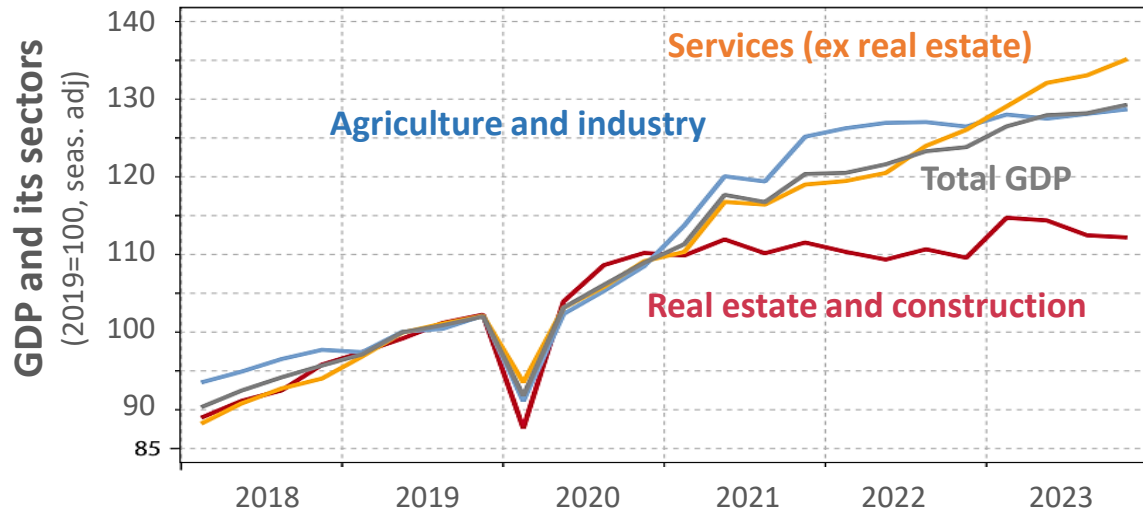
Consumer spending by age group



Share of wealth held by adults 70 years and older

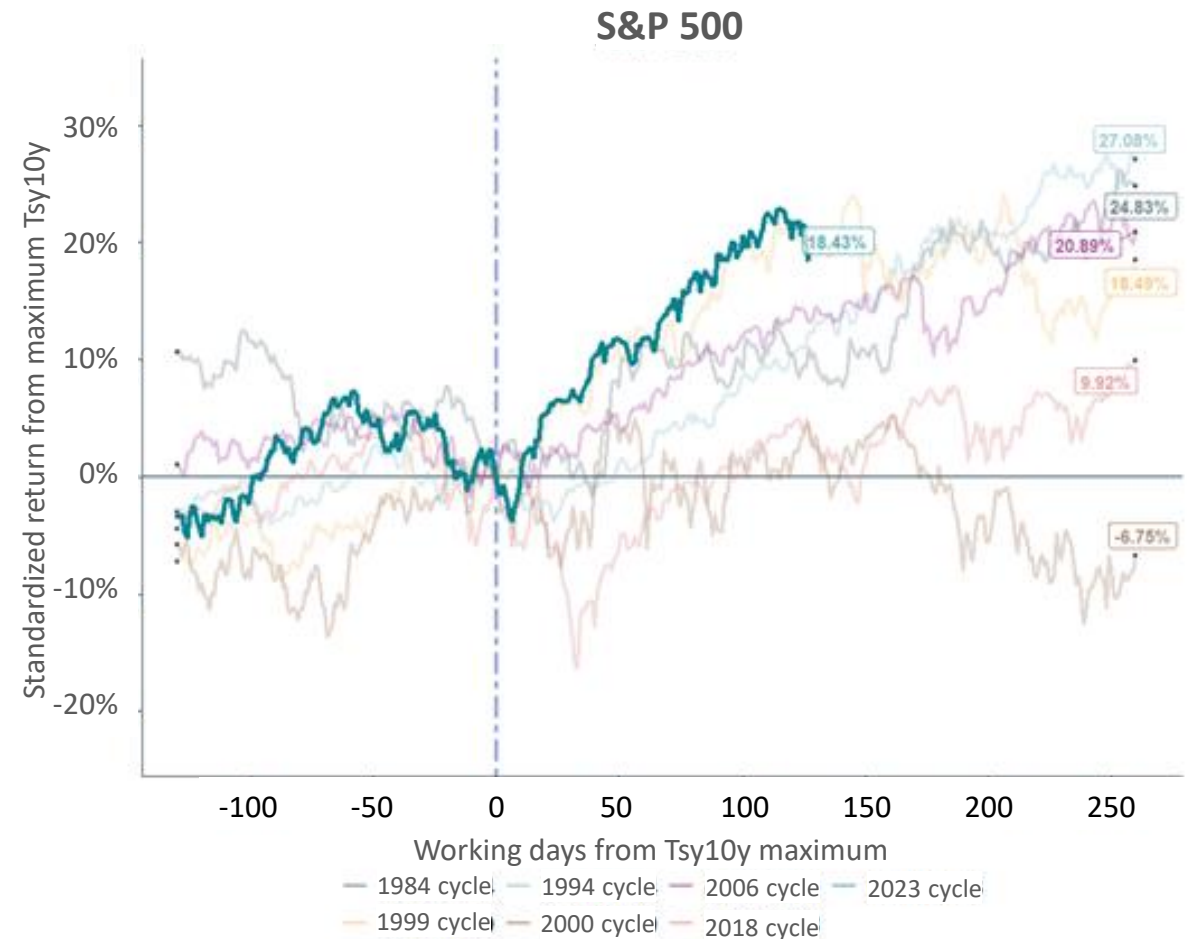
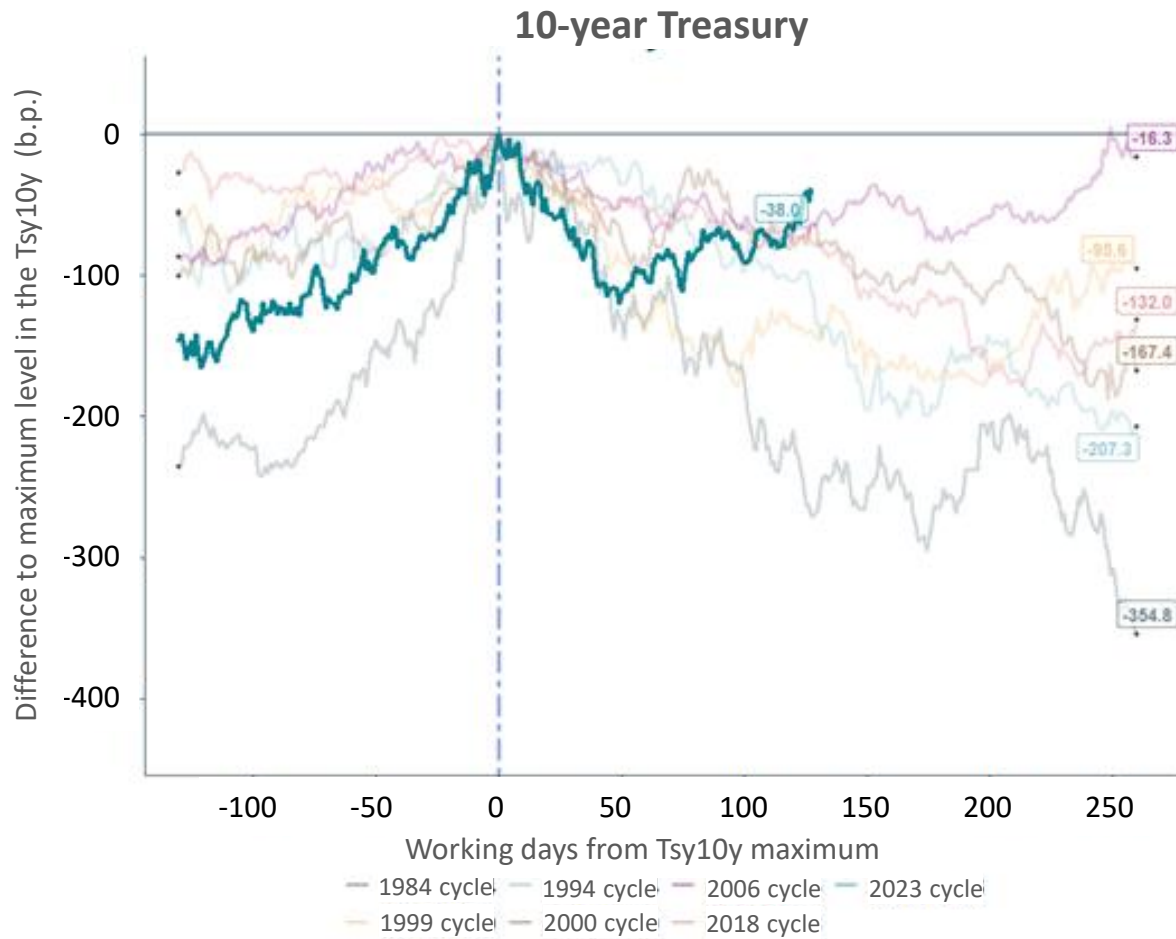


Real estate and construction sectors still affect negatively China's economic performance.

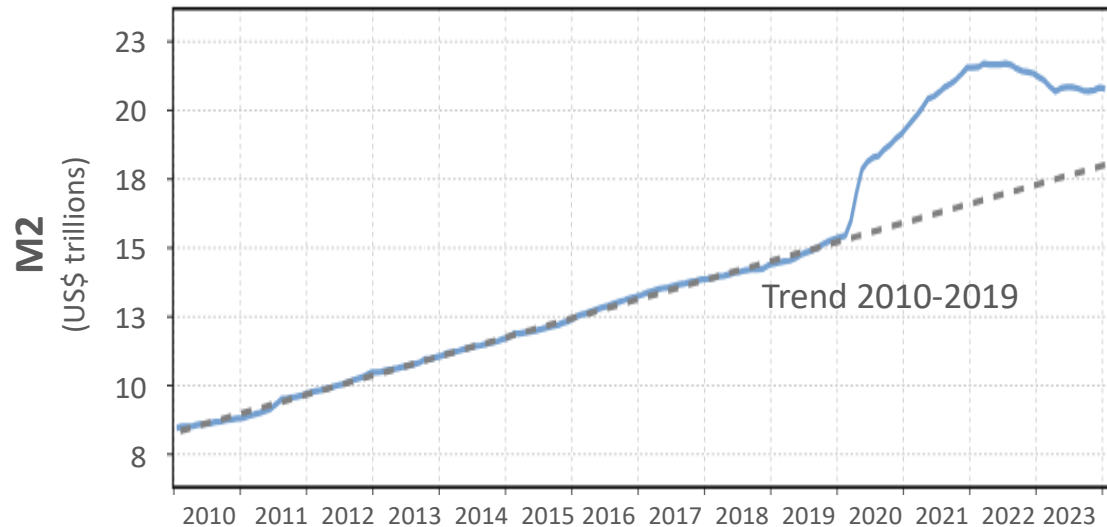
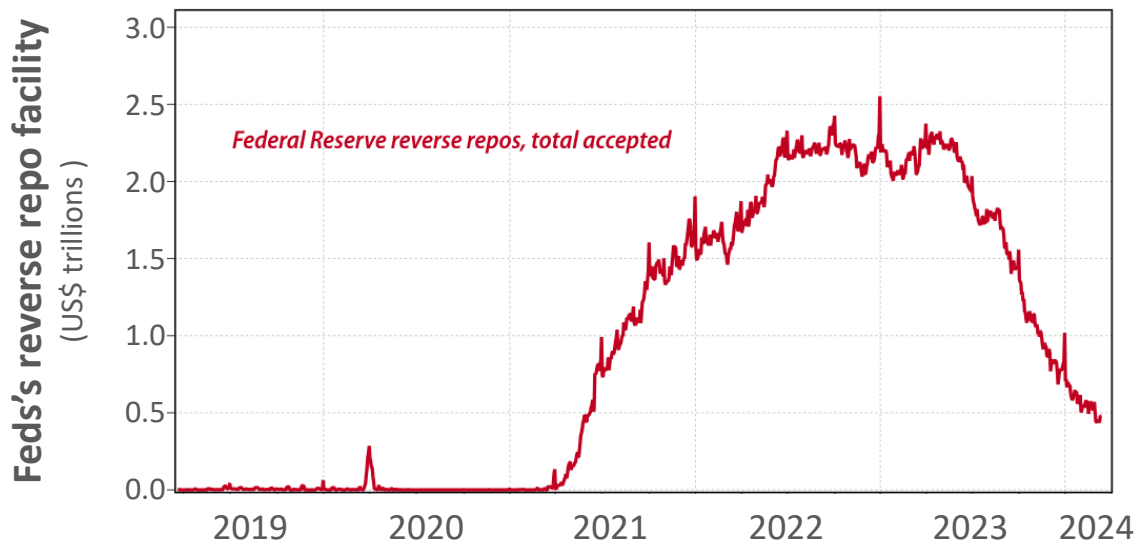
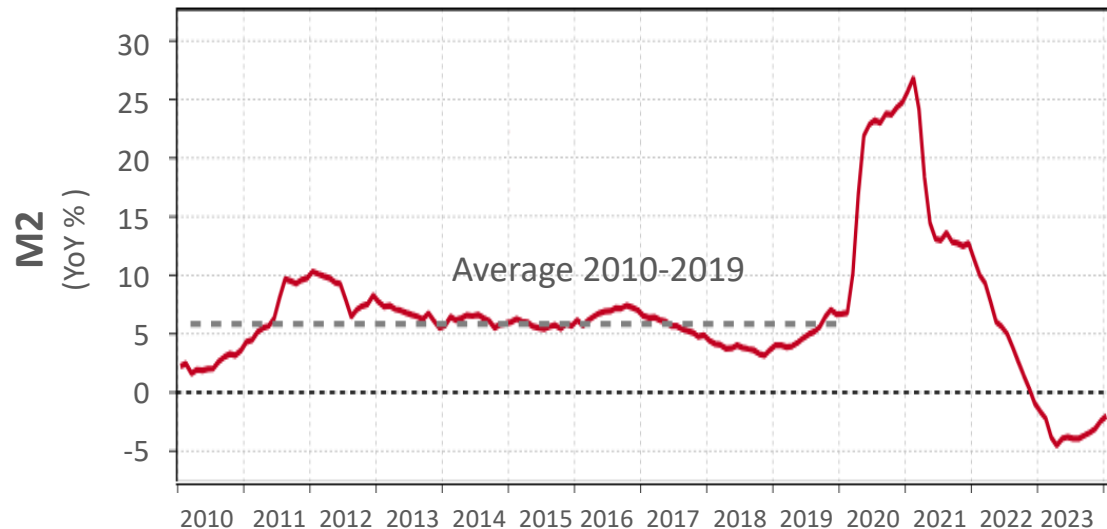


Sources: Gavekal, IMF, China StateCouncil, NBS.

