



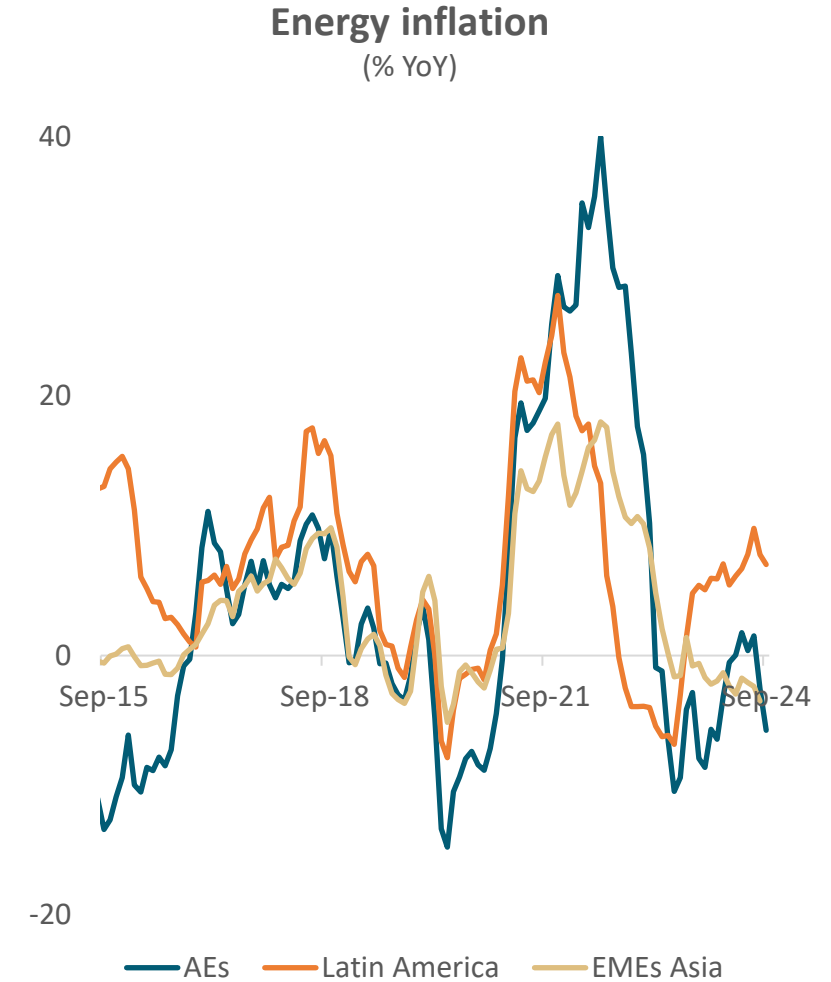
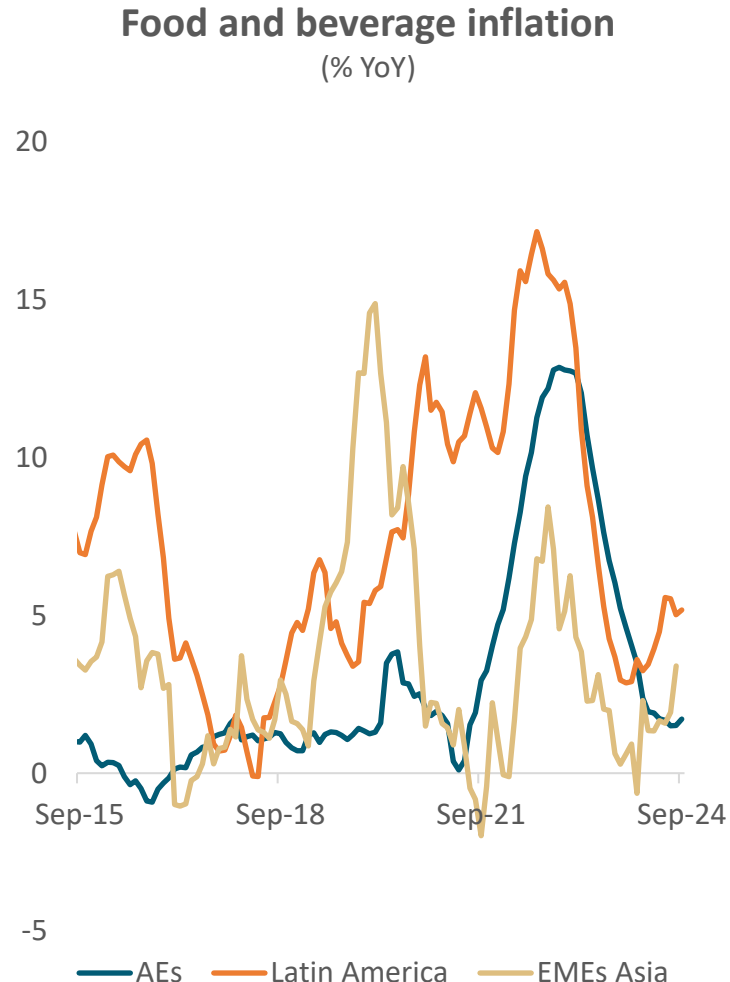
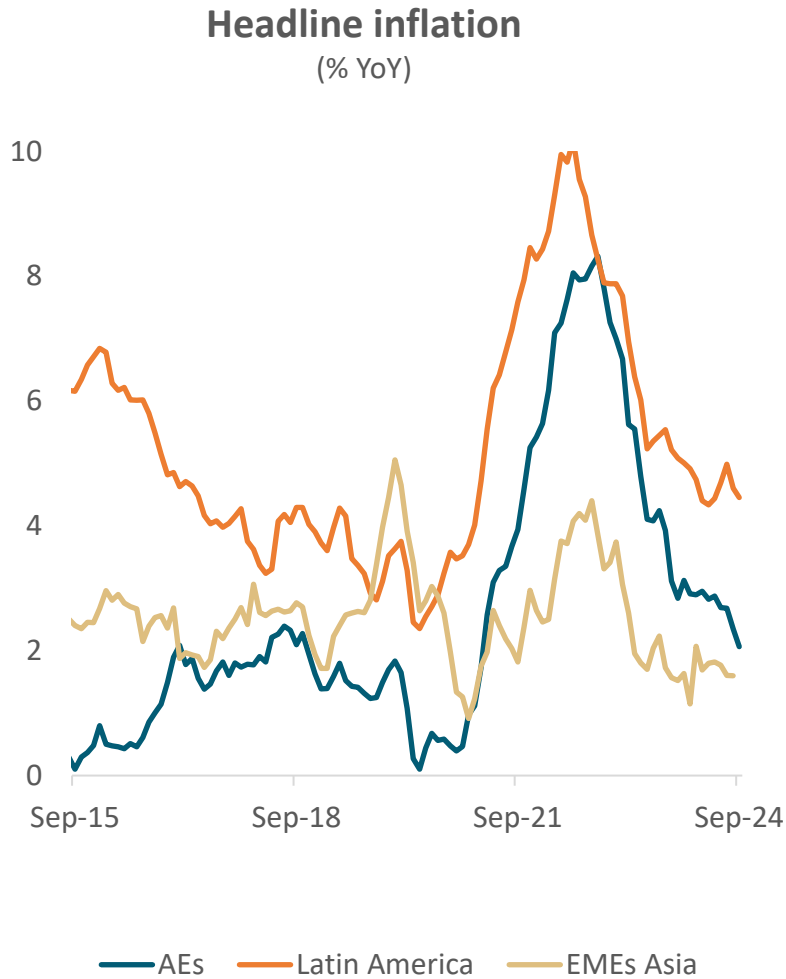
20-20 Investment Association

Economic Outlook and Agenda BC#

Roberto Campos Neto

Governor of Banco Central do Brasil

Gradual reduction in inflation. Food and energy prices in Latin America explain divergence between blocs in recent data.

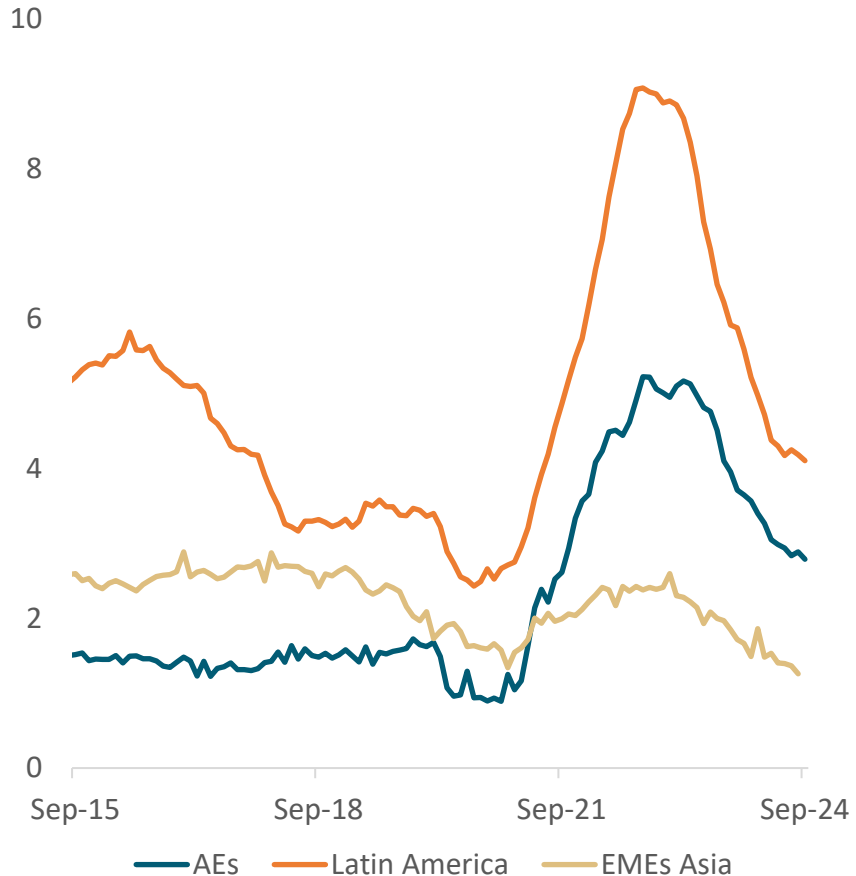


Sources: Bloomberg, Refinitiv, LSEG.

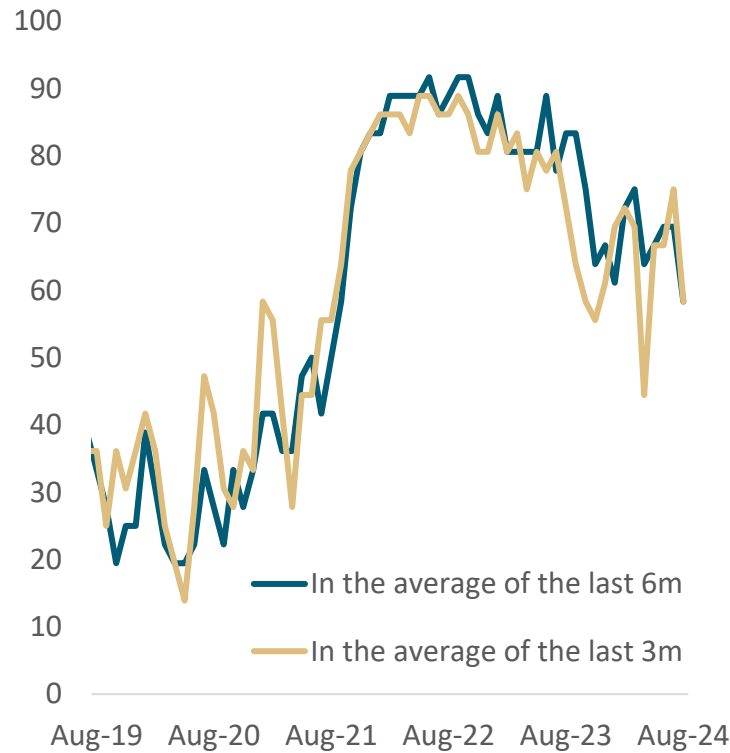
*Weighted by PPP. Latam: BR, MX, CL, CO, PE (except food); Asia EM: CN, ID, IN, KR, PH, TW, TH; AEs: DE, FR, IT, BE, NE, IE, SP, CH, NO, DK, FI, US.

Gradual reduction in inflation. Pace of core disinflation has been slower.

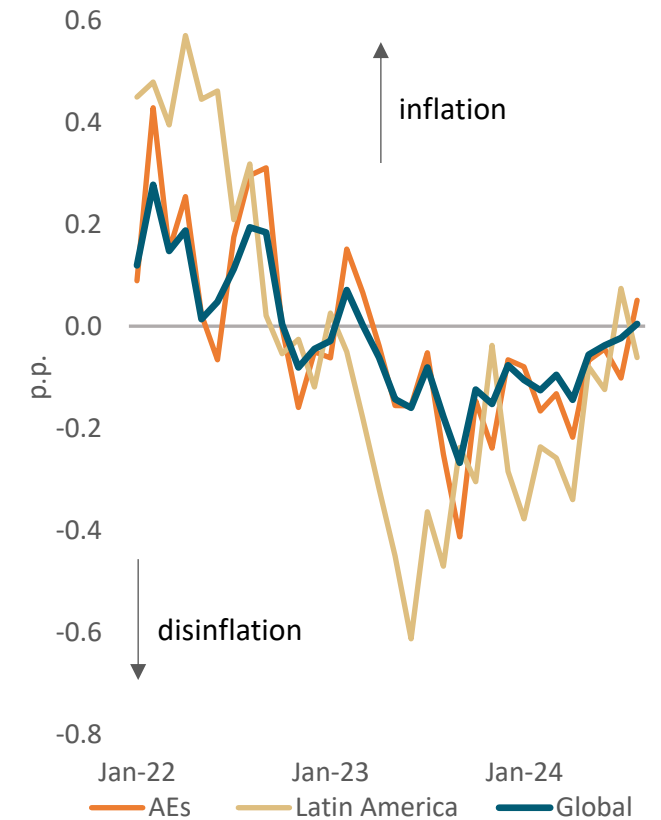
Core inflation*
(% YoY)



Percentage of countries with core inflation above the target**
(% YoY)



Pace of core disinflation
(difference between current month and previous month)



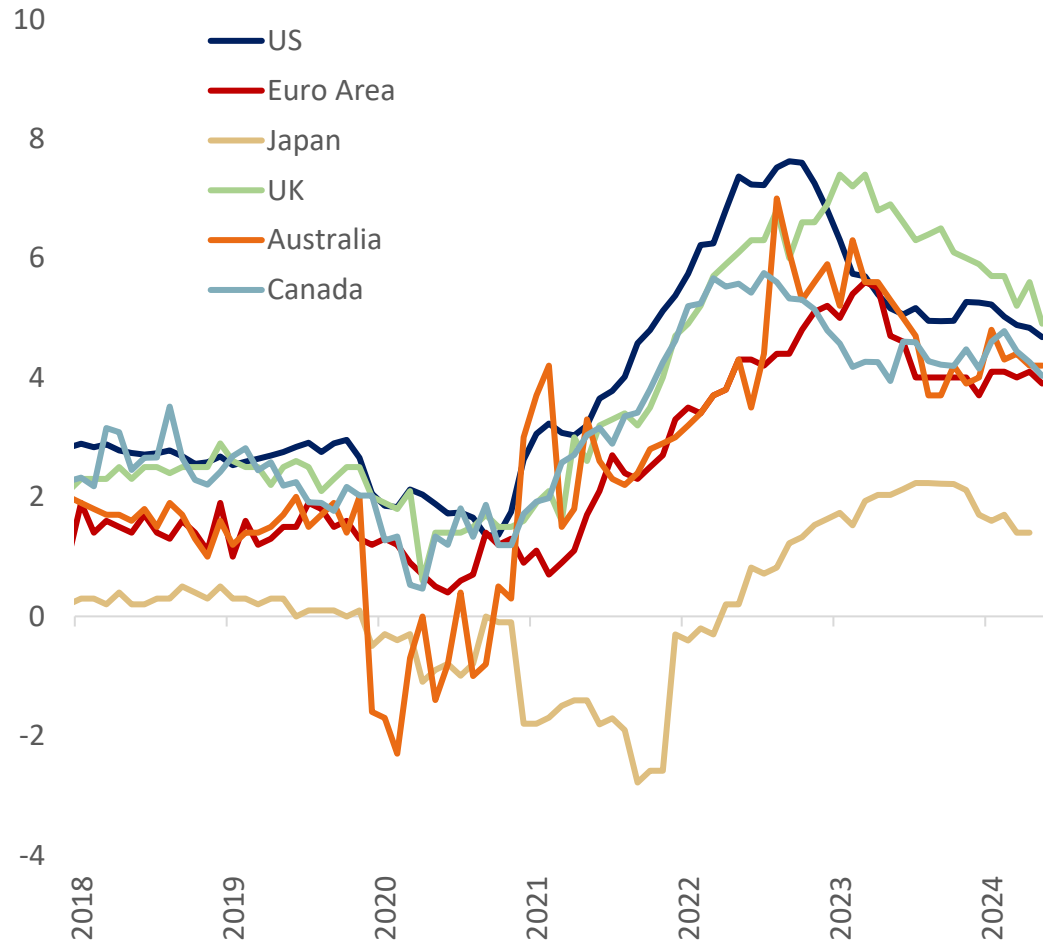
Sources: Bloomberg, Refinitiv, LSEG.