Stock market at highest, despite increases in yields.



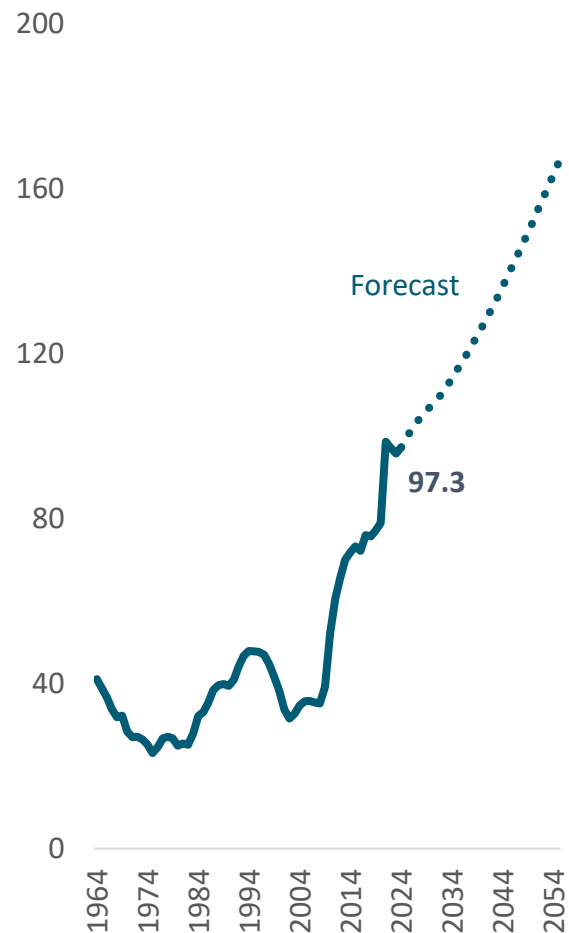
Flows to money market funds remain positive. Despite the recent contraction, U.S. remains with excess of money.



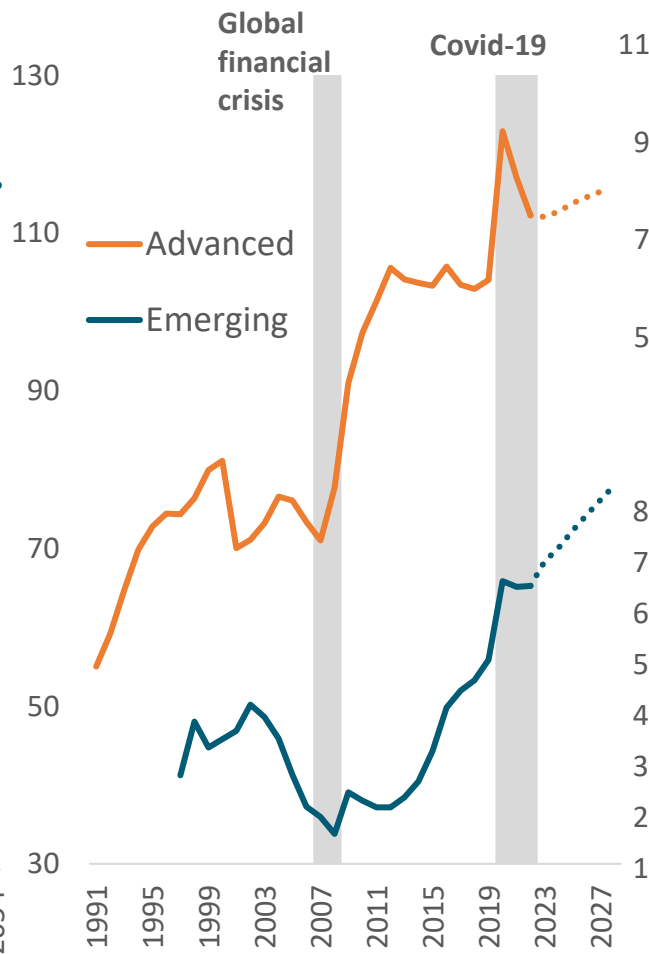
Source: Gavekal.

Rising public debt and debt service burden demand increasing resources.

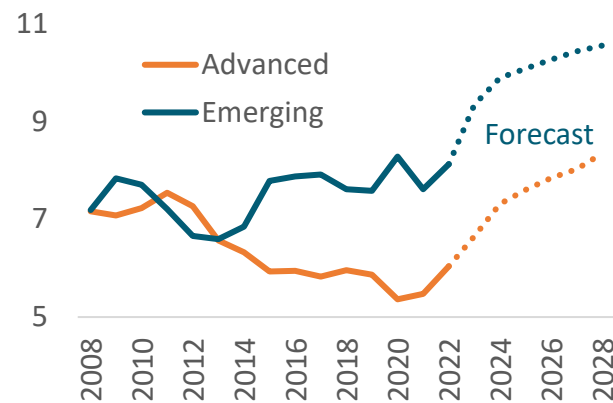
US: Public debt
(% of GDP)



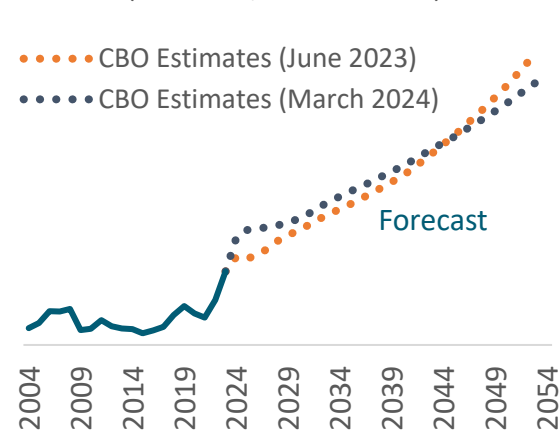
Country groups: Public debt
(% of GDP)



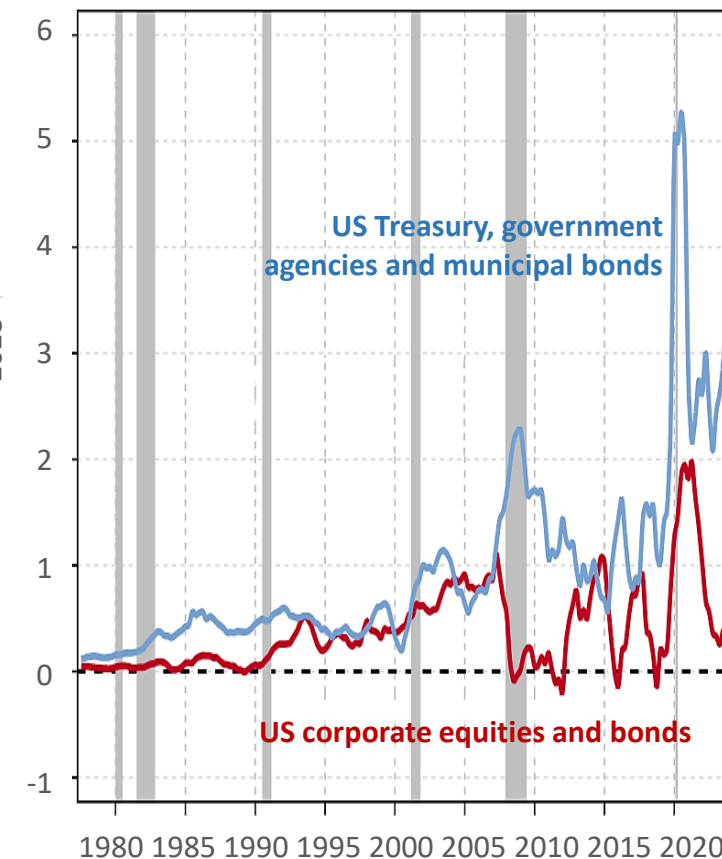
Country groups: Interest payments
(Estimates, % of revenues)



US: Interest payments
(Estimates, % of revenues)



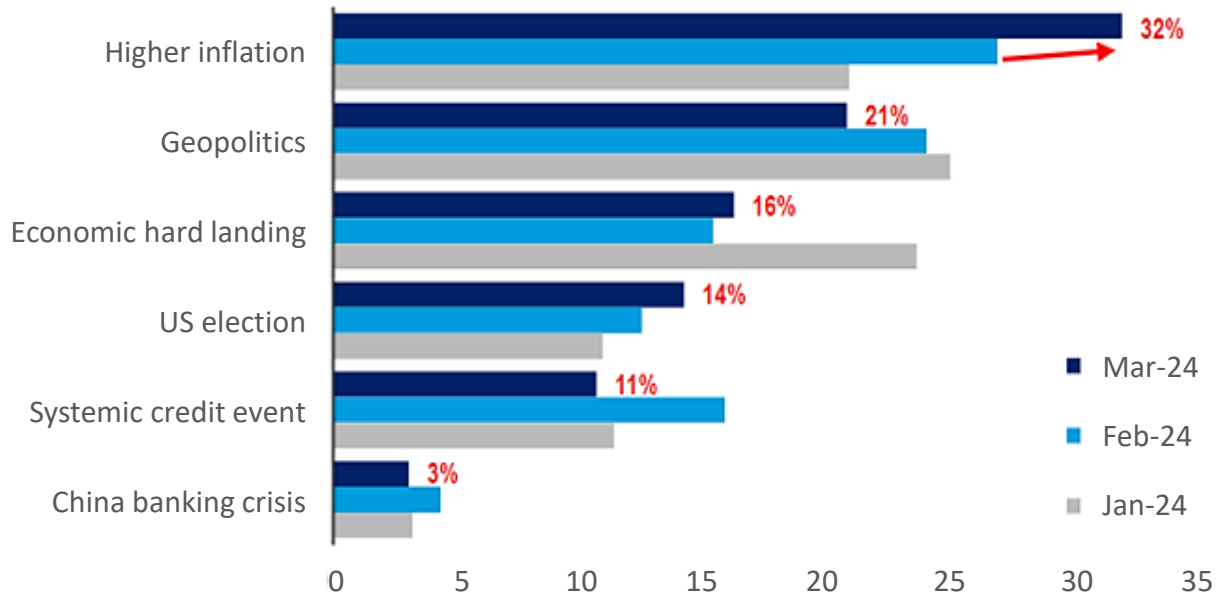
US: Net issuance
(1 ycoma, gray: US recessions, US\$ trillion)



Inflation returns as the main source of risk for the global economy. US Commercial real estate is the most likely source for a systemic credit event.

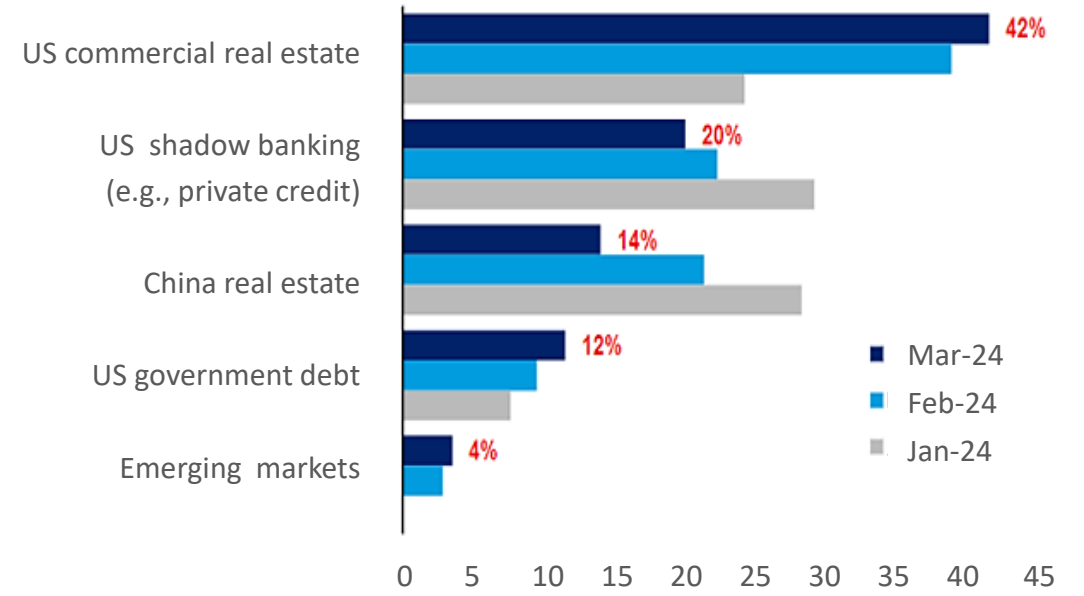
Tail risks (%)

What do you consider the biggest 'tail risk'?