*Weighted by PPP. Latam: BR, MX, CL, CO, PE (except food); Asia EM: CN, ID, IN, KR, PH, TW, TH; AEs: DE, FR, IT, BE, NE, IE, SP, CH, NO, DK, FI, US.

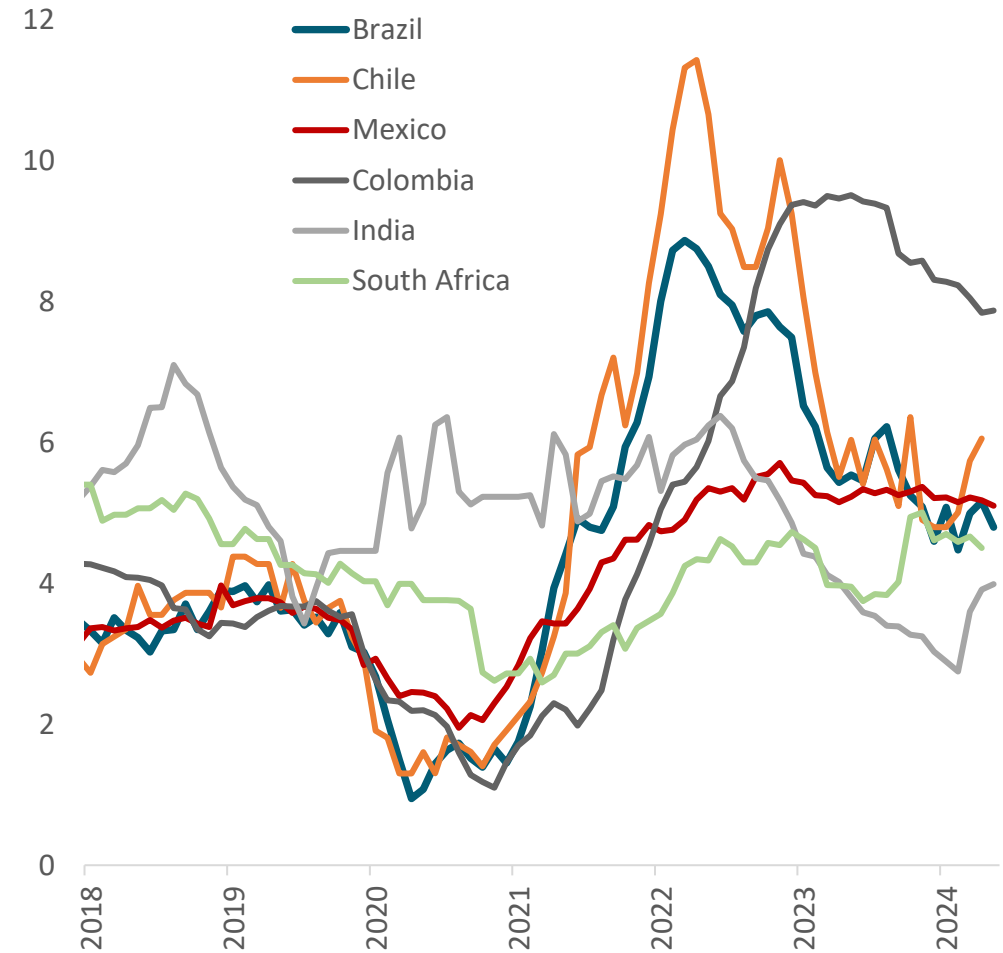
** GER, FRA, UK, ITL, HOL, BEL, IRL, ESP, SUI, NOR, SUE, DIN, FIN, EUA, CAN, MEX, BRA, CHL, COL, CHI, IND, JAP, COR, MYS, TWN, THA, ZAF, TUR, RUS, BUL, CZE, HUN, POL, ROM, ESL.

Resilience in services inflation partly explained by buoyant labor markets in different countries.

AEs: Services inflation (% YoY)

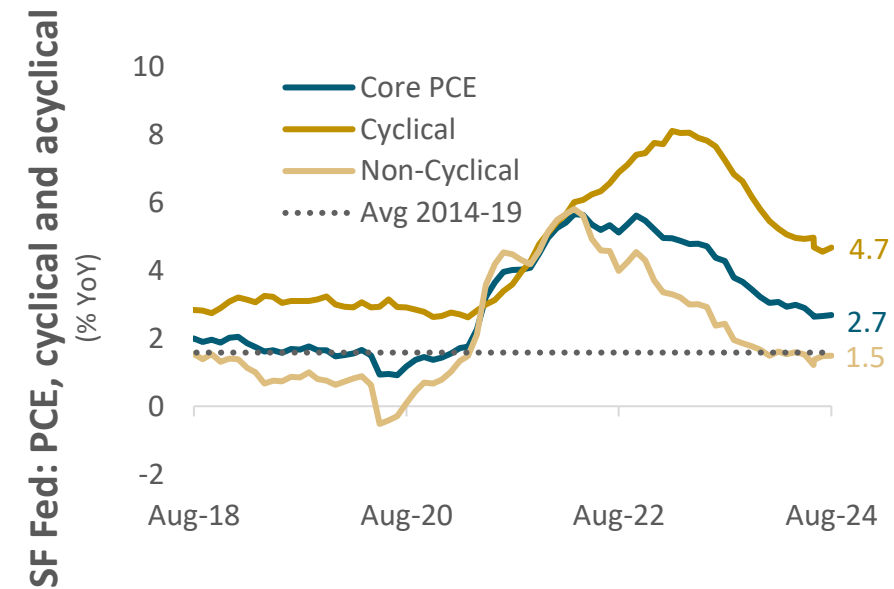
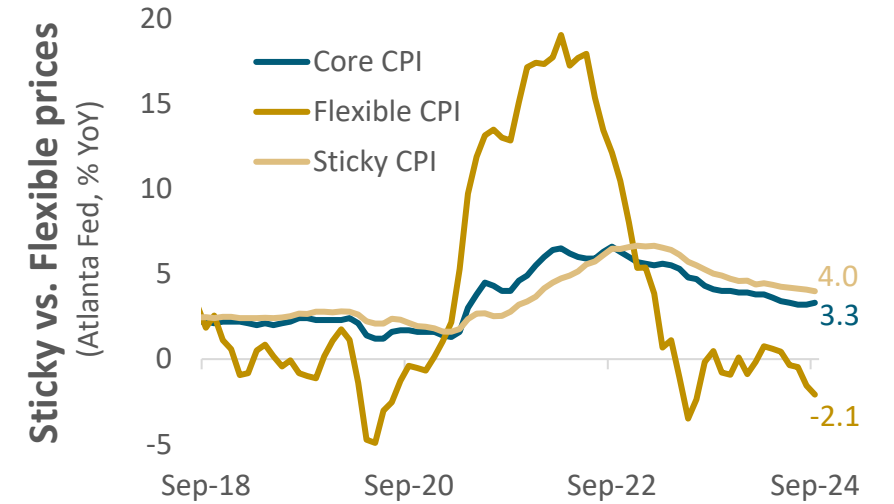
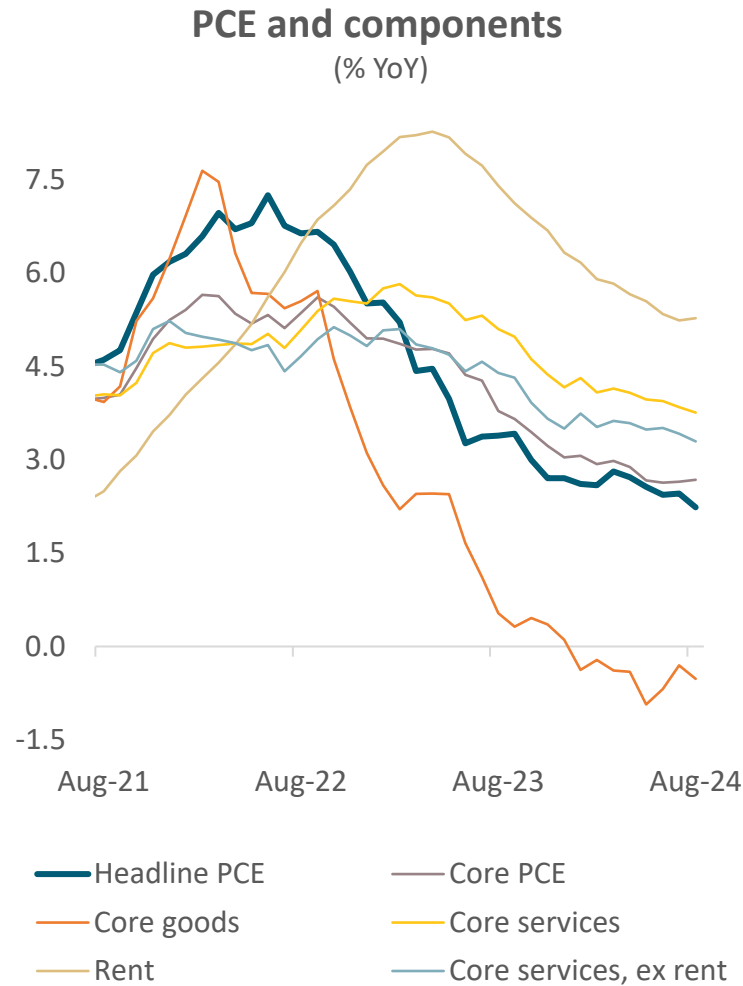


EMEs: Services inflation (% YoY)



Sources: Bloomberg, BIS Annual Economic Report 2024.

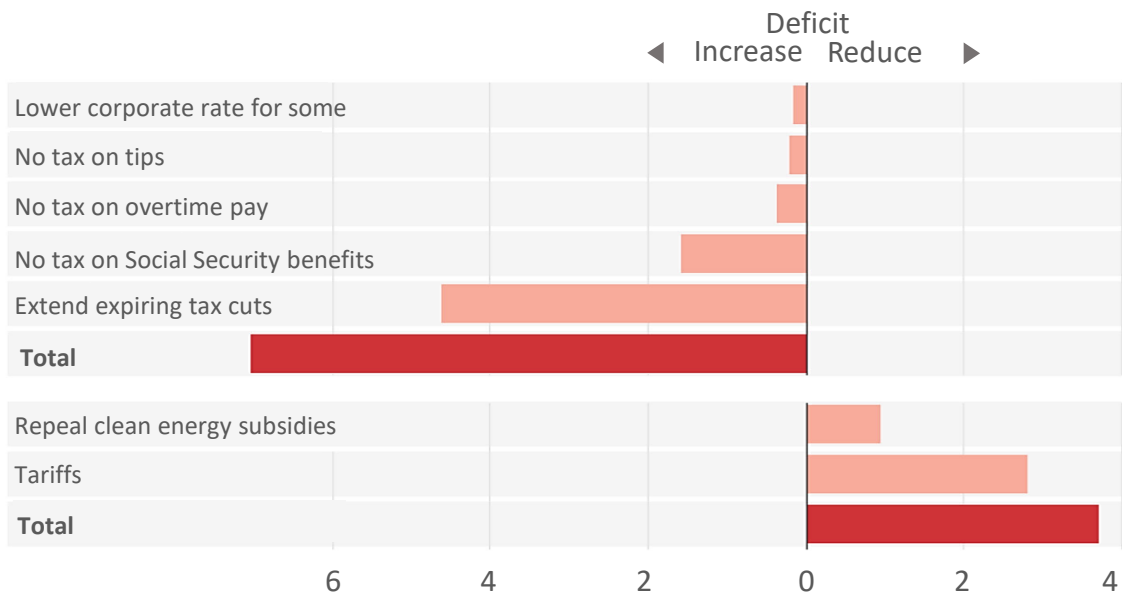
Gradual reduction in inflation and alternative measures of core inflation.



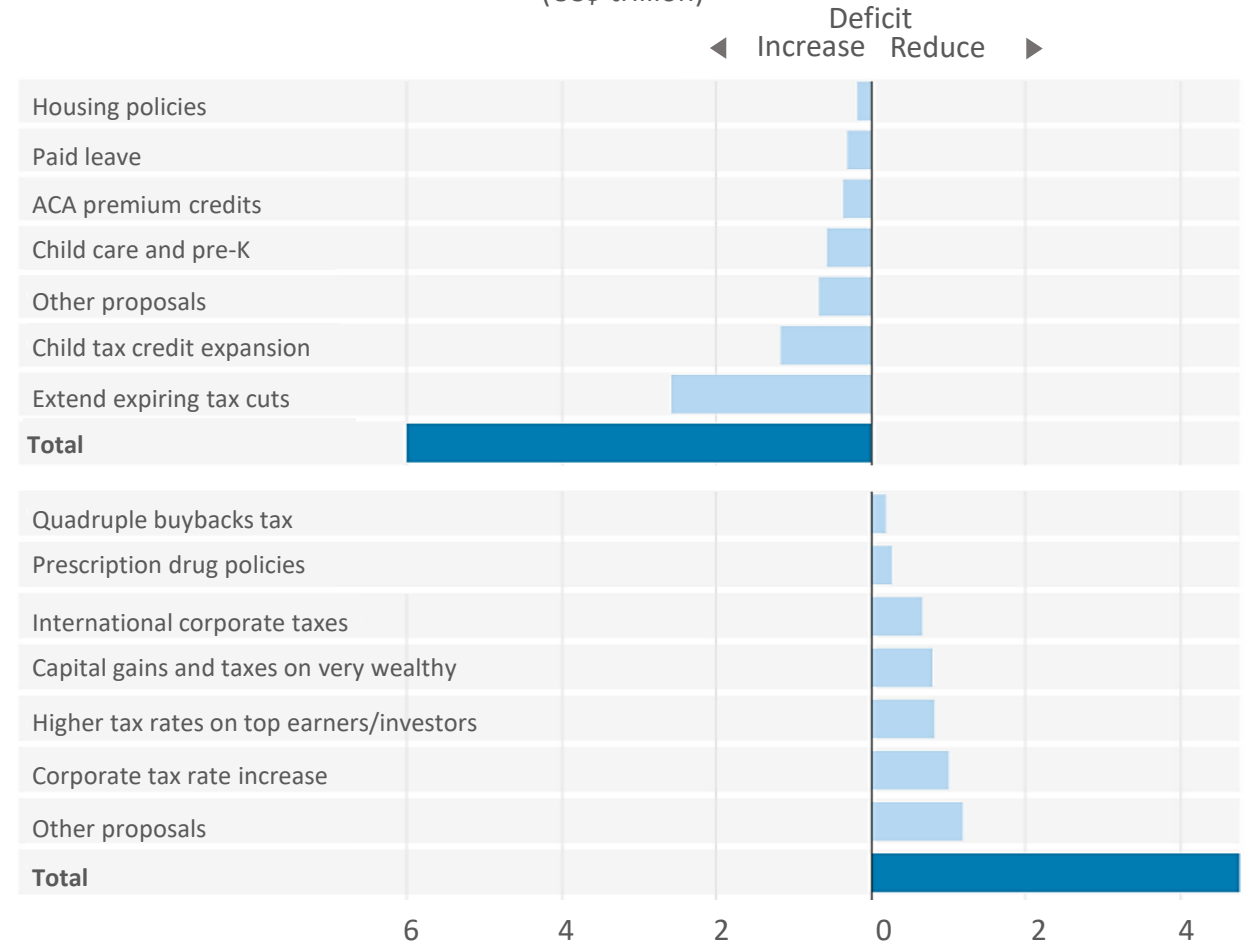
Sources: Bloomberg, Fed.

Proposals discussed during the U.S. election campaign imply fiscal expansion.

Fiscal outlook under Trump (US\$ trillion)



Fiscal outlook under Harris (US\$ trillion)

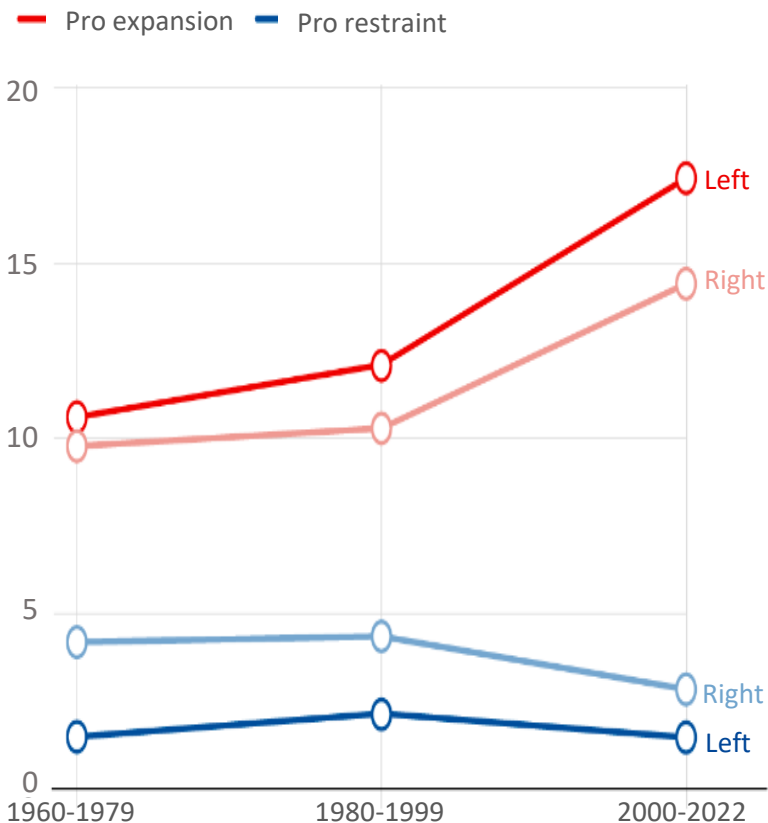


Proposals discussed during the U.S. election campaign would have an inflationary effect, if implemented.

Fiscal policy

Evolution of discourse by party family

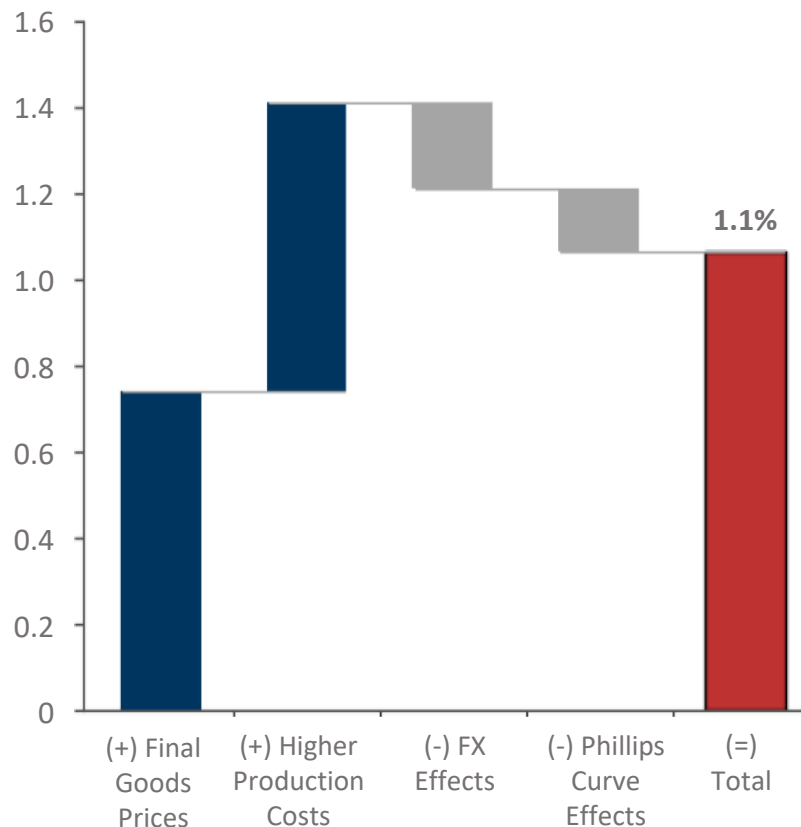
(% of platform)



Import tax

Effect on U.S. inflation of tariff hikes*

(%)

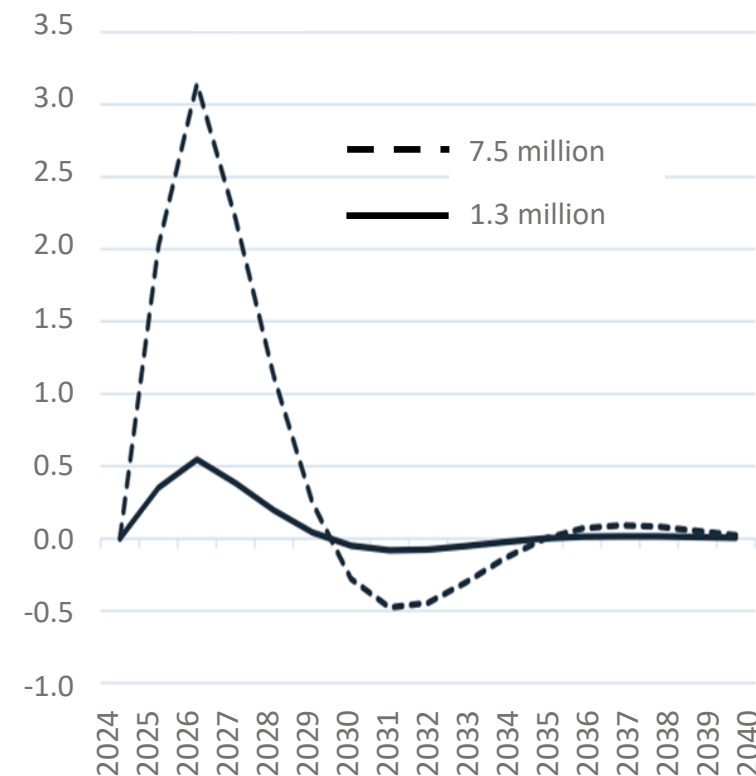


*The exercise consists on a 10 p.p. hike in import tariffs by the U.S., followed by a 10 p.p. retaliation by other countries.

Immigration policy

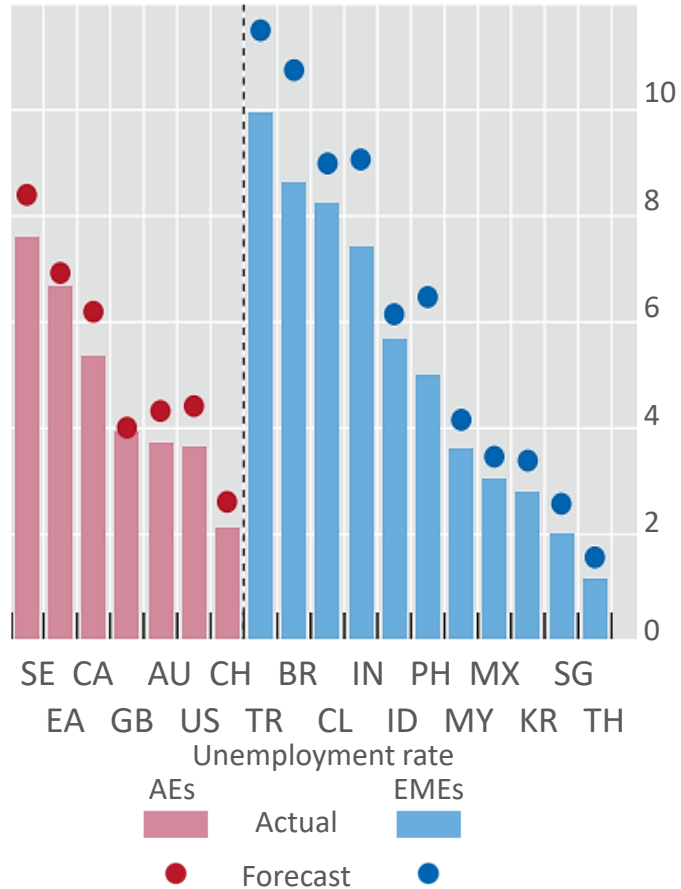
Effect on U.S. inflation of changes in the immigration policy

Scenario 1: deportation of 1.3 mi people from the US
Scenario 2: deportation of 7.5 mi people from the US
(Effect in p.p.)

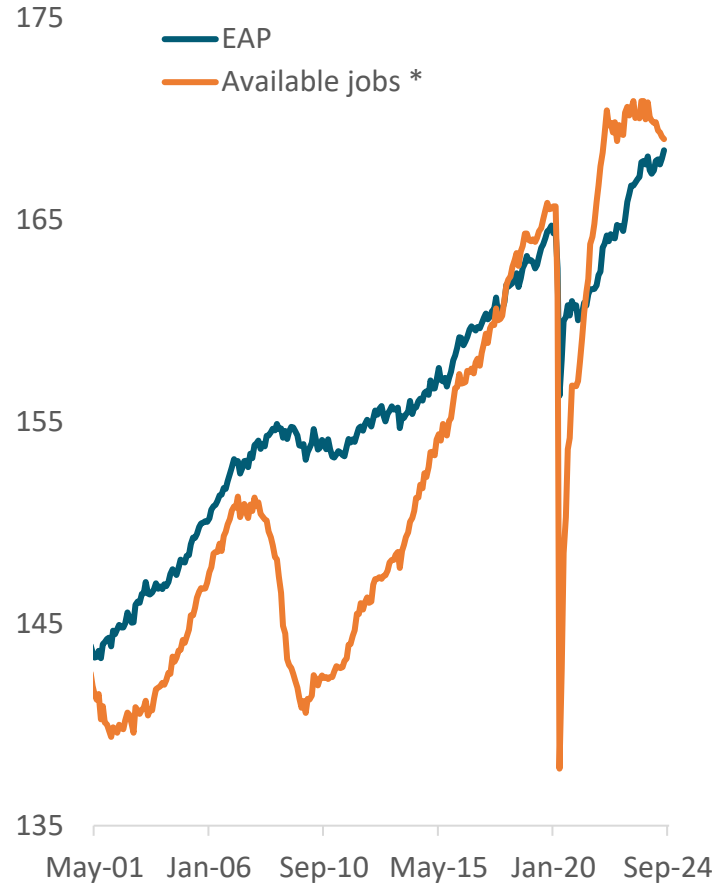


Labor market has been tight in most countries. Labor has also experienced many structural changes.

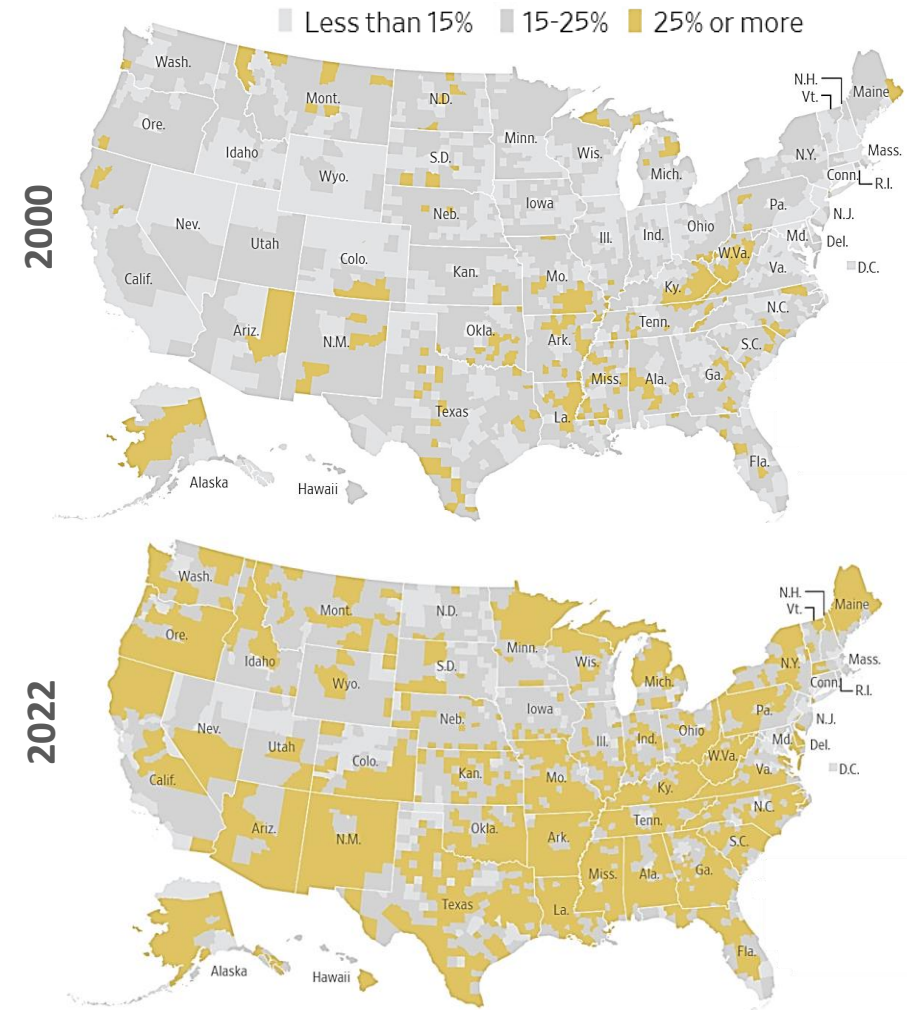
Unemployment: Actual vs. forecast based on GDP growth