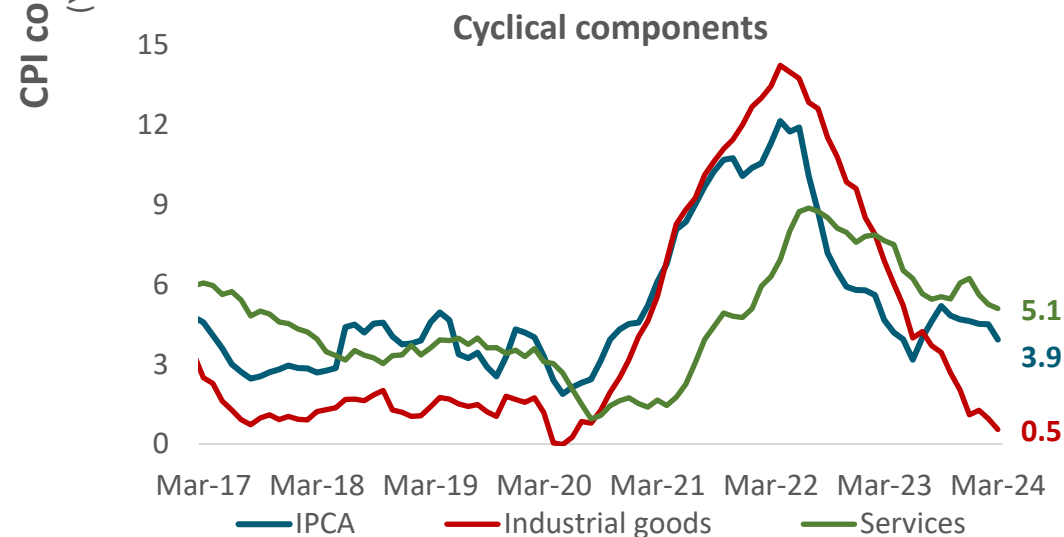
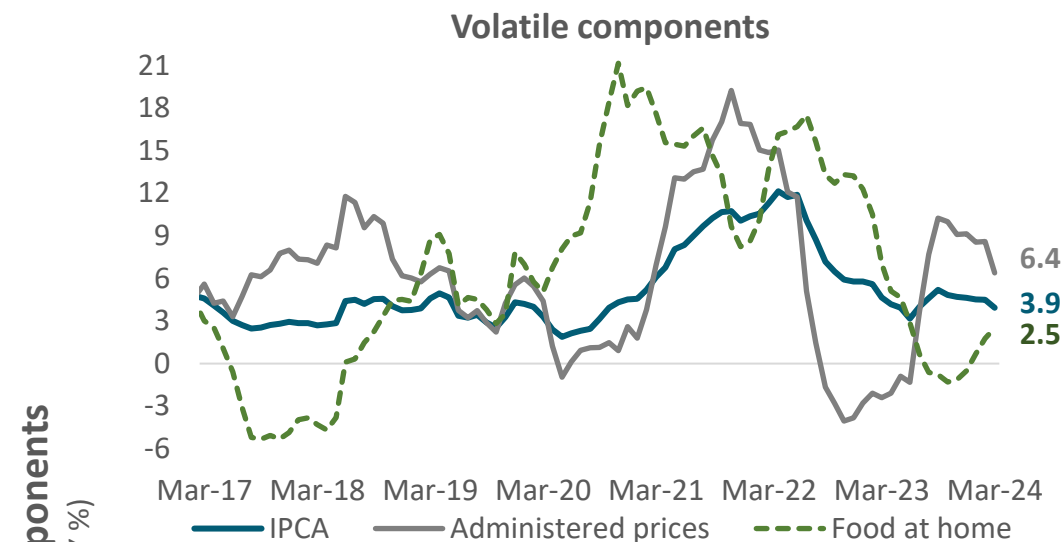
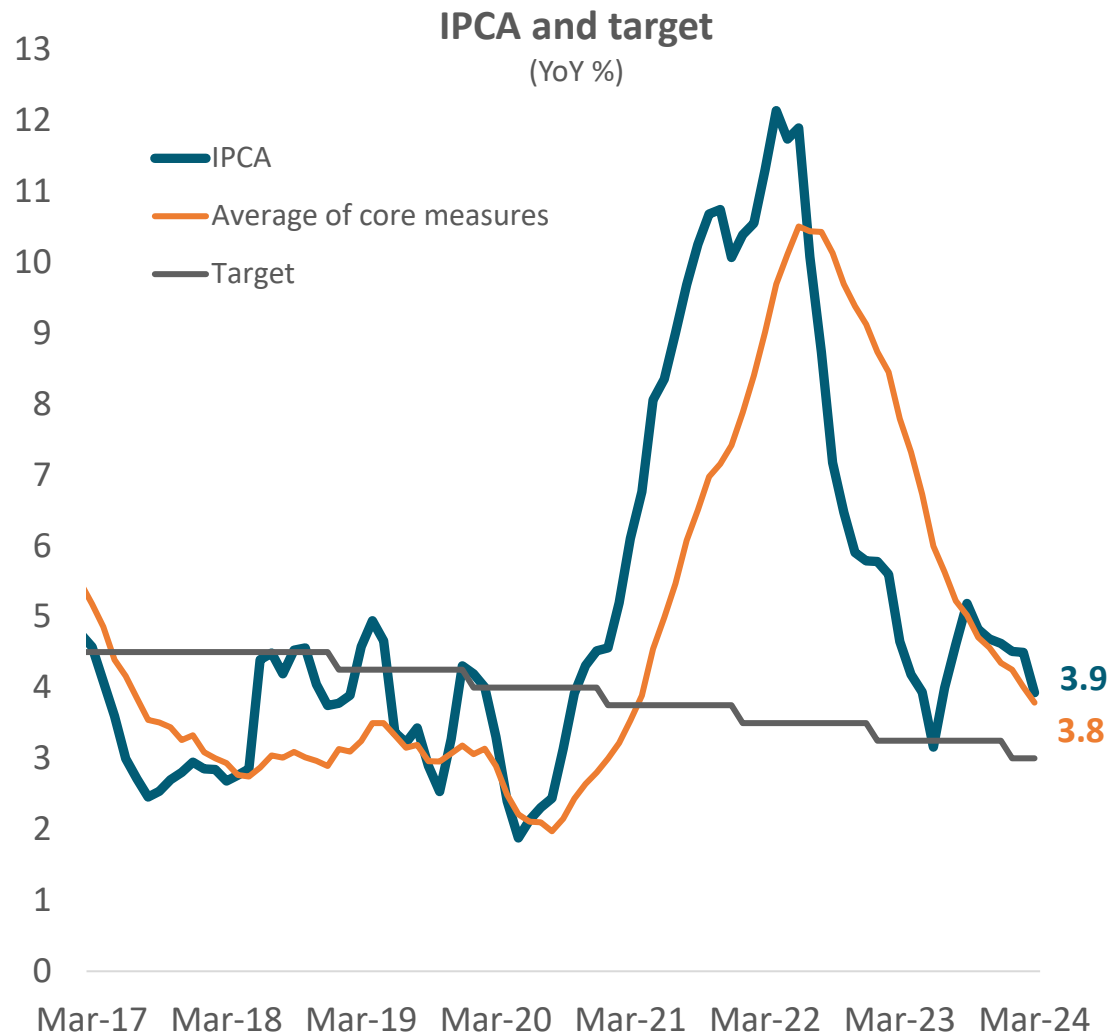


Sources of credit systemic risk (%)

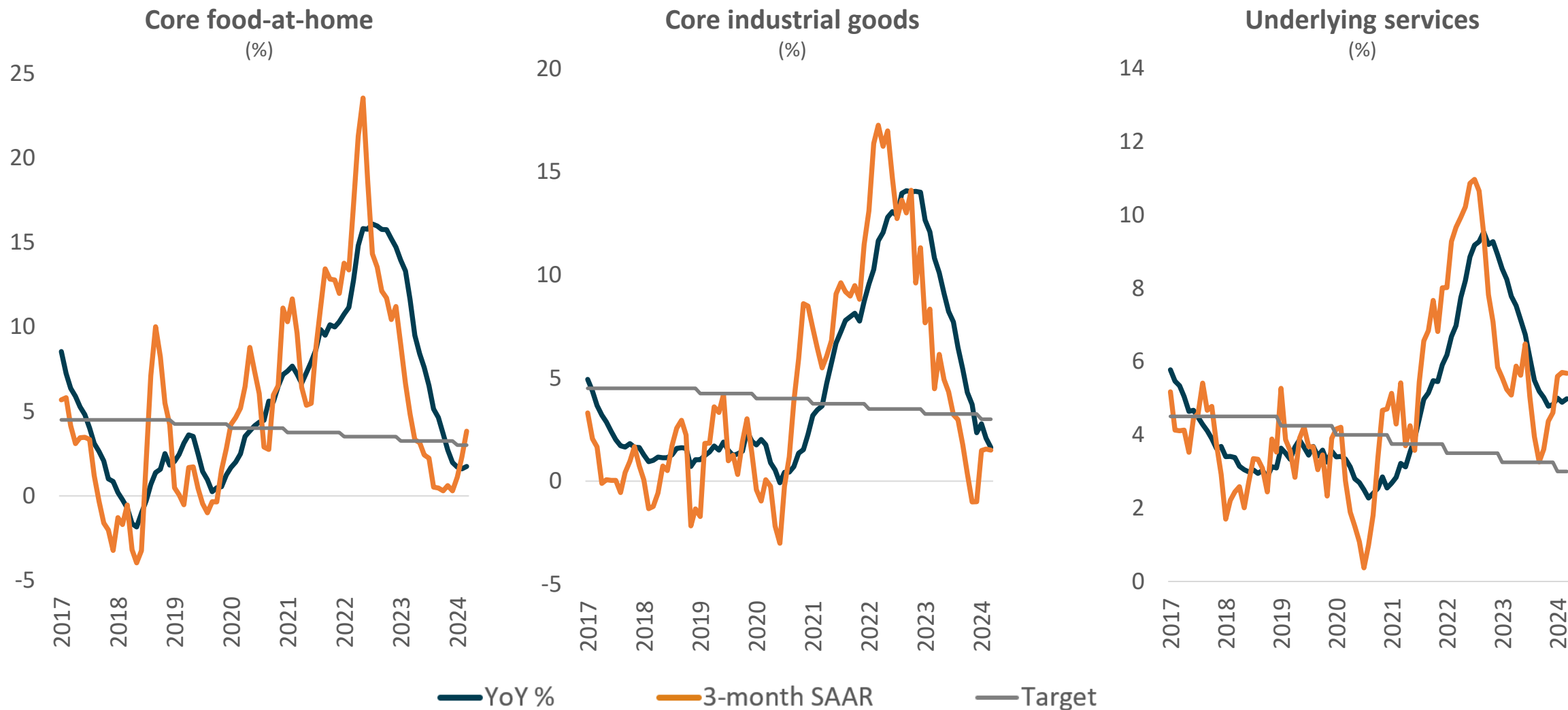
What is the most likely source for a systemic credit event?



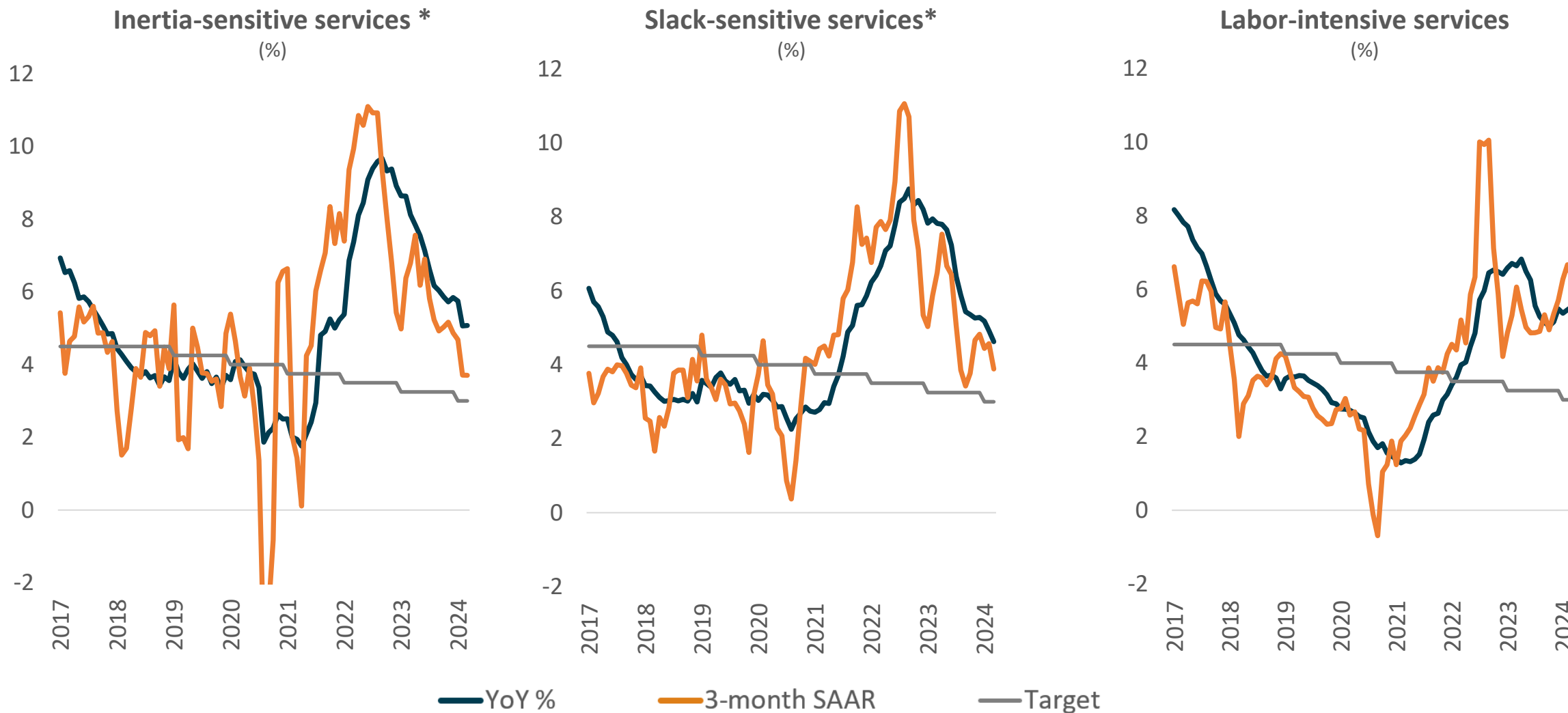
Headline consumer inflation remains in a path of disinflation. March figures slightly softer.



Core inflation by segments slightly higher in latest readings. Underlying services relatively stable but at still high levels.