U.S.: Available jobs and labor supply (million)



U.S.: Share of personal income from government assistance, by counties

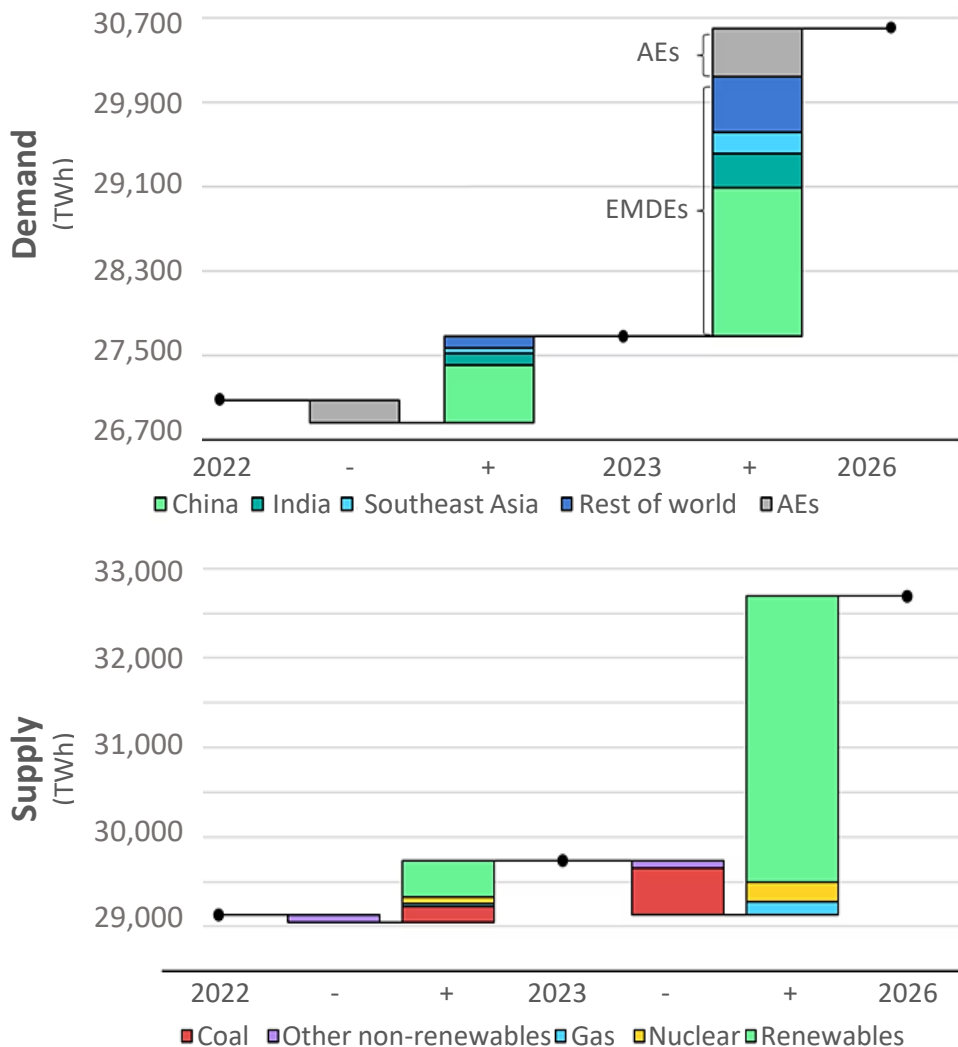


* Corresponds to employment plus job openings.

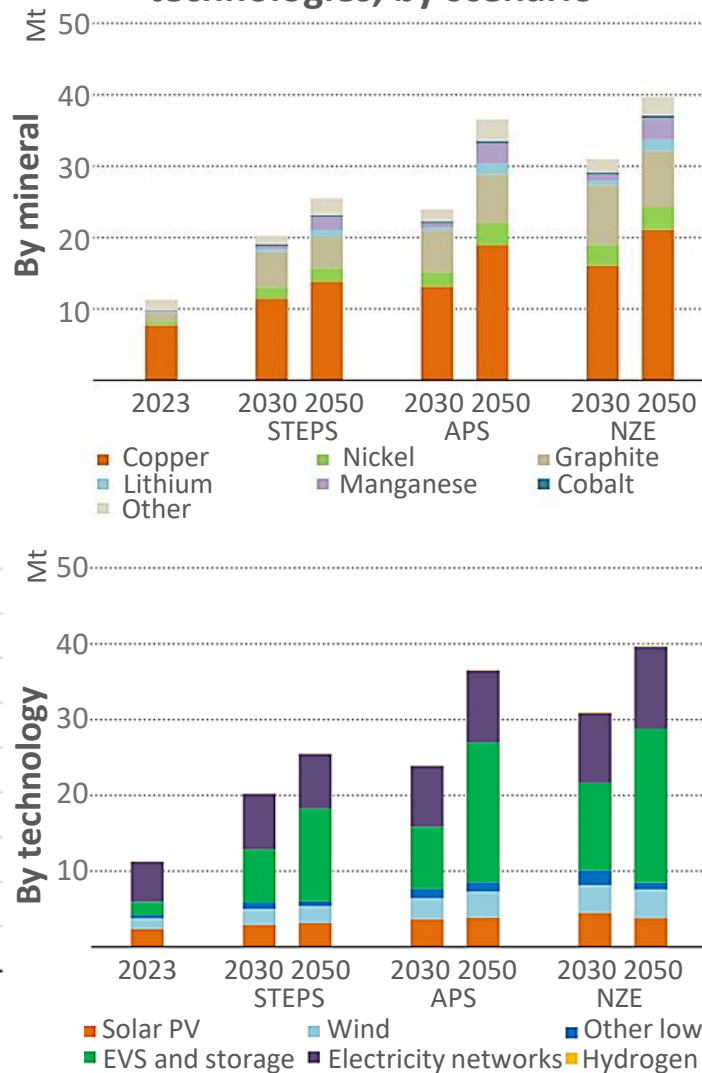
Countries: SE=Sweden, CA=Canada, AU=Australia, CH=Switzerland, BR=Brazil, IN=India, PH=Philippines, MX=Mexico, SG=Singapore, EA=Euro Area, GB=Great Britain, US=United States, TR=Turkey, CL=Chile, ID=Indonesia, MY=Malaysia, KR=Korea, TH=Thailand. Actual and predicted show the average unemployment rate between Q1 2022 and Q4 2023.

Sources: BIS, BLS, WSJ/EIG.

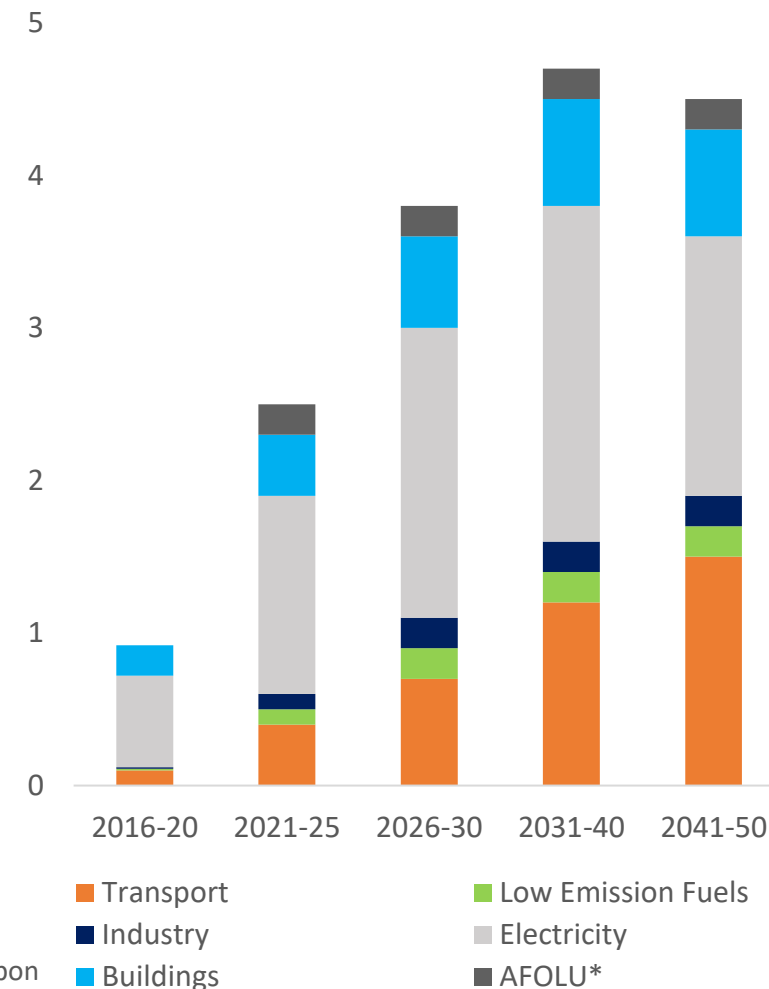
Change in energy demand and supply



Mineral requirements for clean energy technologies, by scenario*



Annual average investment requirement across sectors (2021-2050, in USD trillion)

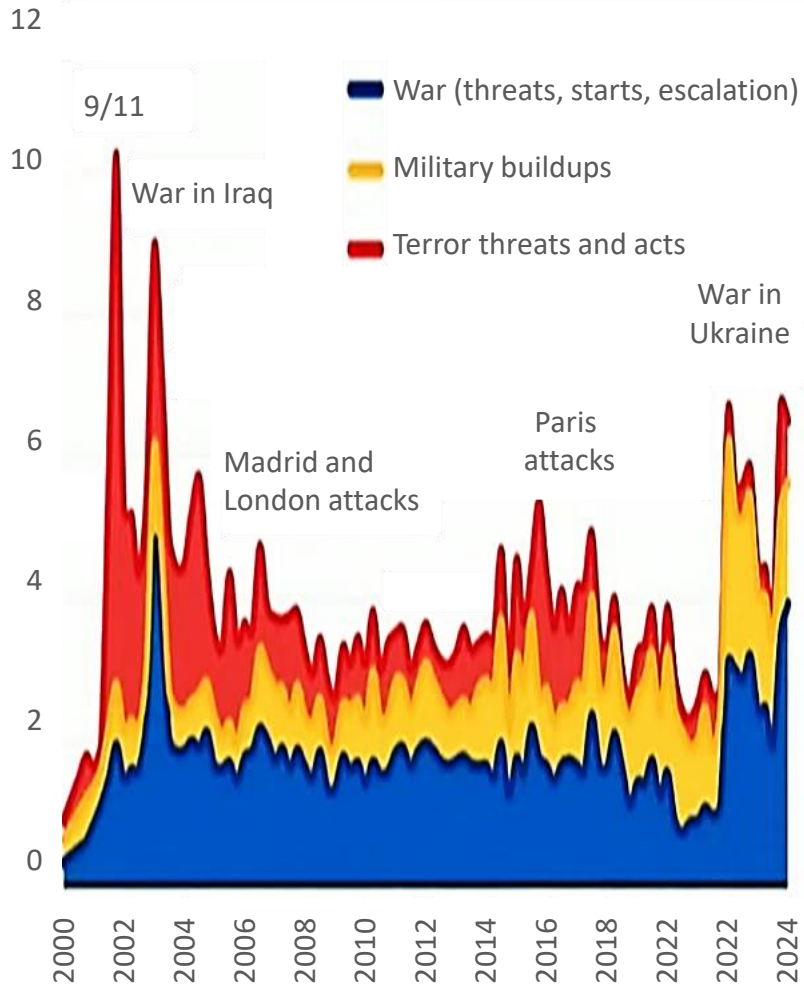


Sources: IEA.

*STEPS: States Policies Scenario, APS: Announced Pledges Scenario, NZE: Net Zero Emissions by 2050

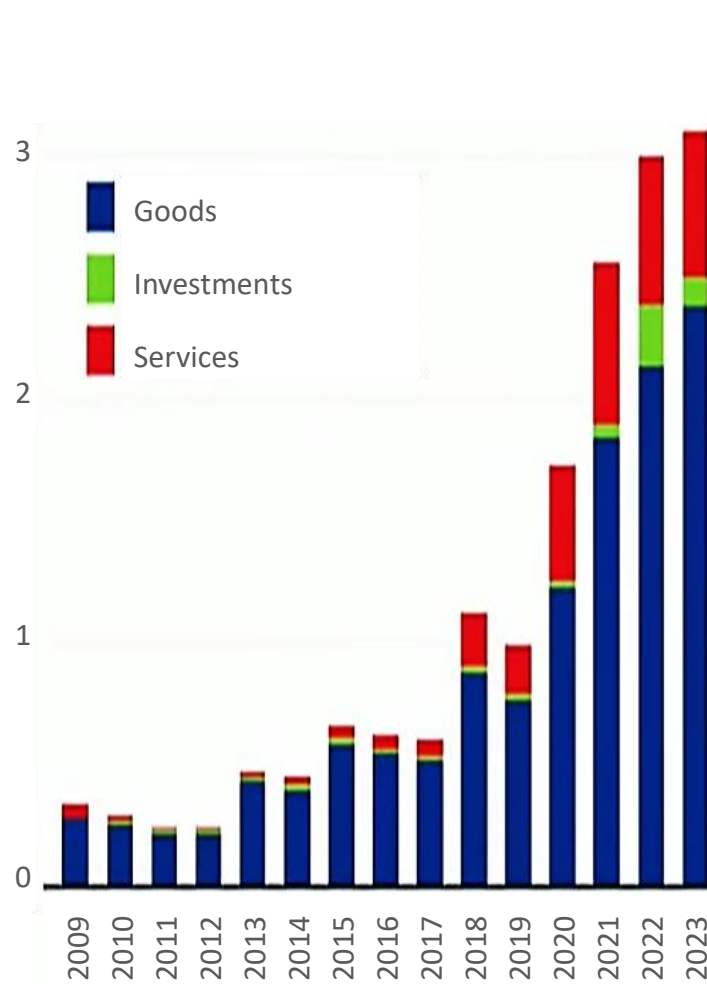
*Agriculture, Forestry, and Other Land Use

Geopolitical risk (Index)