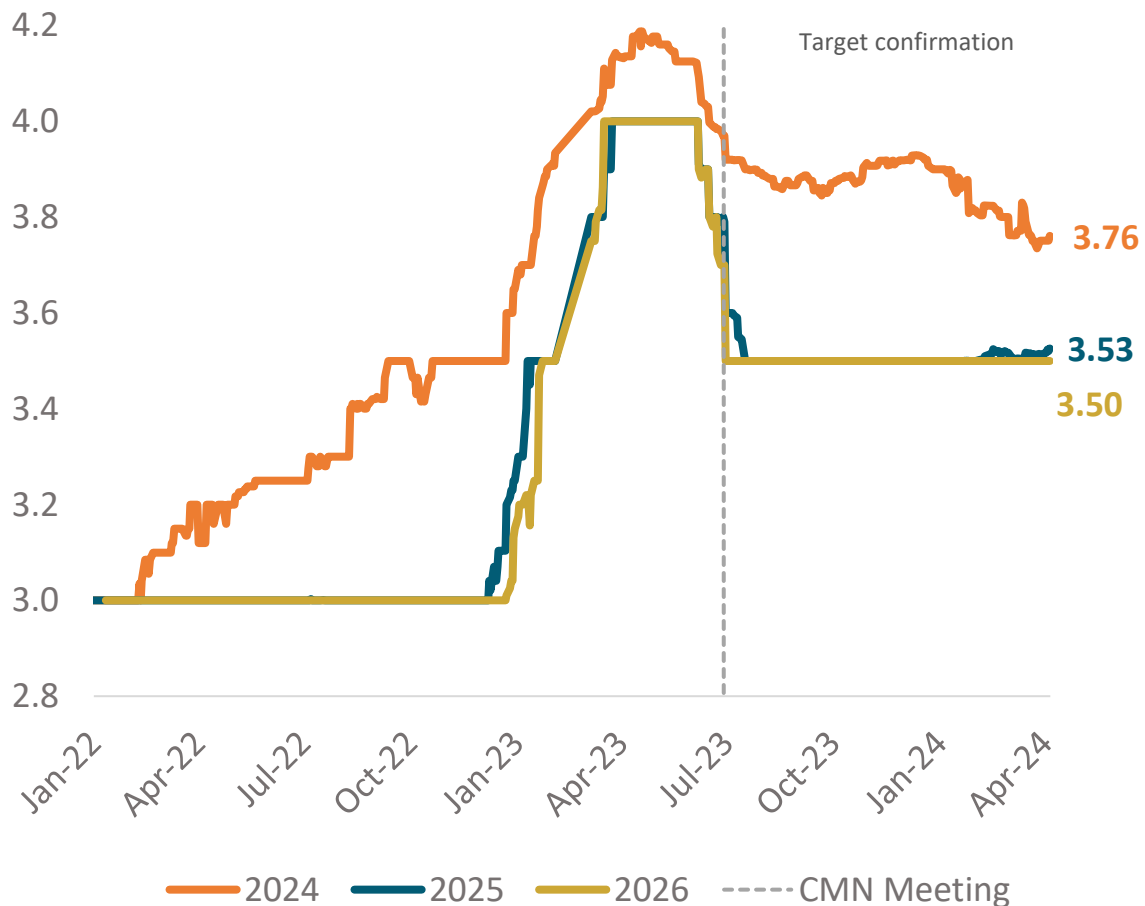
Services inflation shows more resilience in items linked to the labor market.



Long-term inflation expectations remain unanchored.

Inflation expectations

(YoY %, Focus Report*, median)

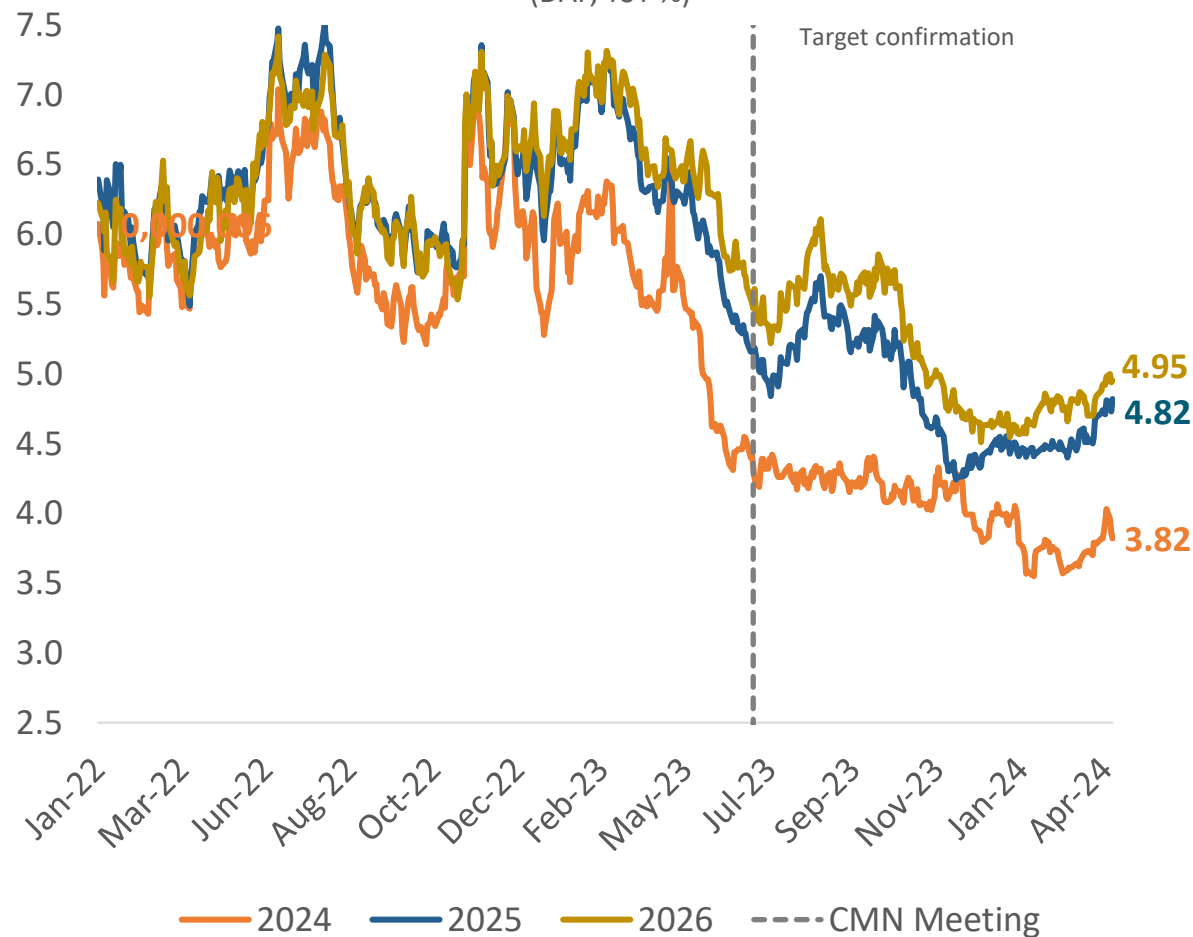


* Updated until Apr, 5

Source: BCB

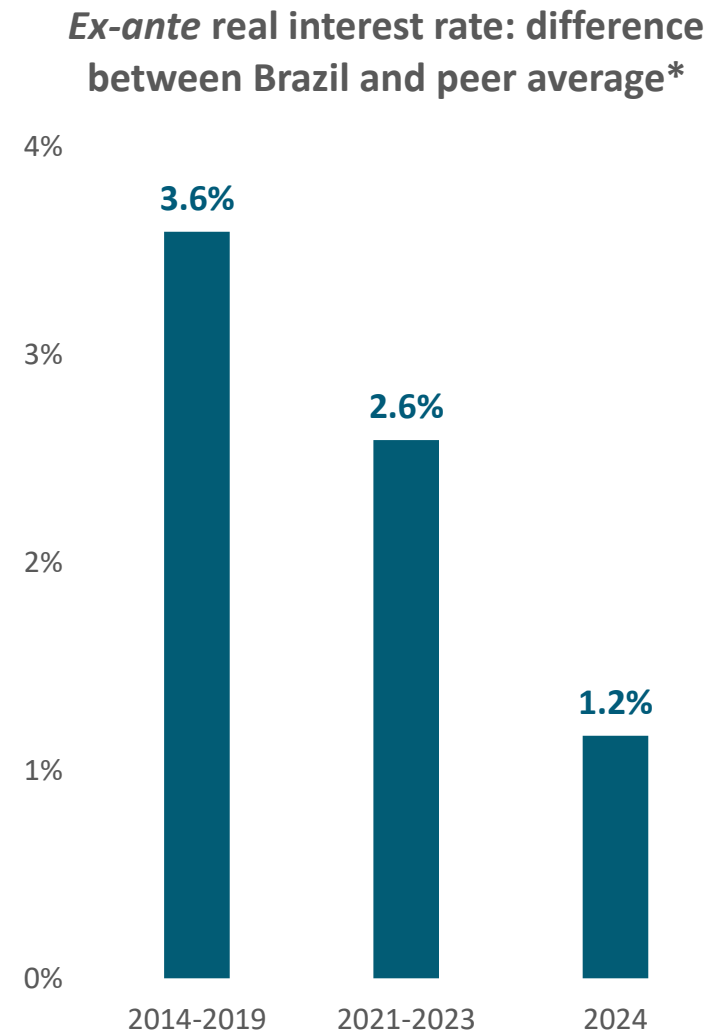
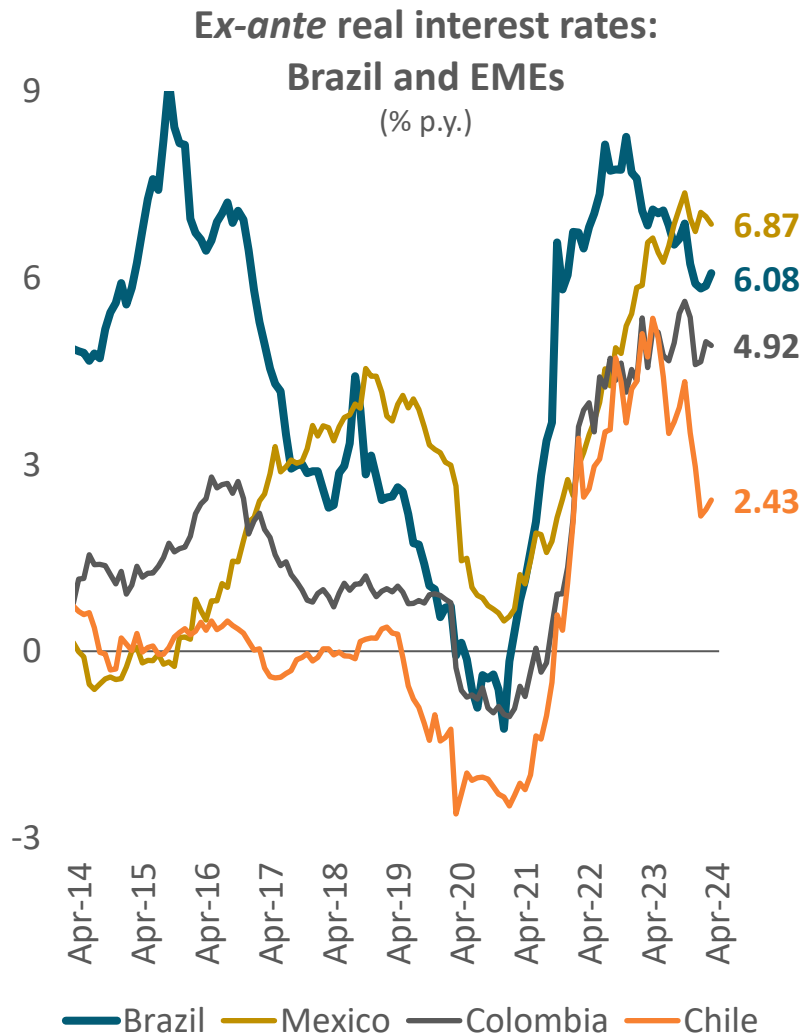
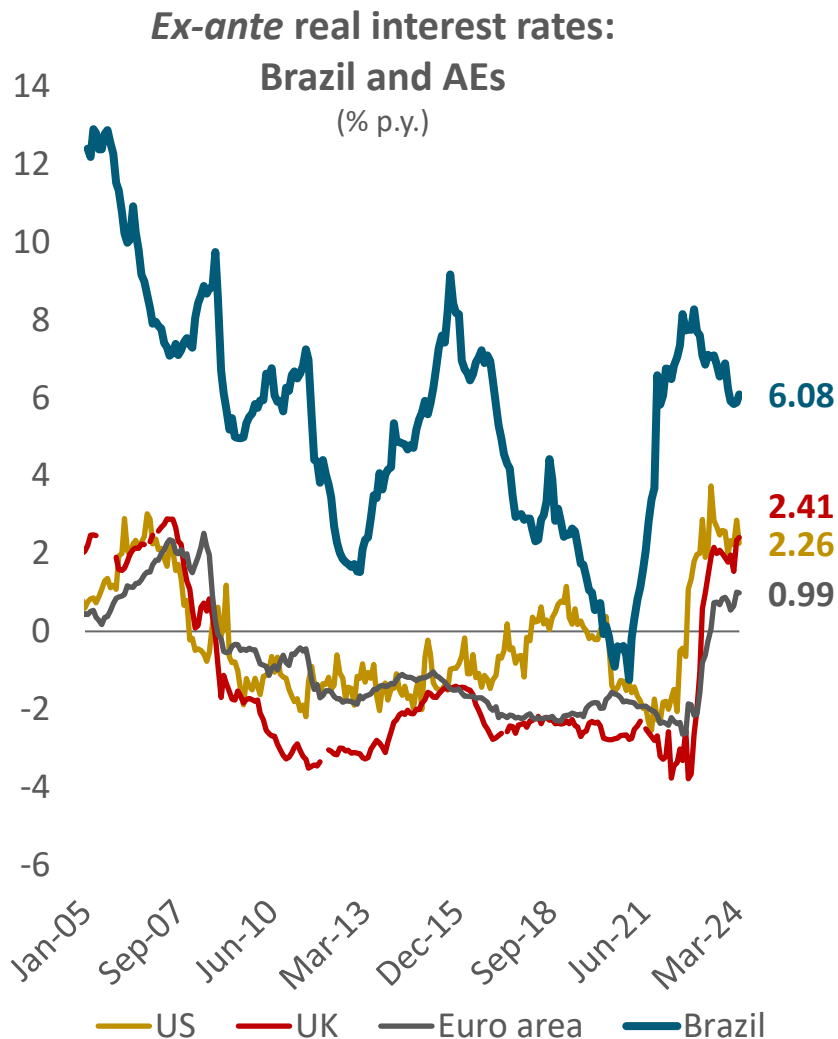
Break-even inflation

(DAP, YoY %)



* Updated until April, 10

Real interest rate has fallen in Brazil relative to its peers.



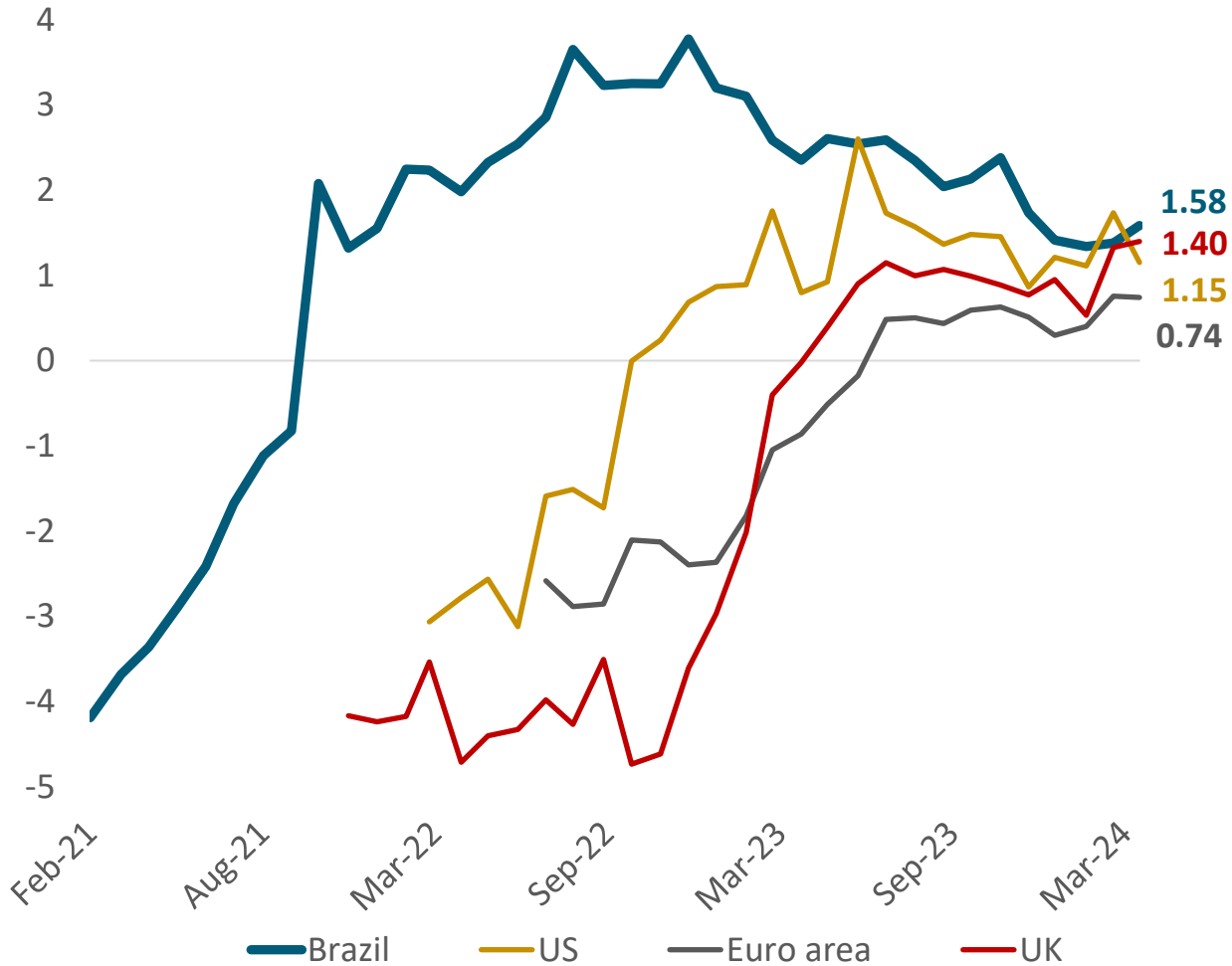
Sources: Bloomberg, central banks, BCB.

Difference between the real interest rate and the neutral rate is lower in Brazil than in its peers.

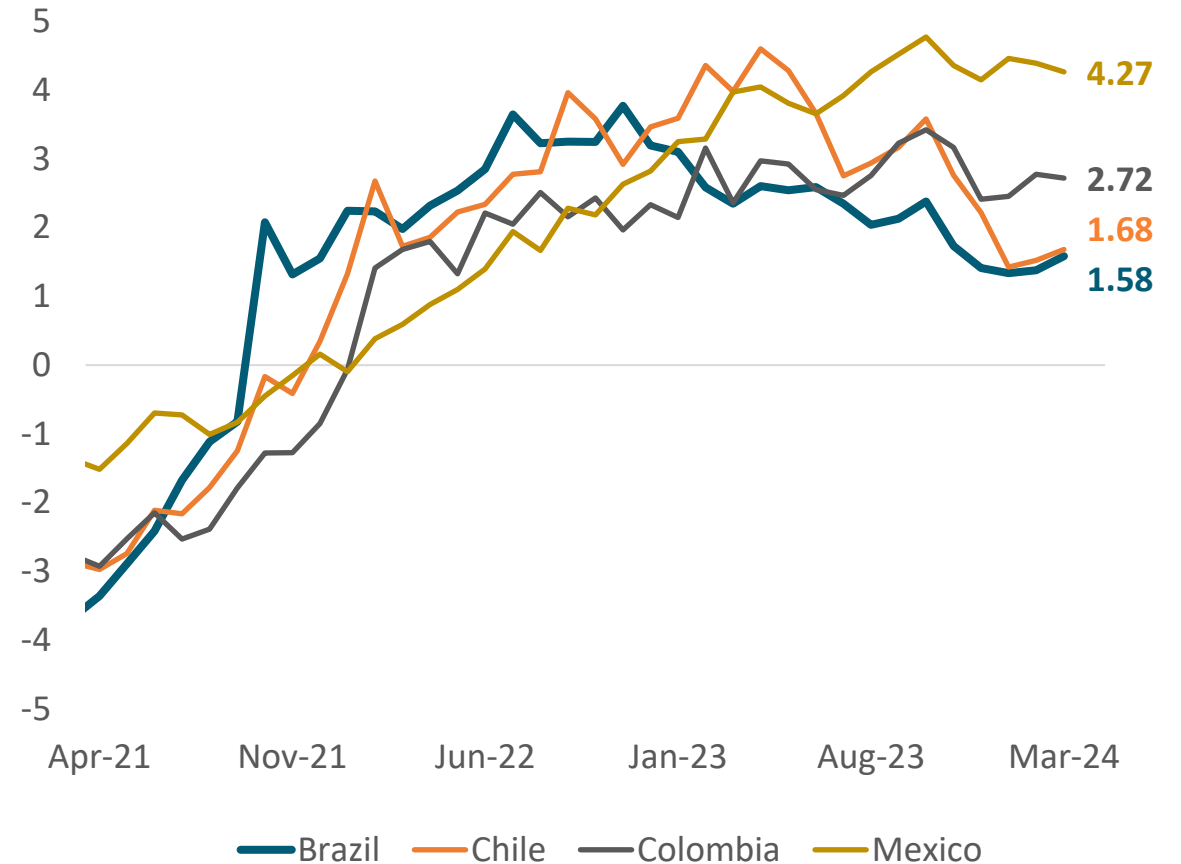
Monetary effort: 1-year real interest rate minus real neutral rate

(p.p.)

Brazil and AEs



Brazil and EMEs

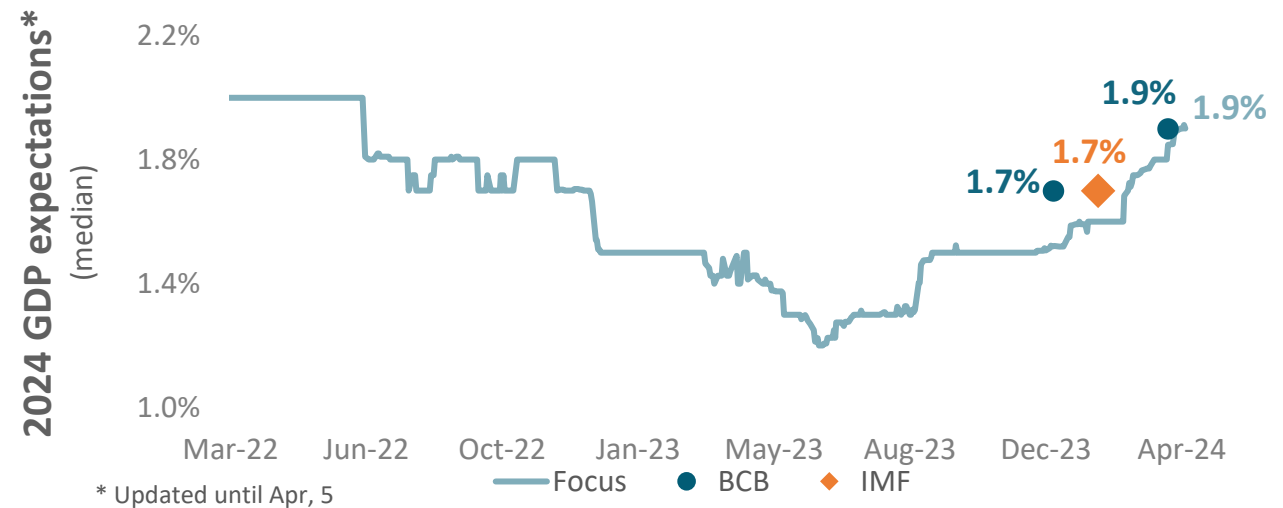
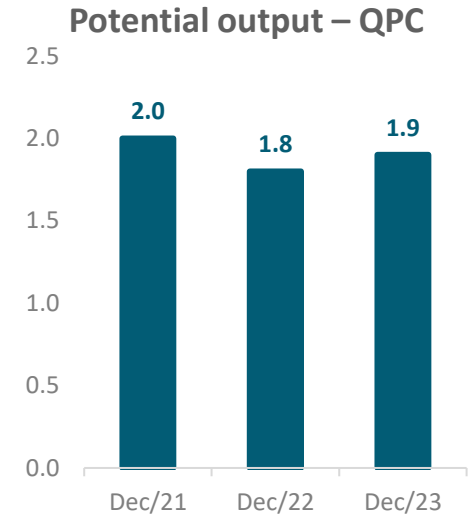
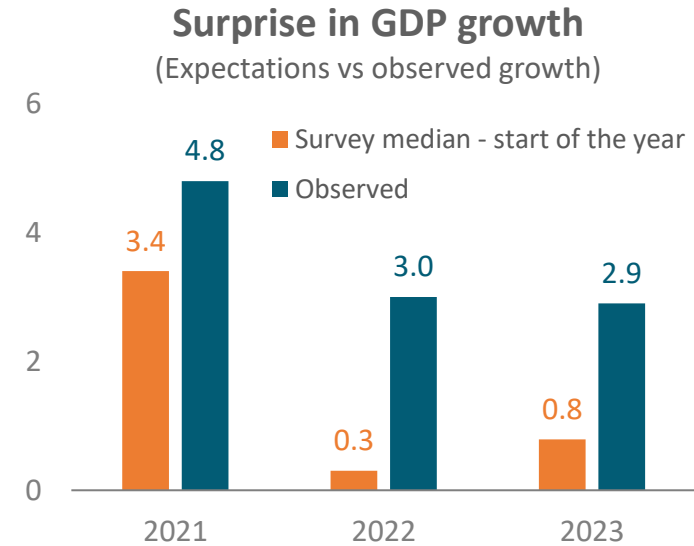
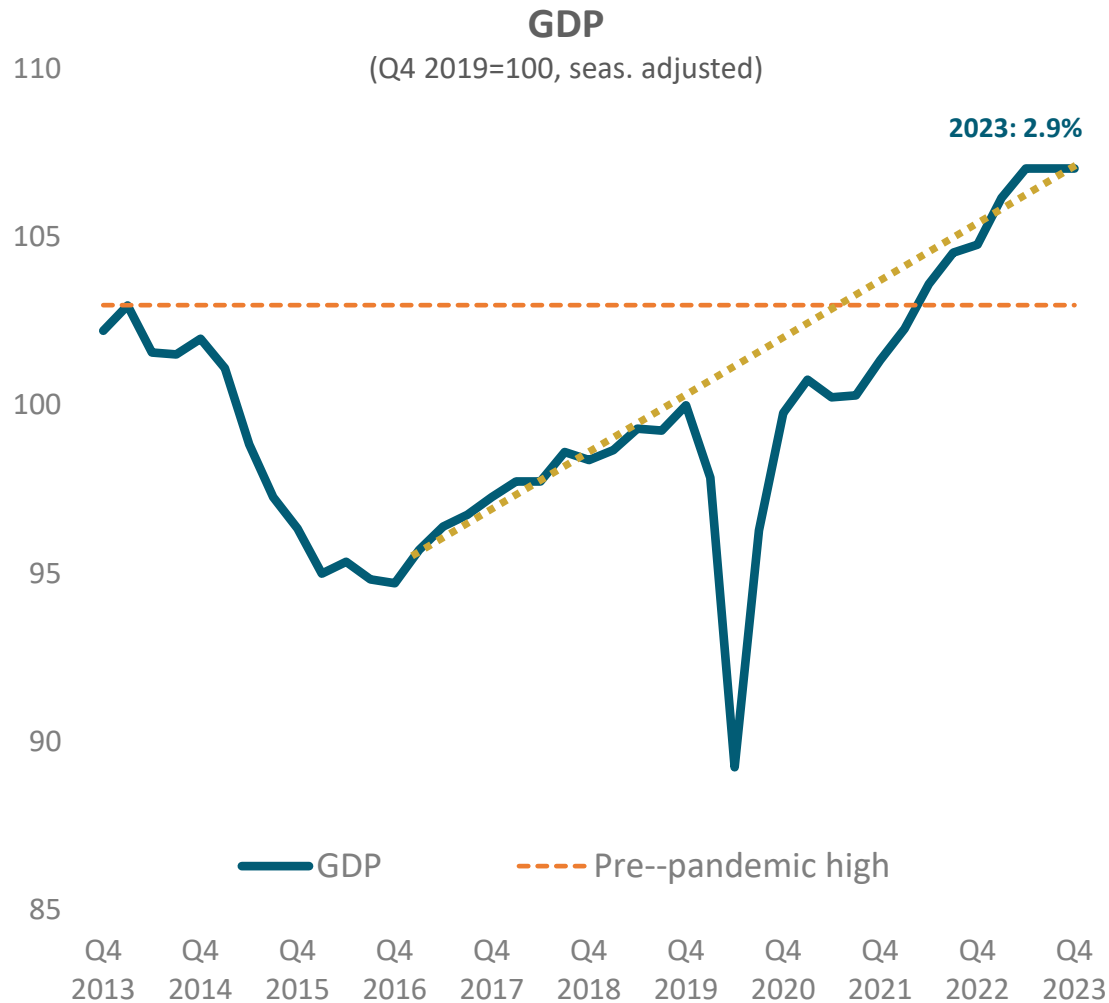


Sources: Bloomberg, central banks, BCB.