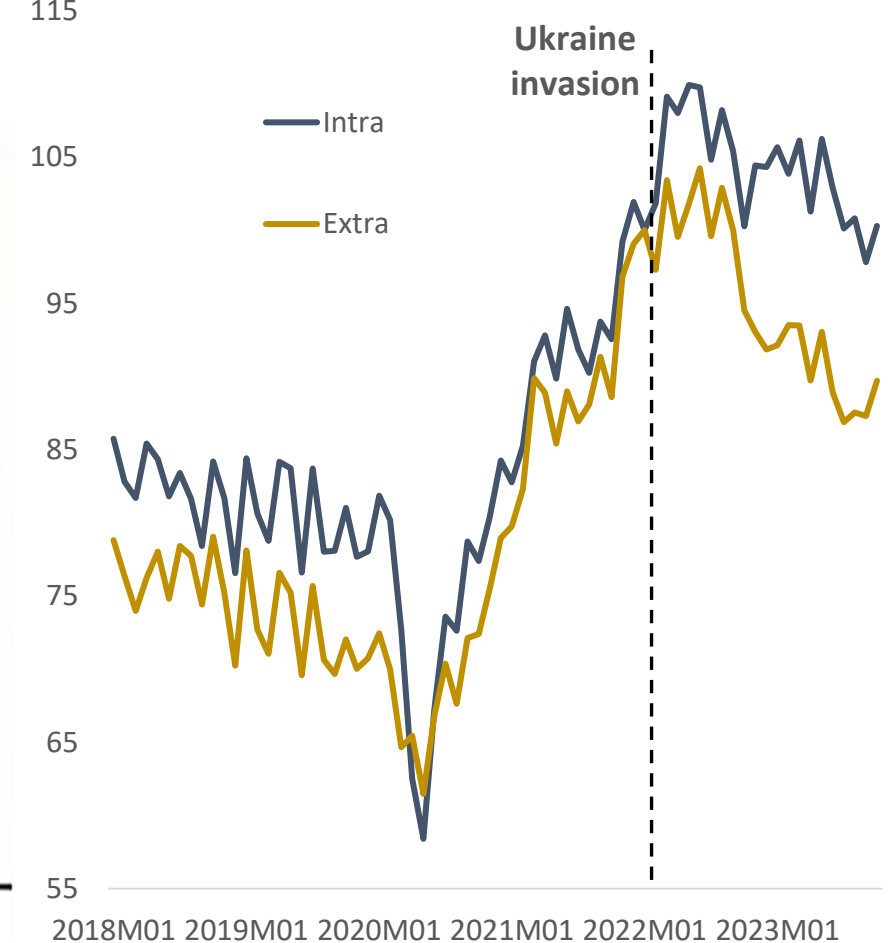


Sources: IMF, WTO

Trade restrictions (thousand)

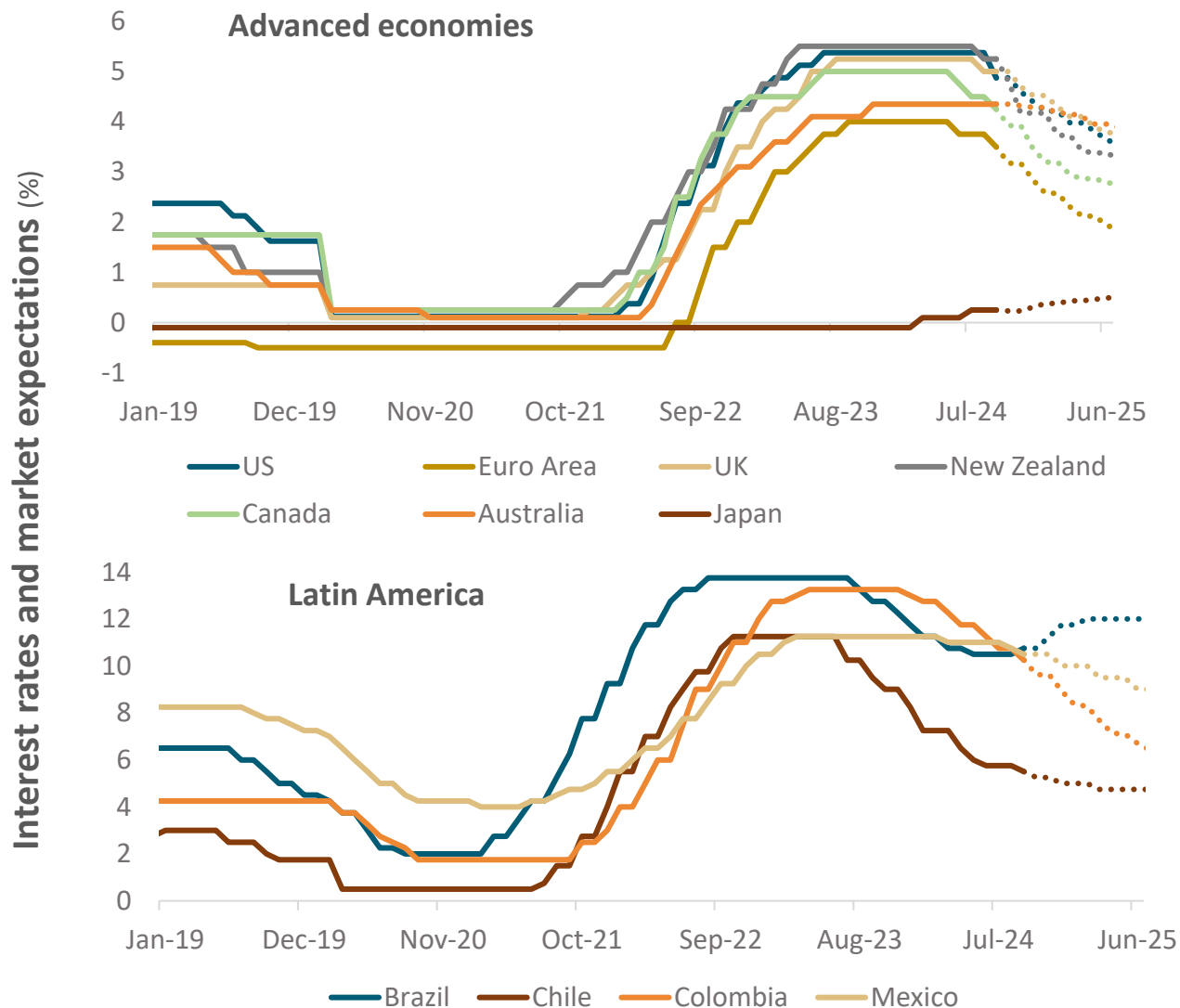


Trade between geopolitical blocks (Jan/2022 = 100)



Sources: IMF, WTO

Scenario highlighted by lower synchronization of monetary policy cycles among countries.

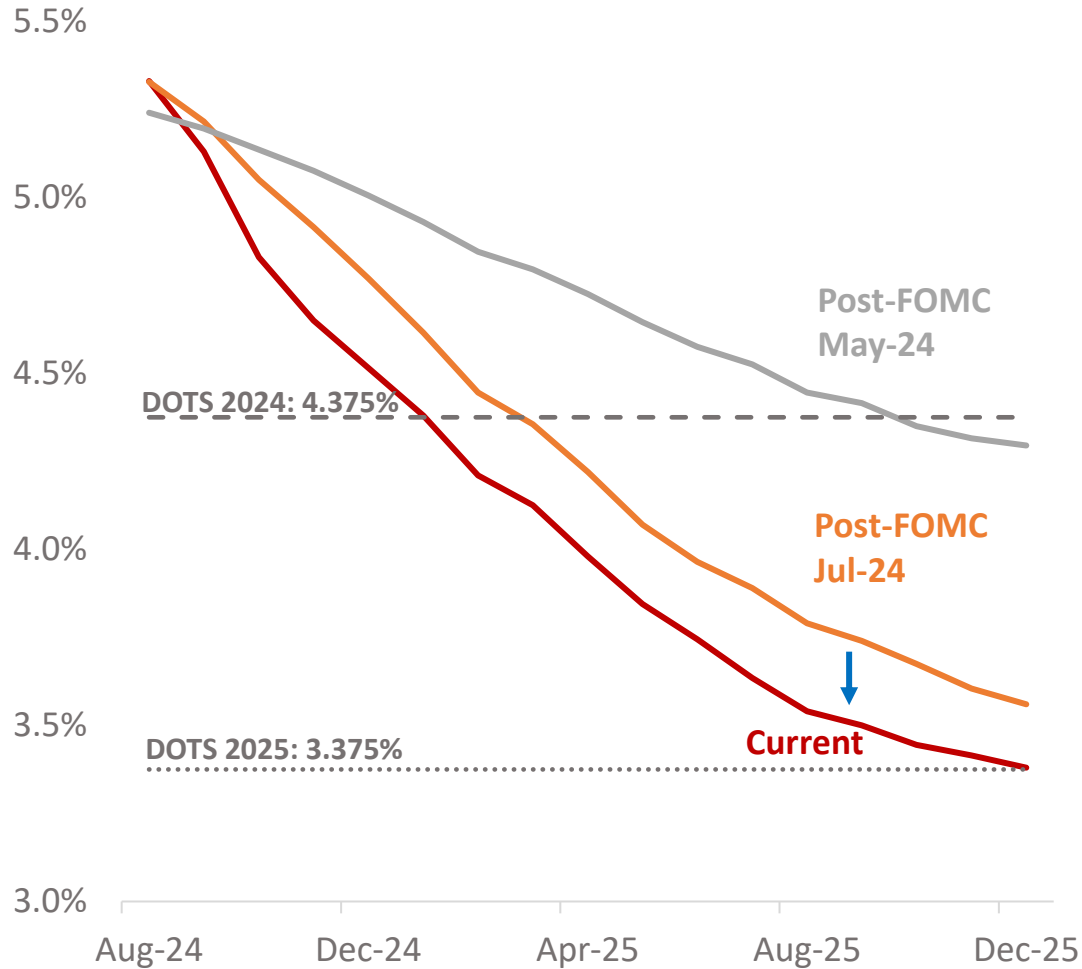


Monetary policy pricing

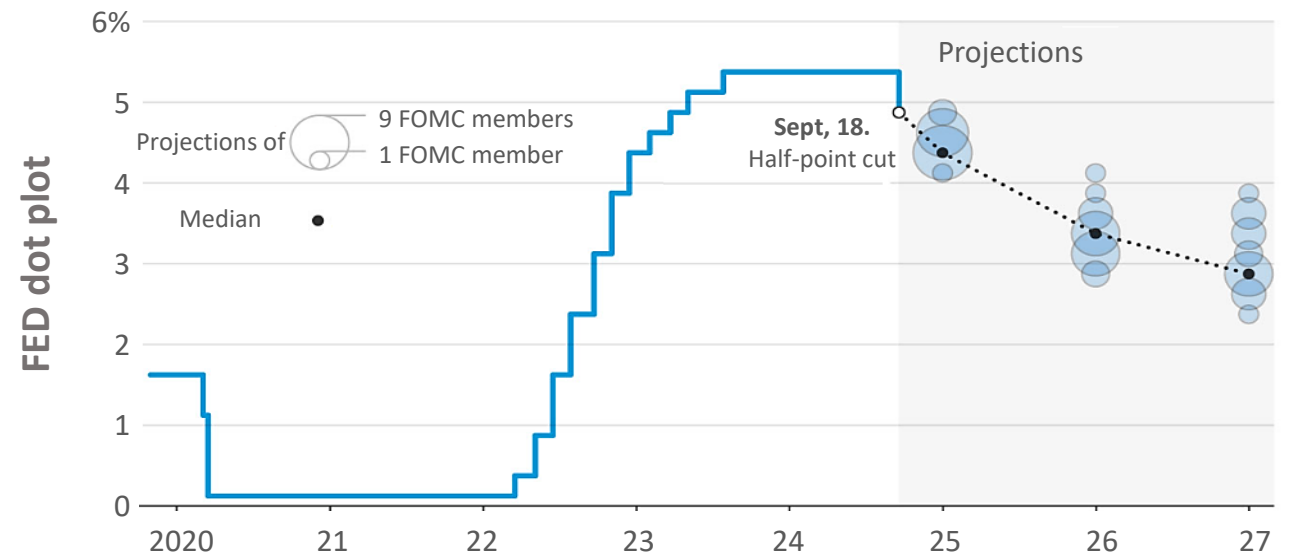
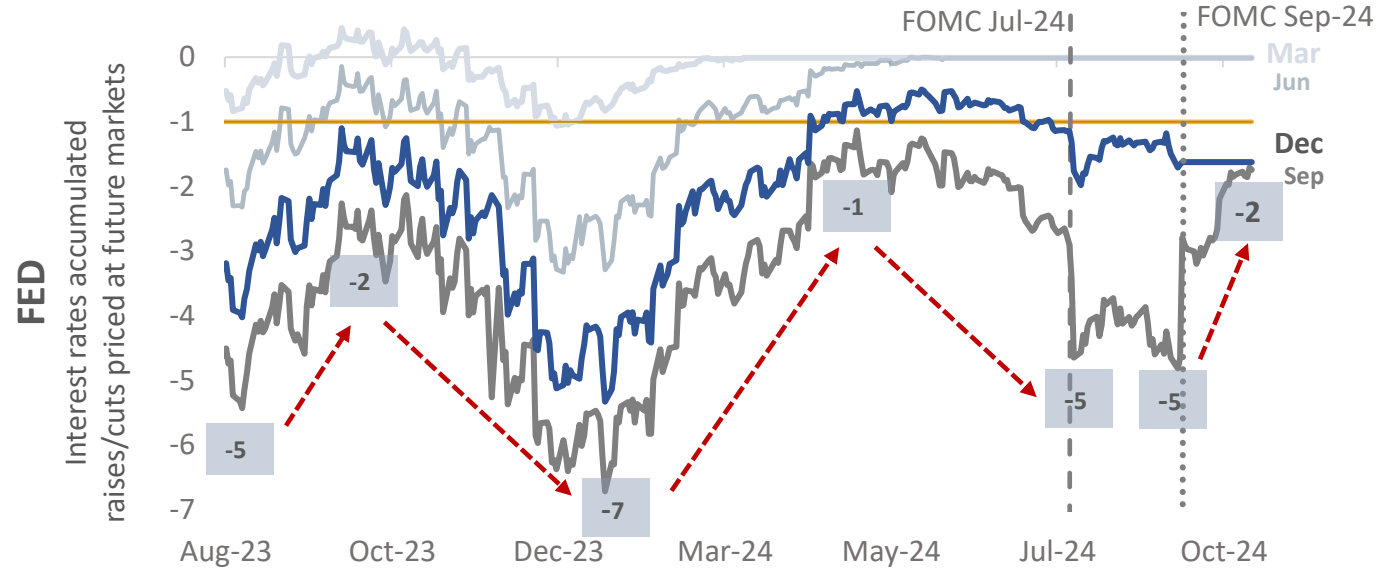
Country	Rate (%) <small>last decision</small>	10/17/2024	
		6 months pricing <small>base-points</small>	1 year pricing <small>base-points</small>
AEs			
US	4,88 ↓	-90	-138
Canada	4,25 ↓	-135	-158
Euro area	3,25 ↓	-109	-159
UK	5,00 =	-87	-127
Australia	4,35 =	-26	-65
New Zealand	4,75 ↓	-113	-155
Japan	0,25 =	+21	+34
EMEs			
Mexico	10,50 ↓	-78	-141
Chile	5,25 ↓	-81	-114
Brazil	10,75 ↑	+214	+274
Colombia	10,25 ↓	-193	-258
Russia	19,00 ↑	+105	-41
South Africa	8,00 ↓	-60	-81
China	1,50 ↓	-27	-33
India	6,50 =	-26	-50
Korea	3,25 ↓	-33	-58

Fed kicks off easing cycle, with a 50-bps rate cut.

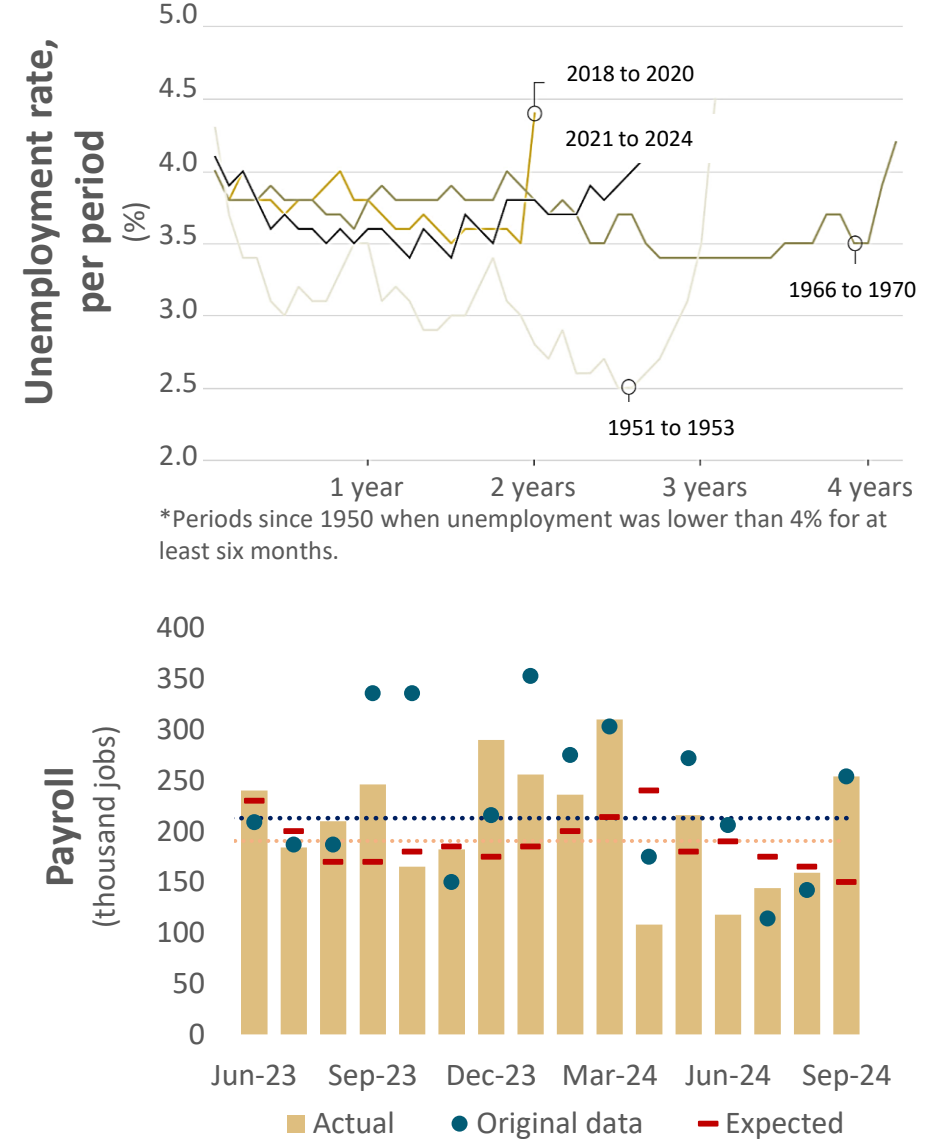
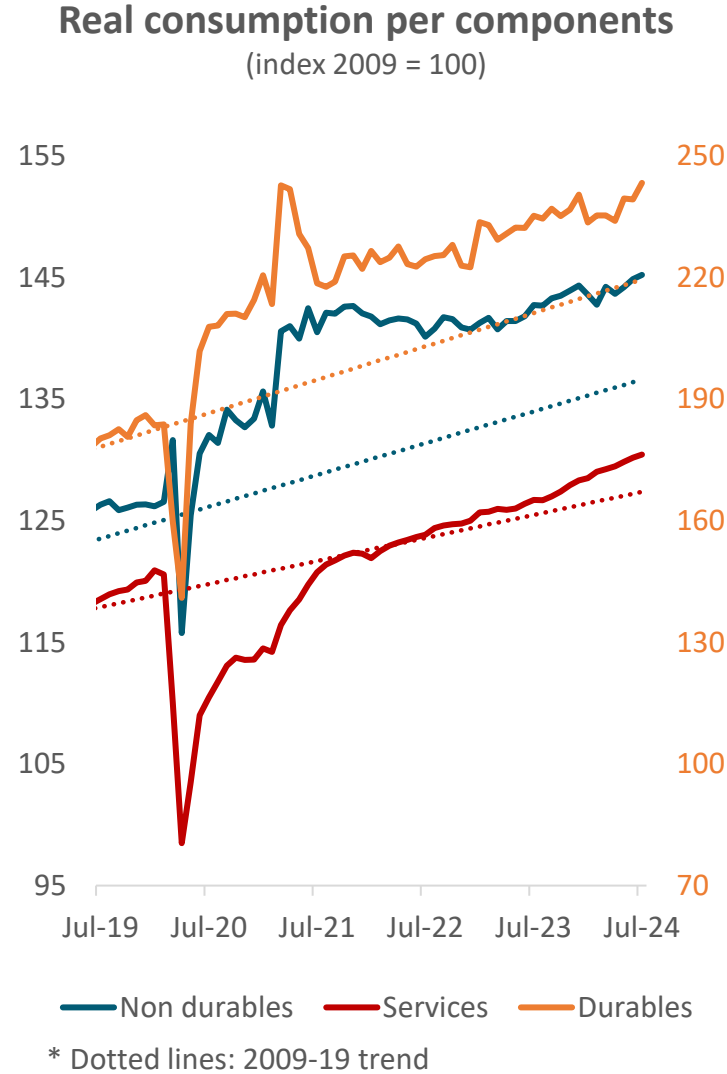
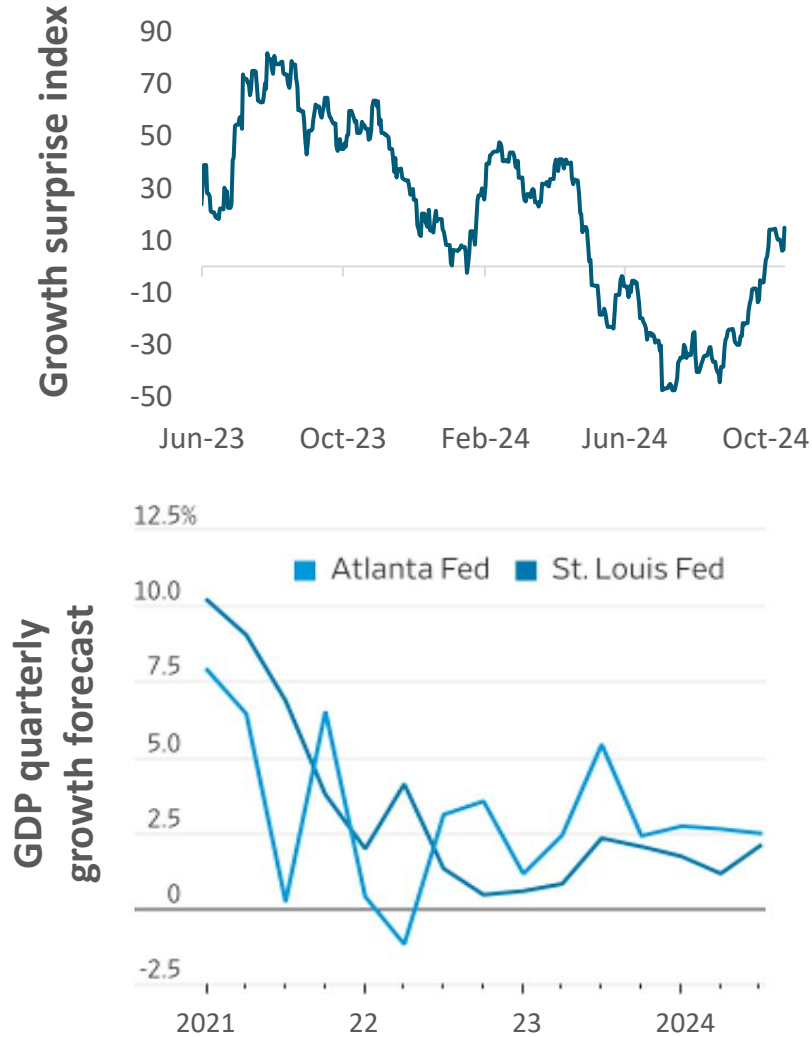
Fed Funds terminal rates (future curves)



Sources: Bloomberg, Fed, WSJ.



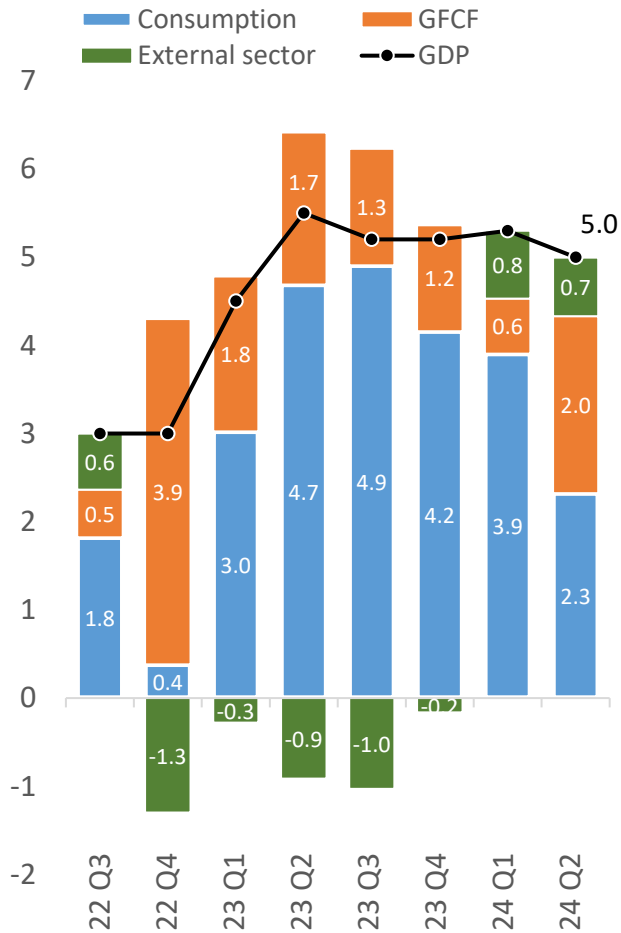
Scenario marked by doubts about the pace of the slowdown in economic activity.



Growth slowing down. Concerns on China's economic performance remain.

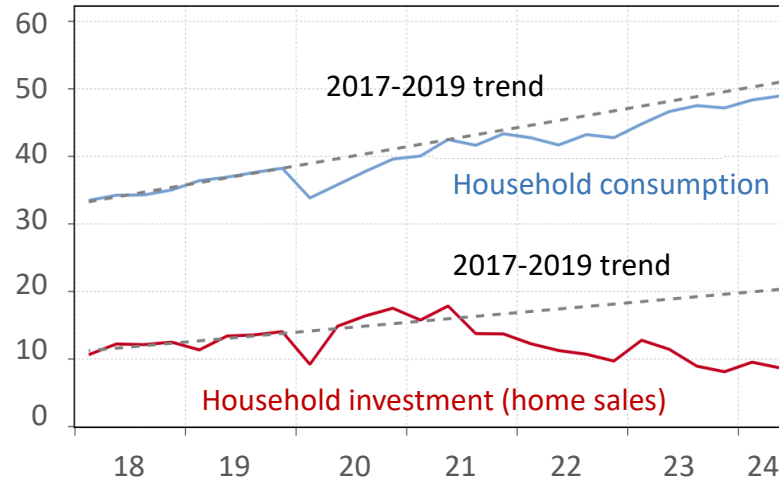
GDP and contributions

(% y/y), contribution in p.p.



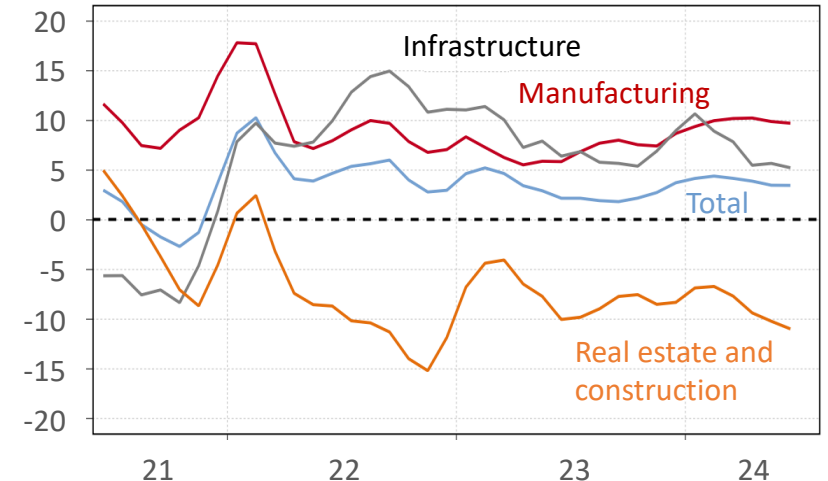
Household consumption and home sales

(s.a., annual rate vs. pre-2020 trend, RMB trillion)

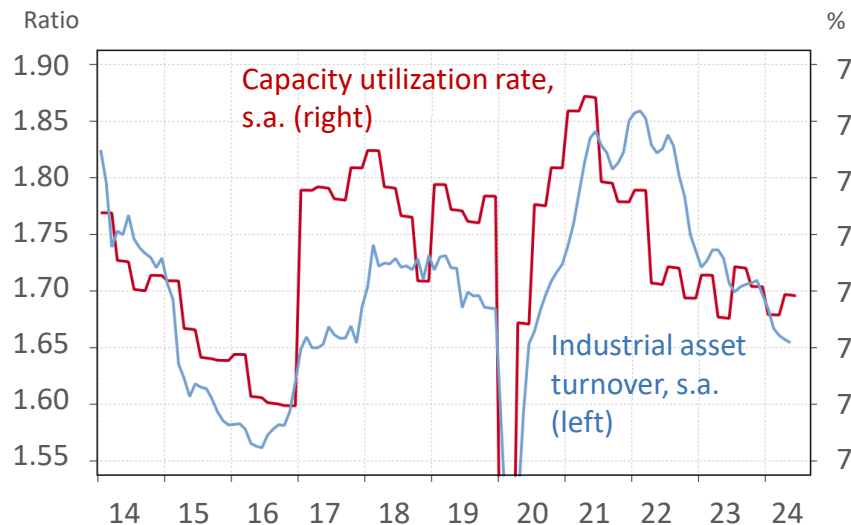


Fixed asset investment

(y/y % change, 3-m.m.a., adjusted by sector)