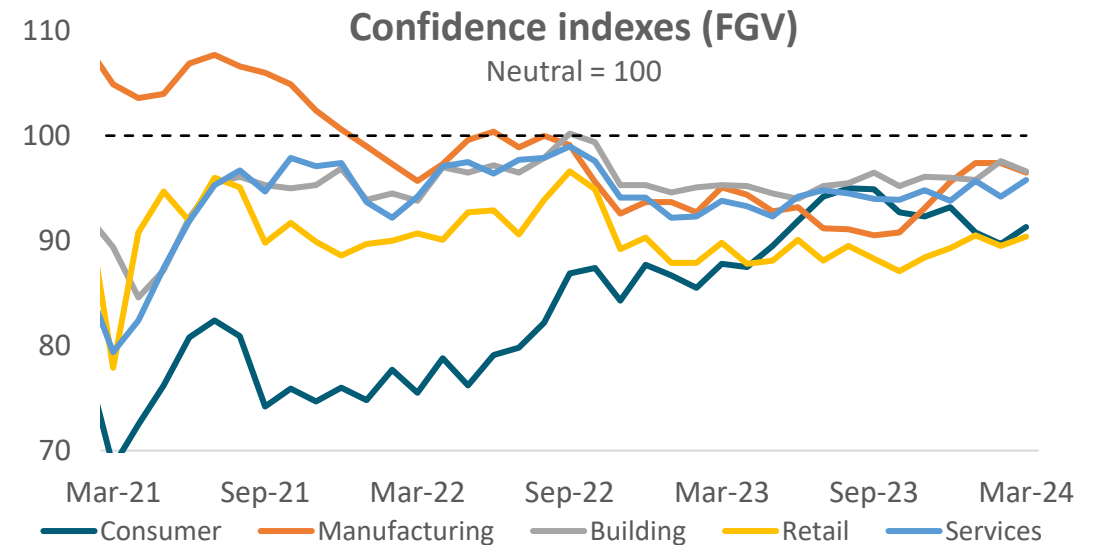
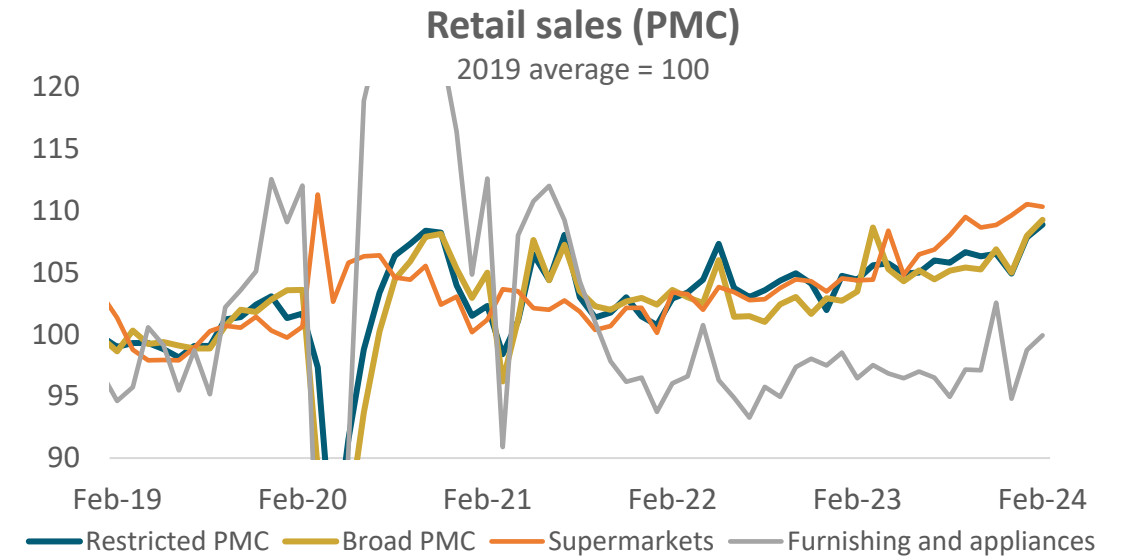
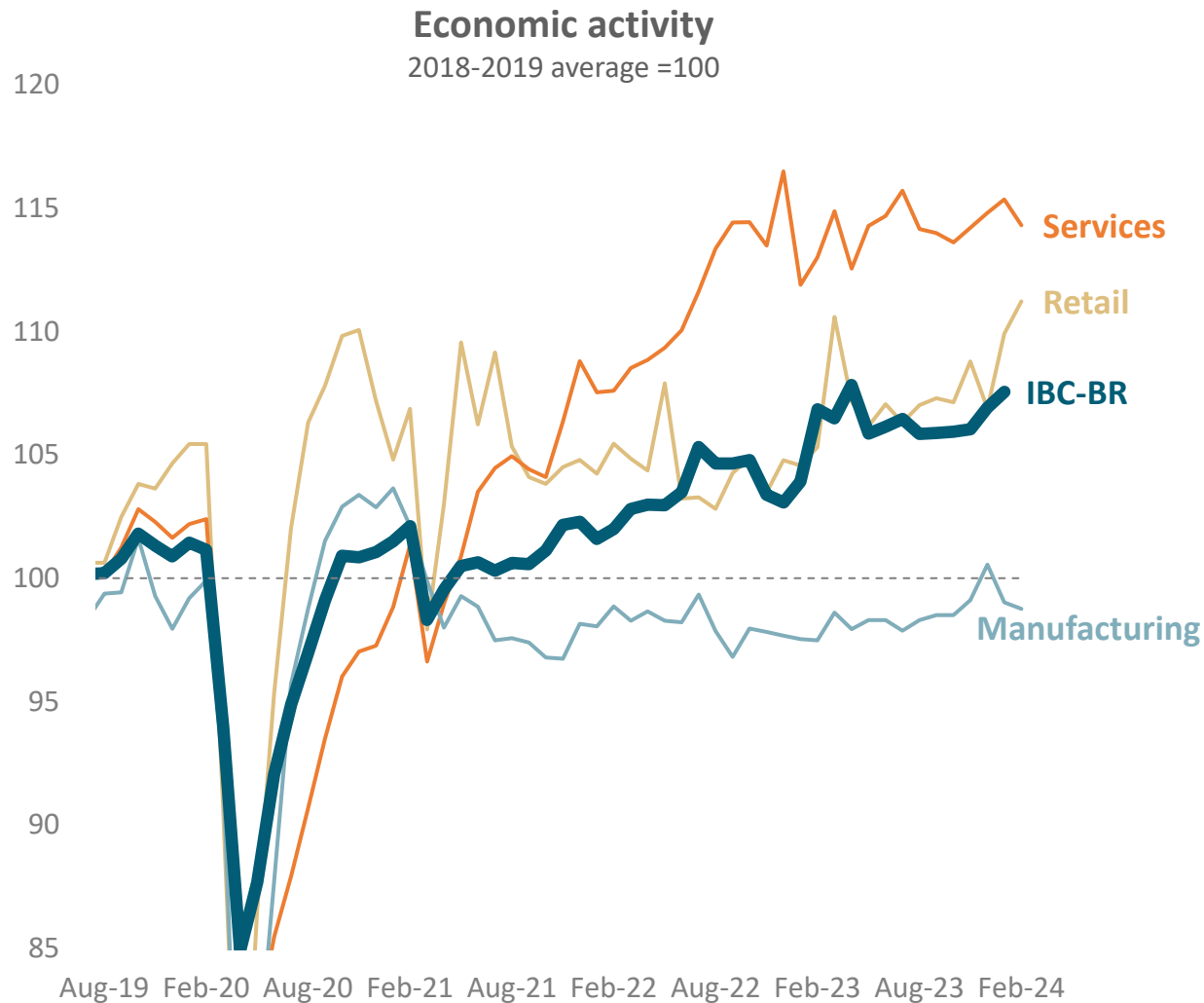
261st Copom meeting – March 2024

- Considering the evolution of the disinflationary process, the assessed scenarios, the balance of risks, and the broad array of available information, Copom decided to reduce the Selic rate by 0.50 percentage point, to 10.75% p.a., and judges that this decision is consistent with the strategy for inflation convergence to a level around its target throughout the relevant horizon for monetary policy, which includes 2024 and, to a larger degree, 2025.
- Without compromising its fundamental objective of ensuring price stability, this decision also implies smoothing economic fluctuations and fostering full employment.
- The current context, characterized by a stage in which the disinflationary process tends to be slower, with only partial reanchoring of inflation expectations and a challenging global outlook, requires serenity and moderation in the conduct of monetary policy.
- The Committee reinforces the need to persist on a contractionary monetary policy until the disinflationary process consolidates and inflation expectations anchor around its targets.
- If the scenario evolves as expected, the Committee members unanimously anticipate a reduction of the same magnitude in the next meeting, and judge that this monetary policy stance is appropriate to keep the necessary contractionary monetary policy for the disinflationary process.
- The Committee emphasizes that the total magnitude of the easing cycle throughout time will depend on the inflation dynamics, especially the components that are more sensitive to monetary policy and economic activity, on inflation expectations, in particular the longer-term ones, on its inflation projections, on the output gap, and on the balance of risks.

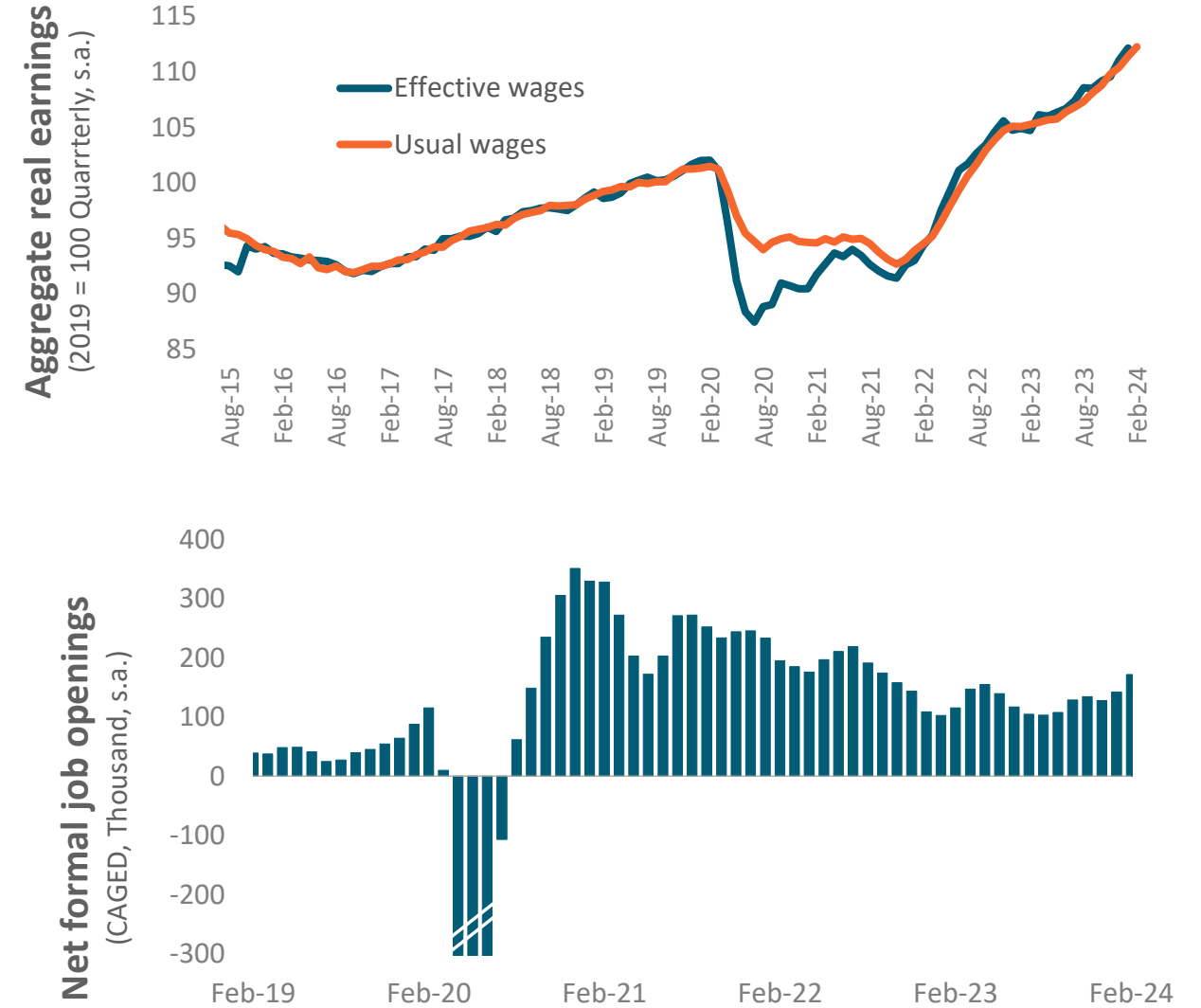
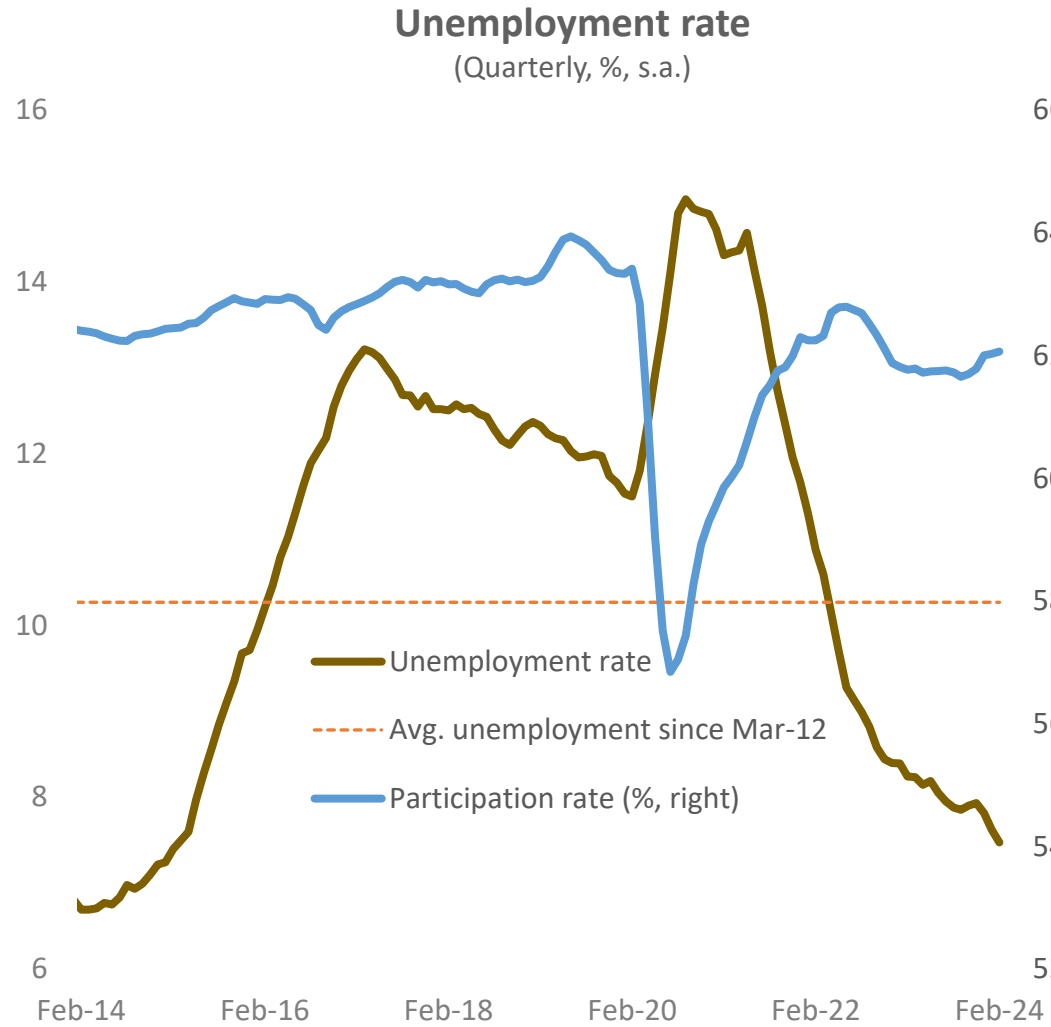
GDP decelerating, but recent indicators show some improvement, which is reflected in a recent rise in expectations for 2024