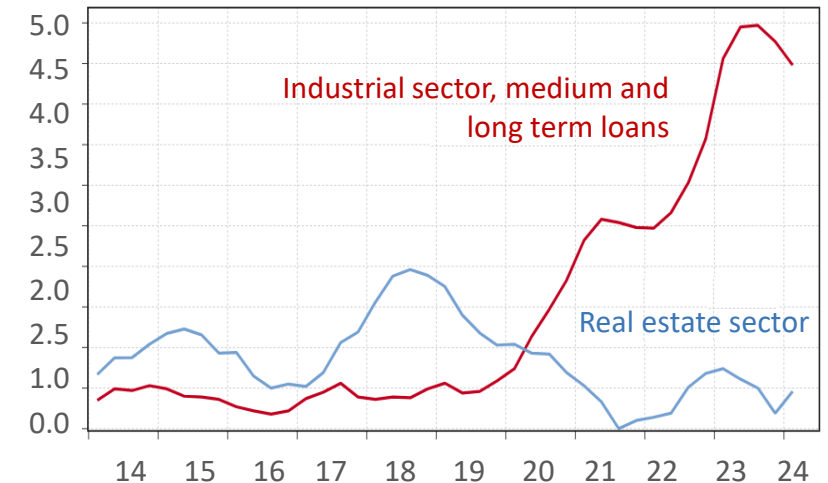


Capacity utilization



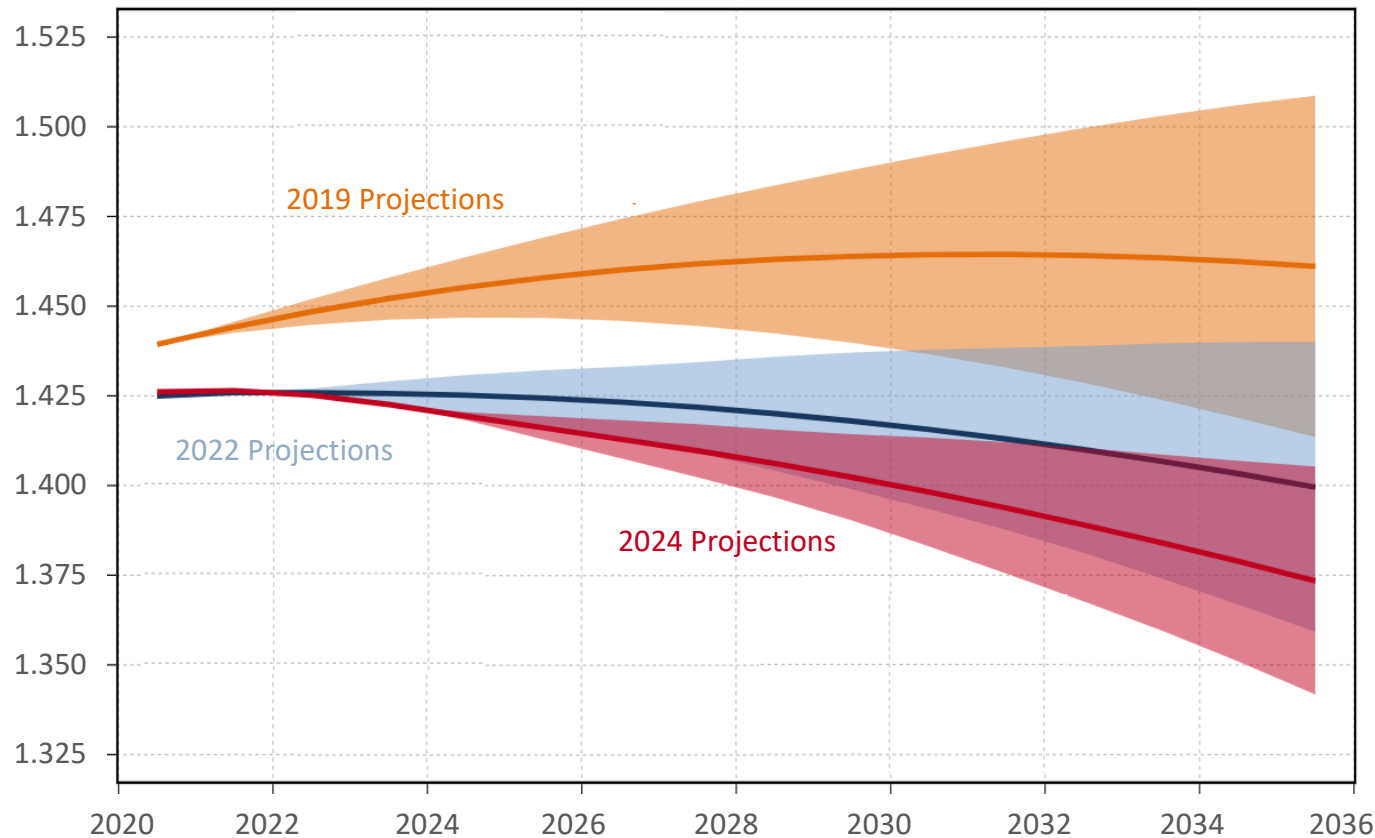
Growth in banking credit

(y/y % change, by sector)



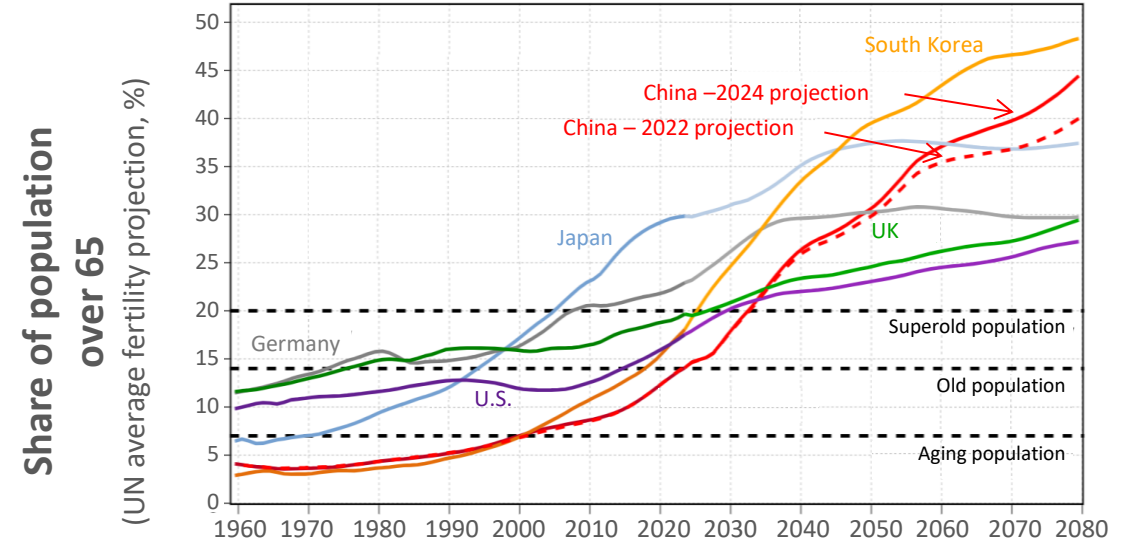
New projections indicate a more challenging demographic, with a faster decline in the population.

UN projections for China's population by date and fertility scenario*
(Number of persons, billion)

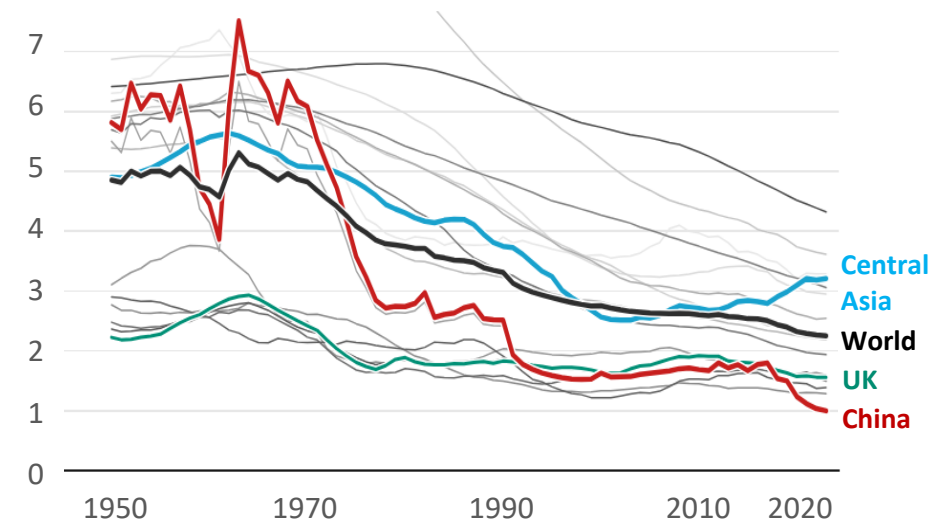


* Range of low, medium and high fertility scenarios.

Sources: Gavekal, The Spectator.



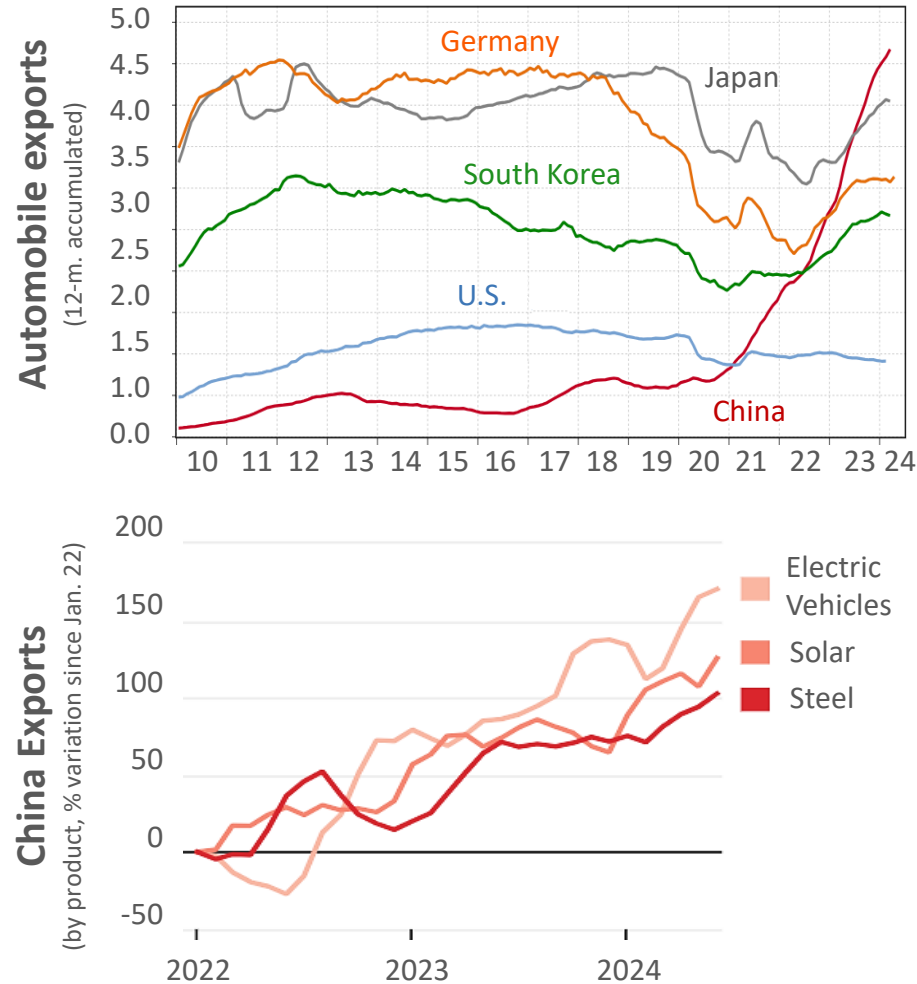
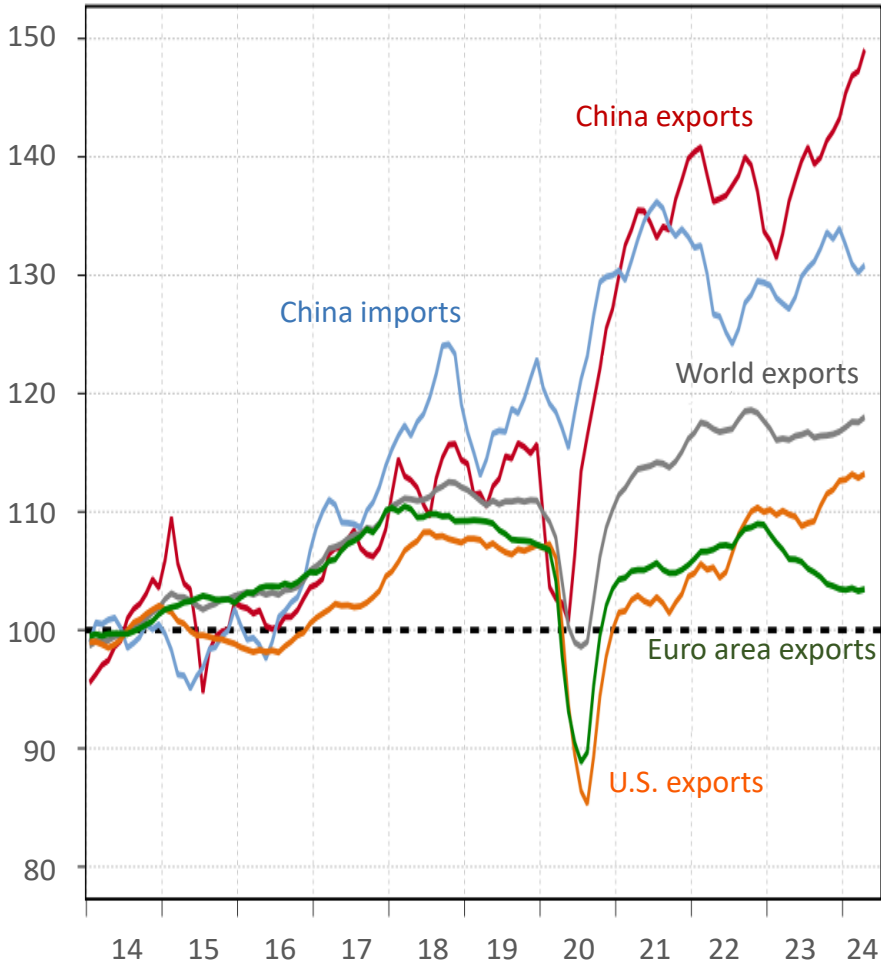
Global birth rate (%)



China has been seeking a new model of economic growth, less based on domestic consumption and more on exports.