Recent indicators show slightly higher dynamism than previously expected, particularly in the retail sector

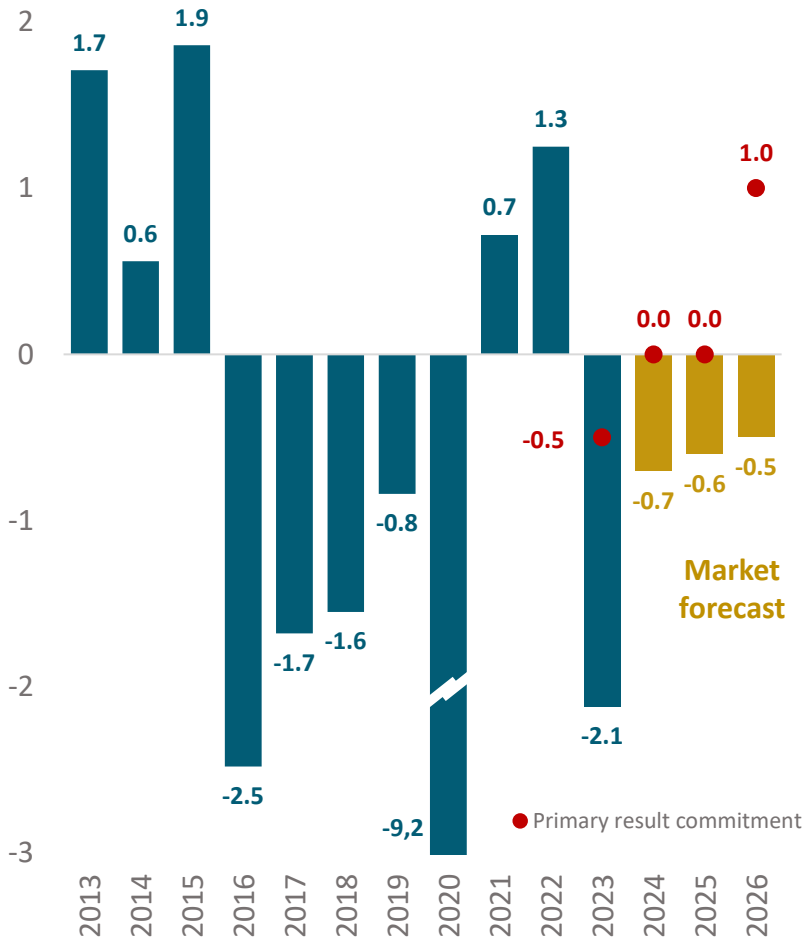


Labor market keeps resilient and real earnings accelerating.

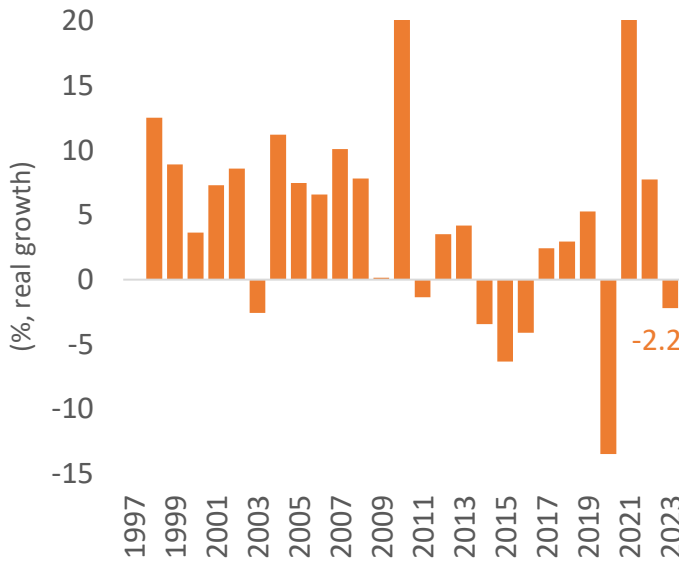


Sources: IBGE, MTE.

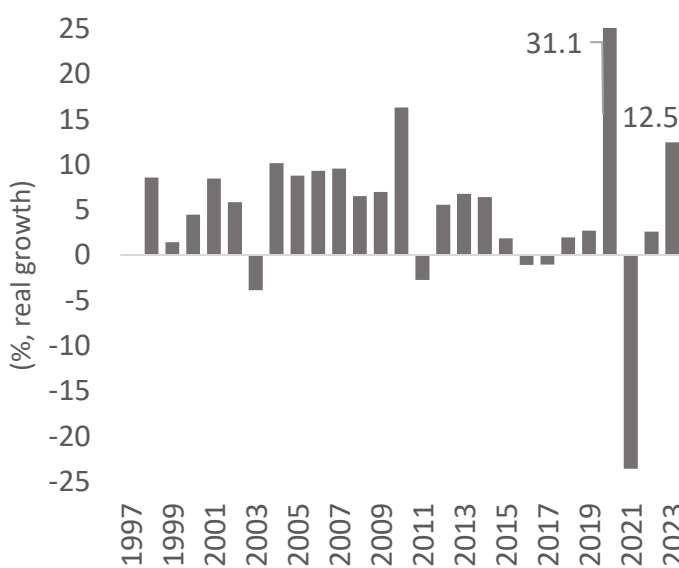
Consolidated public sector primary result
(% GDP, several years and forecast, Focus* median)



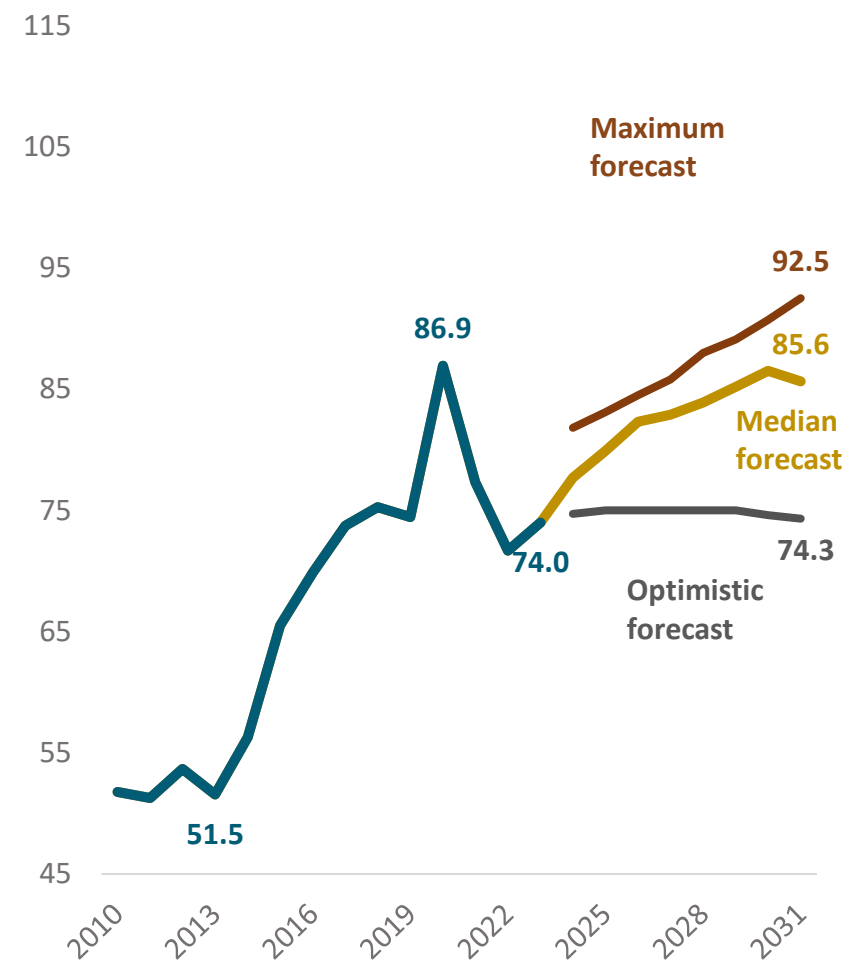
Central govt. net revenue
(%, real growth)



Central govt. net expenditures
(%, real growth)



Evolution of GGGD/GDP
(%, several years, Focus* median)



* Updated until 04/05/2024

* Updated until 04/05/2024

Technology Agenda

Design of the financial system
of the future

Digital world transformation



- People are looking for a digital representation of value
 - Assets are becoming encrypted
 - Distributed ledgers allow assets to be verifiable and transferable, with divisibility
 - We are talking about extracting value from an asset in its digital form
 - Art, pictures, properties, ideas and even money
- Are we moving towards a tokenized economy?

If the tokenization thesis holds true then the 21st Century may see the creation of regulated, global, token-based, multi-asset networks.*

* The Regulated Internet of Value, Citi's Digital Policy, Strategy and Advisory, 06/21.

Tokenization of the economy

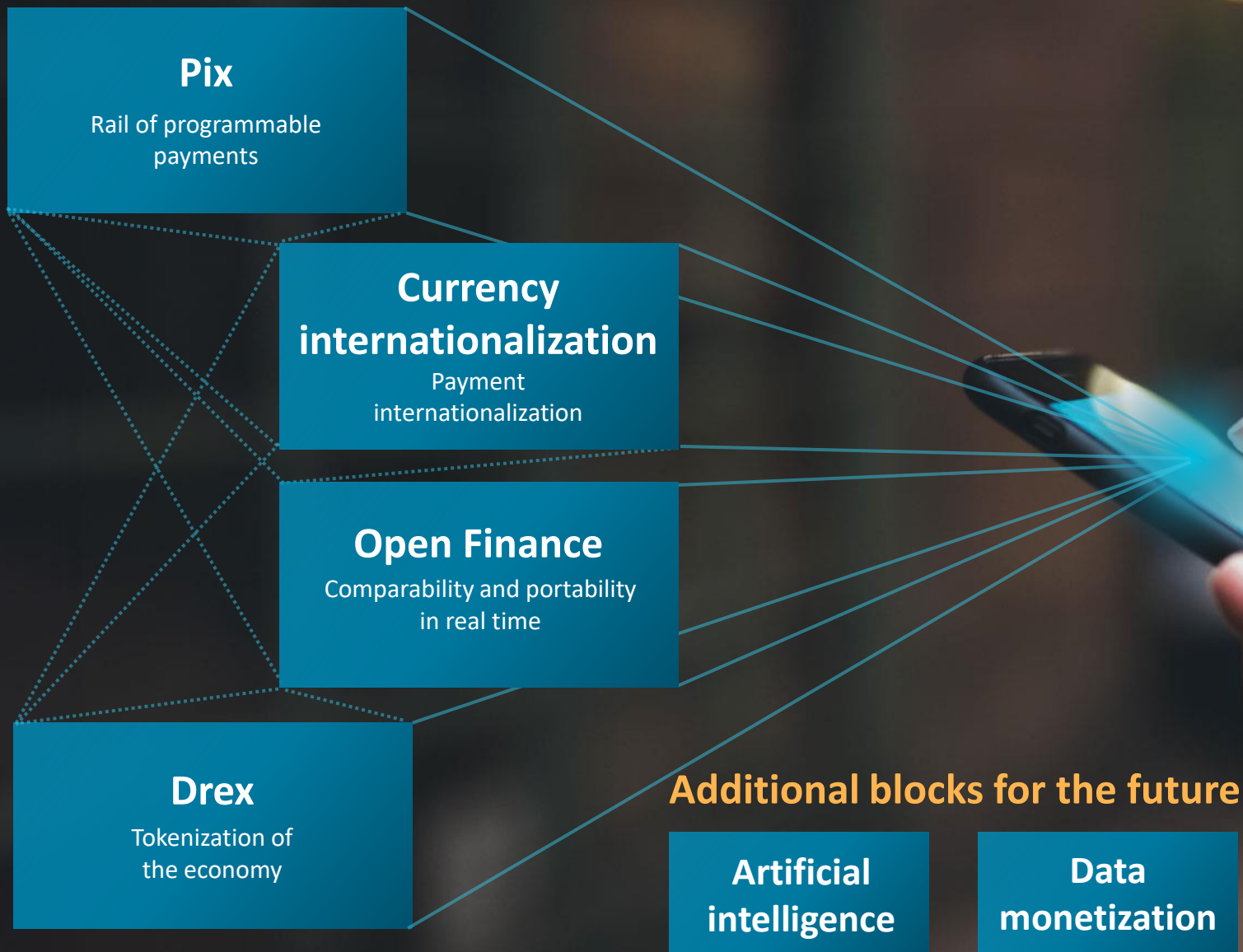
TOKEN



- The main change is the tokenization of assets for trading
- Asset tokenization generates efficiency gains
 - Trade, register, contracts, collaterals etc.
 - Greater speed and transparency
 - Lower cost
 - More open processes
 - Programmability in the purchase and sale of assets

An integrated agenda

The four fundamental blocks



Pix gains space and increases its popularity



Pix growth promotes financial inclusion and enables small businesses

Pix growth

733 million

active Pix's keys.

148 million people and
14.0 million companies
use Pix.



201.6 million
operations in one
day

4.4 billion transactions in
Feb/24, against **2.5 billion** in
Feb/23, **increase of 72.8%**.

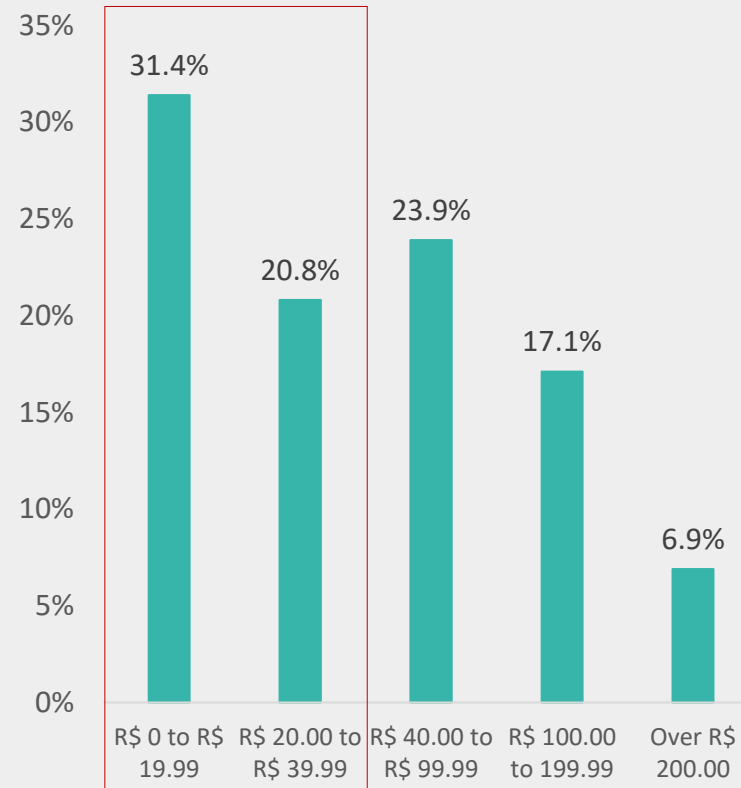
Sources: BCB, BIS.

Pix and financial inclusion

▪ **71.5 million** new users included with Pix.*

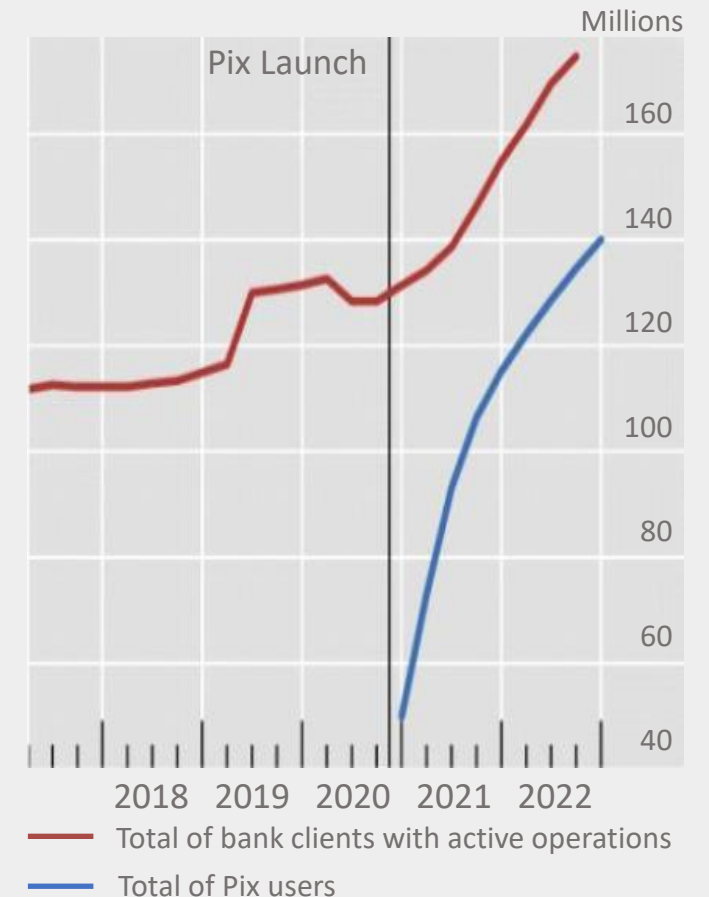
Transactions by value range

(Only natural persons payers – Nov/20 until Dec/22)



* Considering users who did not use TED in the 12 months prior to the launch of Pix and became PIX users.

Pix users vs. Bank clients



Pix new functionalities



Pix

Pix Cobrança
(Future dated billing)

Pix Saque (withdrawal)
Pix Troco (change)

Pix Agendado
(Scheduling)

Transaction

- Single: mandatory
- Recurrent: optional
It will become mandatory

Frequency:

Value:

Receiver:

Payment instructions:

Channel:

Purpose:

Defined

Fixed

Individual or legal entity

Payer

Secondary

Transfer

Pix Automatico
(Recurring payments)

Automatic Pix after payer's previous authorization

Defined

Fixed or variable

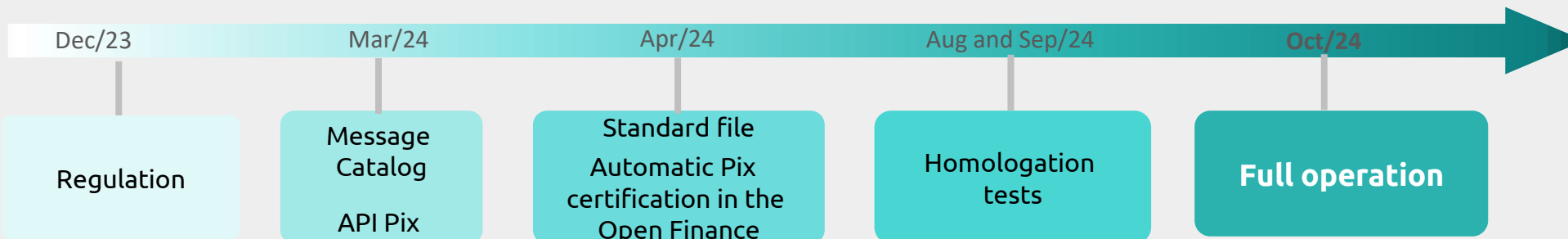
Legal entity

Receiver

Secondary

Purchase

Schedule



Currency internationalization

- **Connection of digital currencies.**
 - There will be real time transactions with low cost.
- **Three challenges for the connection of international payments systems:**
 - **Technology**
 - Connection between DLT and centralized systems (solved)
 - **Settlements**
 - Liquidity token pool (solved)
 - **Governance**
 - Taxonomy (minimal rules for cross-border payments)
 - We need to advance on the topic



Standards and infrastructure that support the sharing of data and financial services by institutions authorized to operate by the BCB.



The Brazilian model is a global reference.



Greater financial and digital inclusion.



Convergence to marketplaces, with one or few environments for comparison of products and services.



Competition for channel and principality.

Open Finance in figures

- 27 API developed and 12 under development.
- More than 42 million consents to share data.
- More than **1.4 billion** API calls, on average, per week (phases 2 and 4).
- More than **68 billion** API calls (phases 2 and 4).
- More than **800** participating institutions (all phases).

Benefits in three dimensions:

1. Banking efficiency

- To introduce the concept of tokenization
 - Risk management, collateral, financing, asset management, data analysis, settlement and products

2. Efficiency in digital payments

- Bridge to De-Fi environment
 - To bring decentralized finance into the regulatory perimeter
- Efficiency in financial intermediation

3. Efficiency in contracts and register



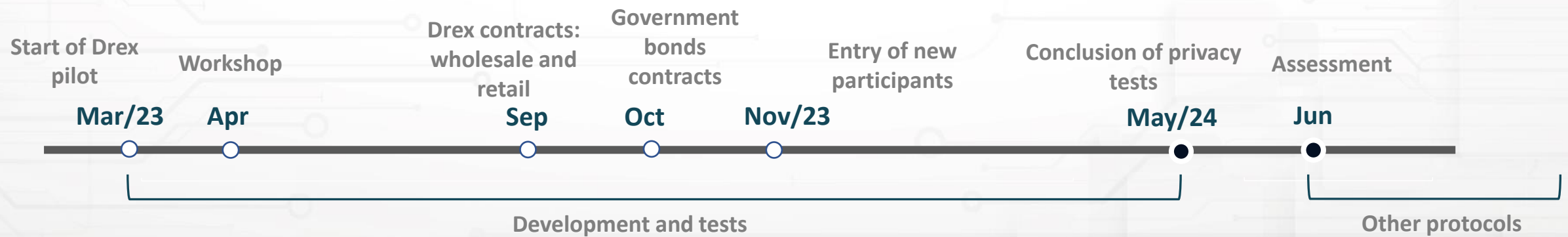
Objectives

- Development of the Drex platform
- Dialog with society on Drex development

Guidelines:

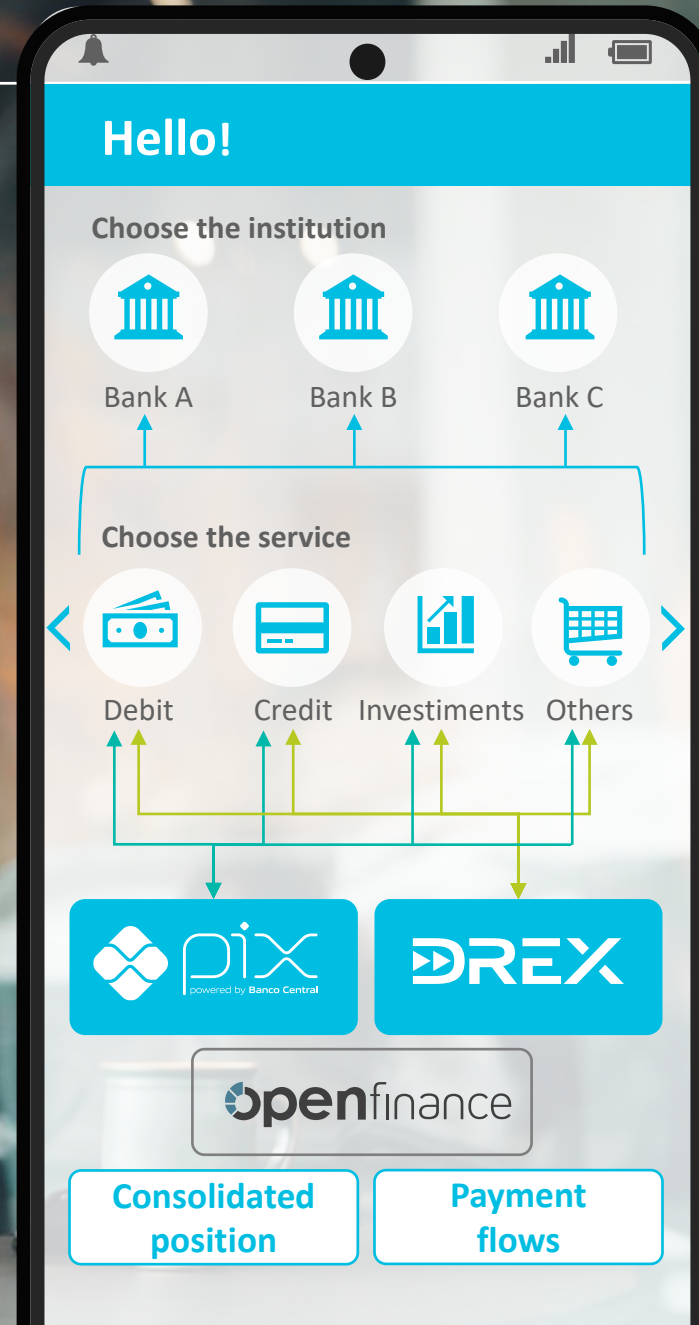
1. Multi-asset DLT - Hyperledger Besu
2. Simulated transactions
3. Asset fragmentation
4. Access to services through IFs and IPs

Next steps:



Financial services aggregator

- Marketplace environment
- Competition by channel and for principality



Offline

Online

Data wallet

Artificial intelligence



- The use of AI in the Super App can transform it in a financial advisor of the future.
- With programmability, connection with marketplaces and a comprehensive dataset, AI can be used in the 4 blocks for:
 - Financial consulting
 - Financial education
 - Process optimization (software and hardware) and improvements in the user experience.

Data monetization



- Data has become a great asset.
- Users are the owners of their data, but it is currently very difficult for them to monetize it.
- With marketplaces and connection between platform and digital wallet, clients will be able to store their data and monetize it.
 - Interaction of tokens with digital wallet

Thank you!

Roberto Campos Neto

Governor of Banco Central do Brasil

April, 2024