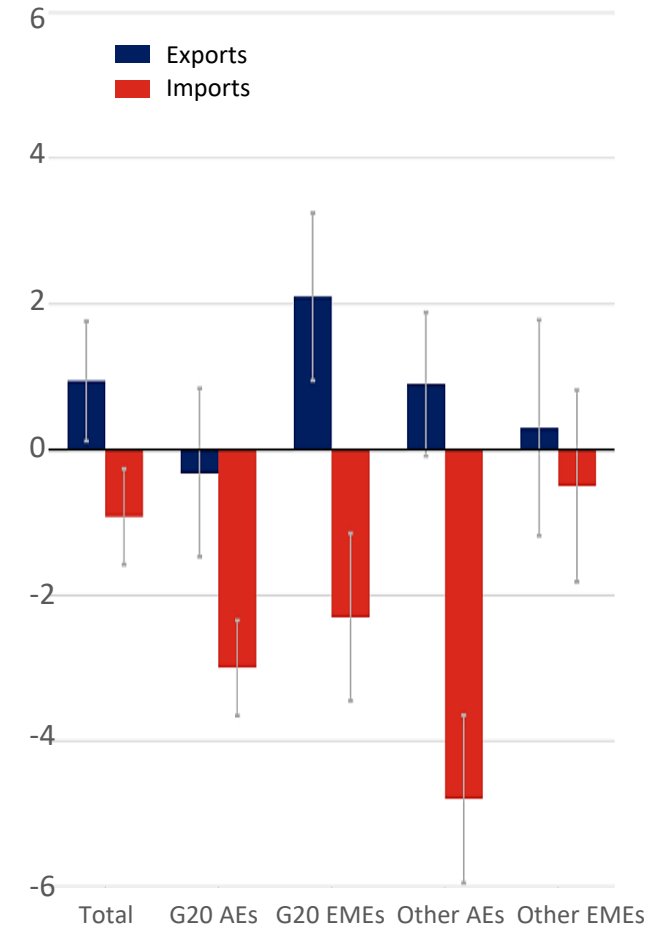
Exports

(volume, s.a., 5-m.m.a., 2014=100)



Effect of subsidies on China's foreign trade

(% var)



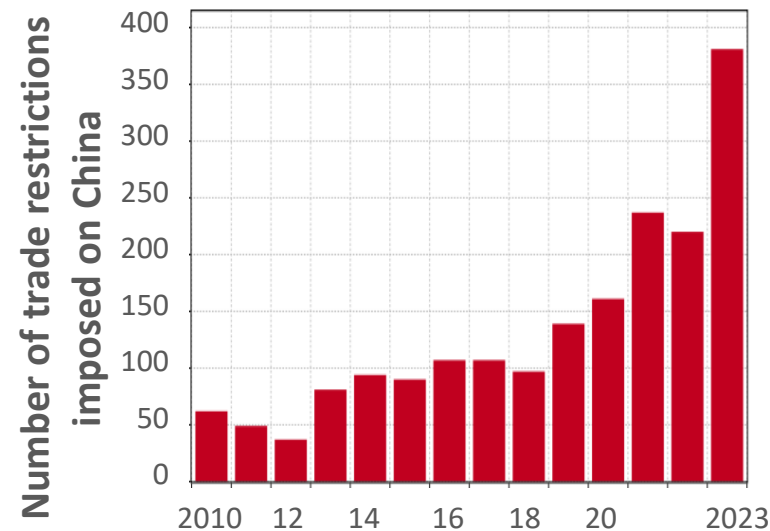
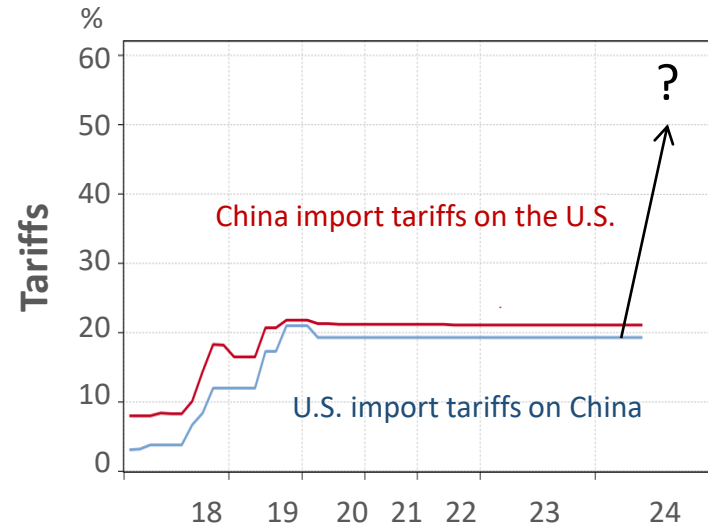
More protectionism may have a large effect on China and spill over to the global economy.

Recent changes in tariffs on China*

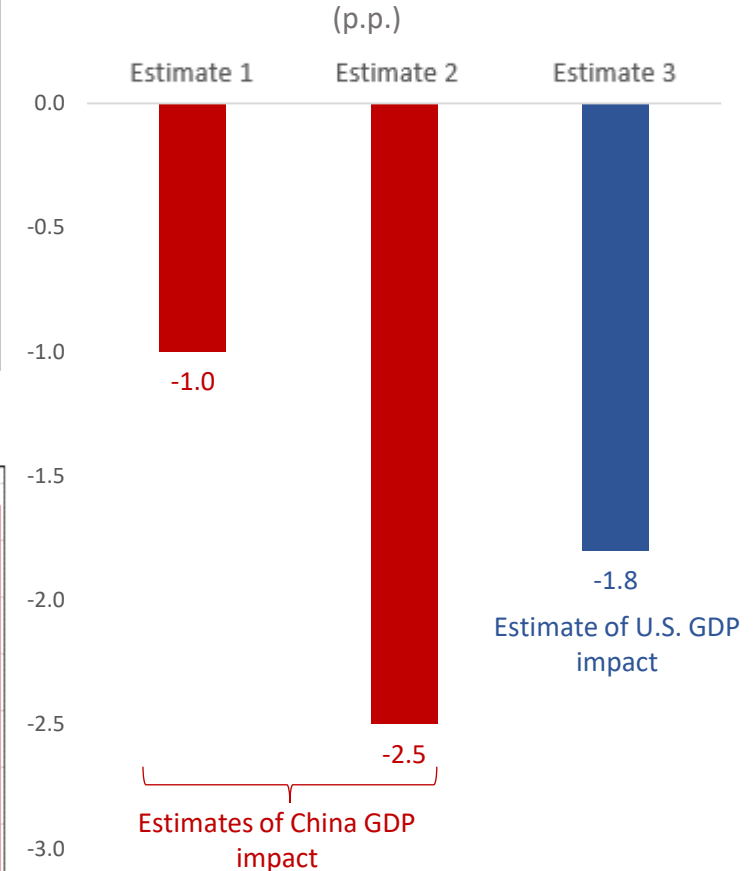
Country/region	Product	Tariff
USA	Steel, aluminum, cranes, solar cells, and other products	Increase in tariffs on steel and aluminium products from 7.5% to 25%. For solar cells, the increase is from 25% to 50%. New tariff on cranes is 50%. Other announced increases will take effect in 2026, such as on batteries (from 7.5% to 25%) and graphite (from 25%).
EU	Electric vehicles	The tariff on EVs imported from China was raised from 10% to between 27.4% and 48.1%.
Canada	EV, steel and aluminium	Tariff of 100% on electric vehicles and 25% on steel and aluminum imported from China.
Turkey	Electric vehicles	Tariff of 40% on electric vehicles imported from China.

* Other countries have opened anti-dumping investigations against China. India is examining Chinese pigments and chemicals. Japan is analyzing electrodes. UK is investigating imports of excavators and biodiesel, while Argentina and Vietnam are investigating Chinese microwave ovens and wind turbines.

Sources: WSJ, EU, Gavekal, UBS, Peterson Institute, Goldman Sachs.



Estimates of GDP impact from hikes in import tariffs in the U.S.



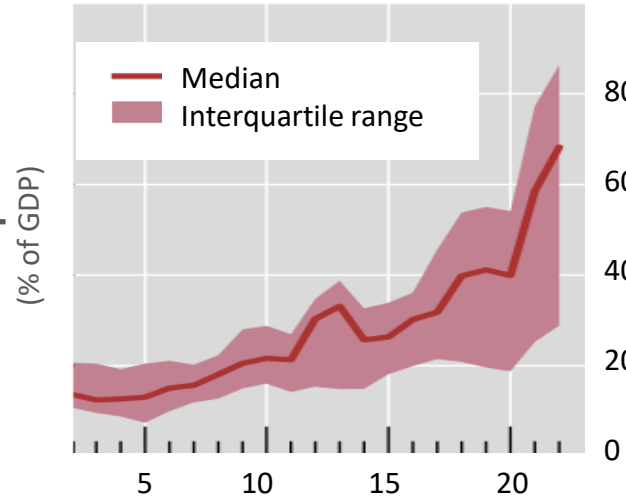
Estimate 1 (Goldman Sachs): General 10% hike and 60% hike on China

Estimate 2 (UBS): 60% hike on China

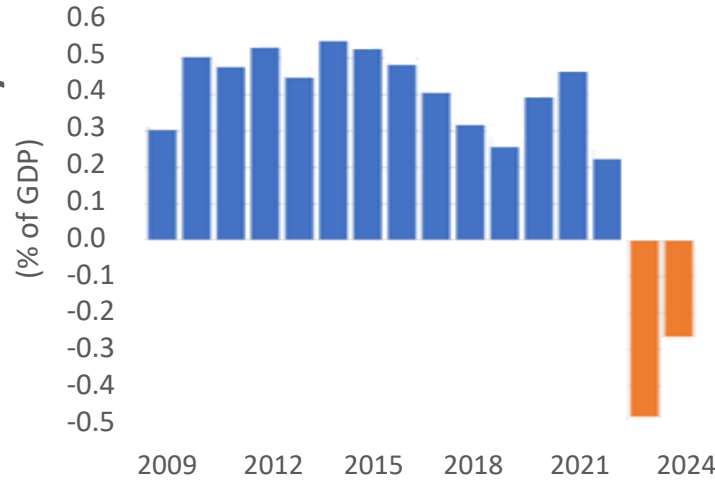
Estimate 3 (Peterson): General 10% hike and 60% hike on China

In a scenario of a stronger slowdown in activity, there is little room for economic policy.

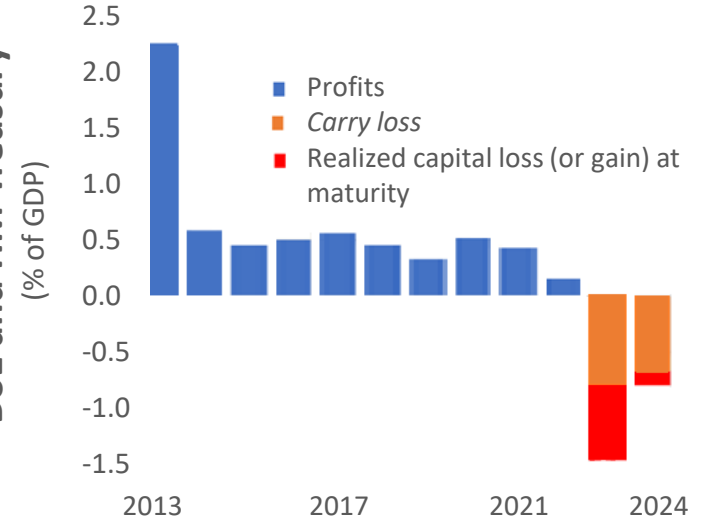
AEs: Central bank balance sheets expansion



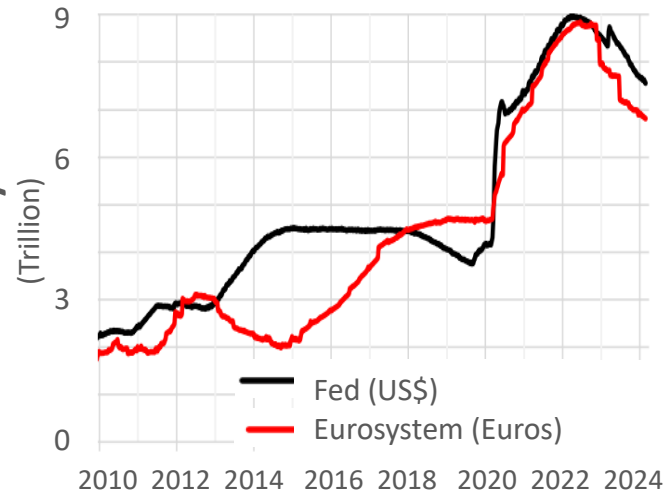
Fed transfers to the US Treasury



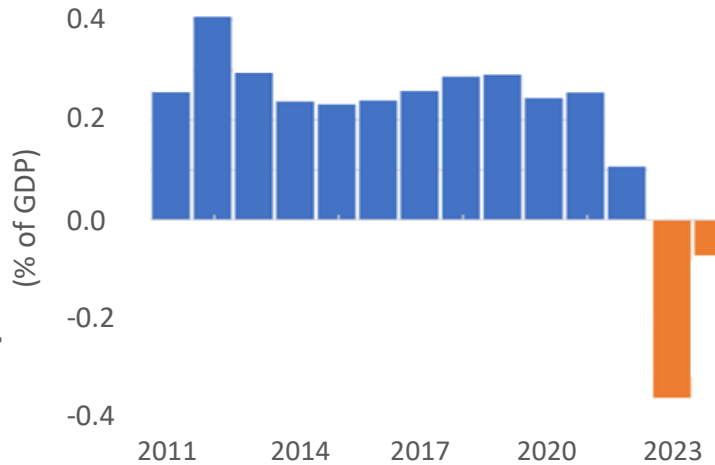
Transfers between the BoE and HM Treasury



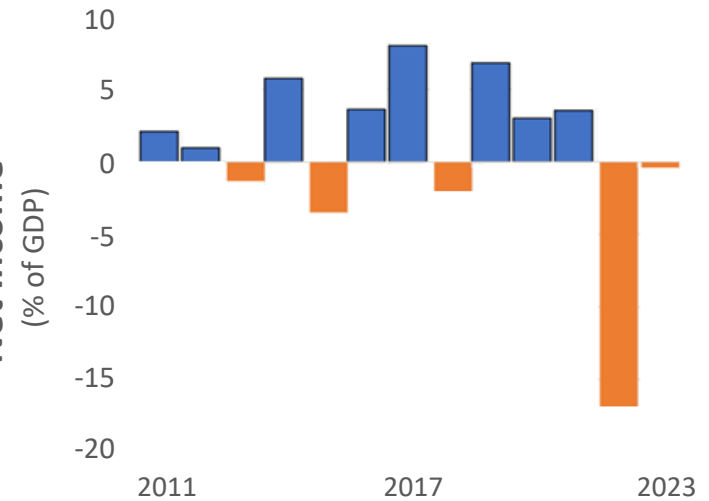
Total assets of the Fed and Eurosystem



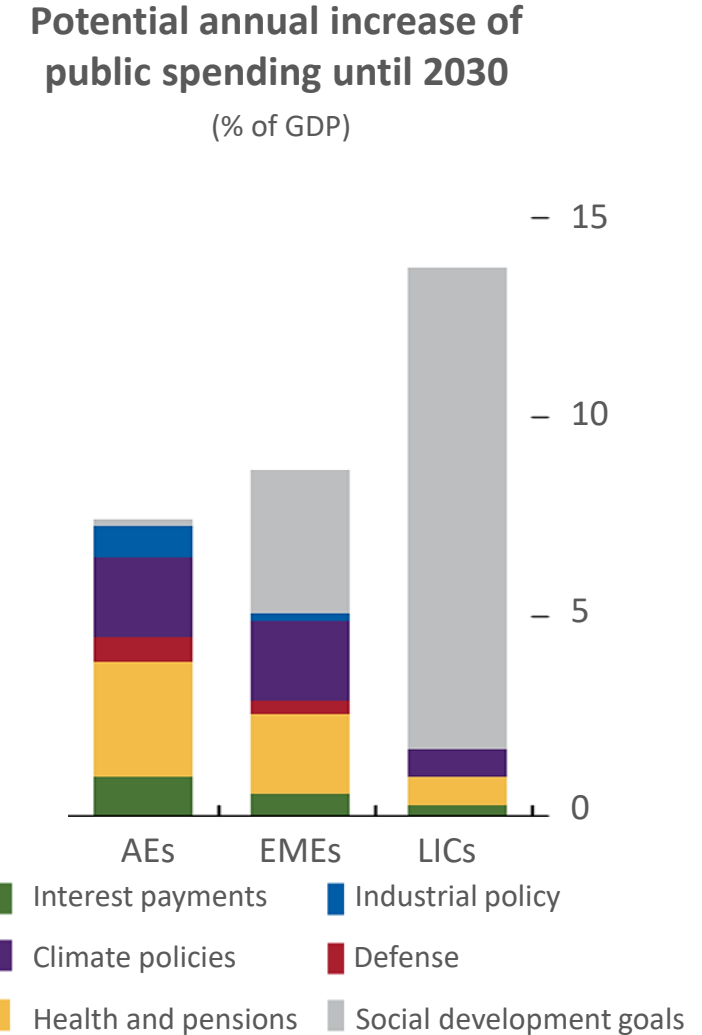
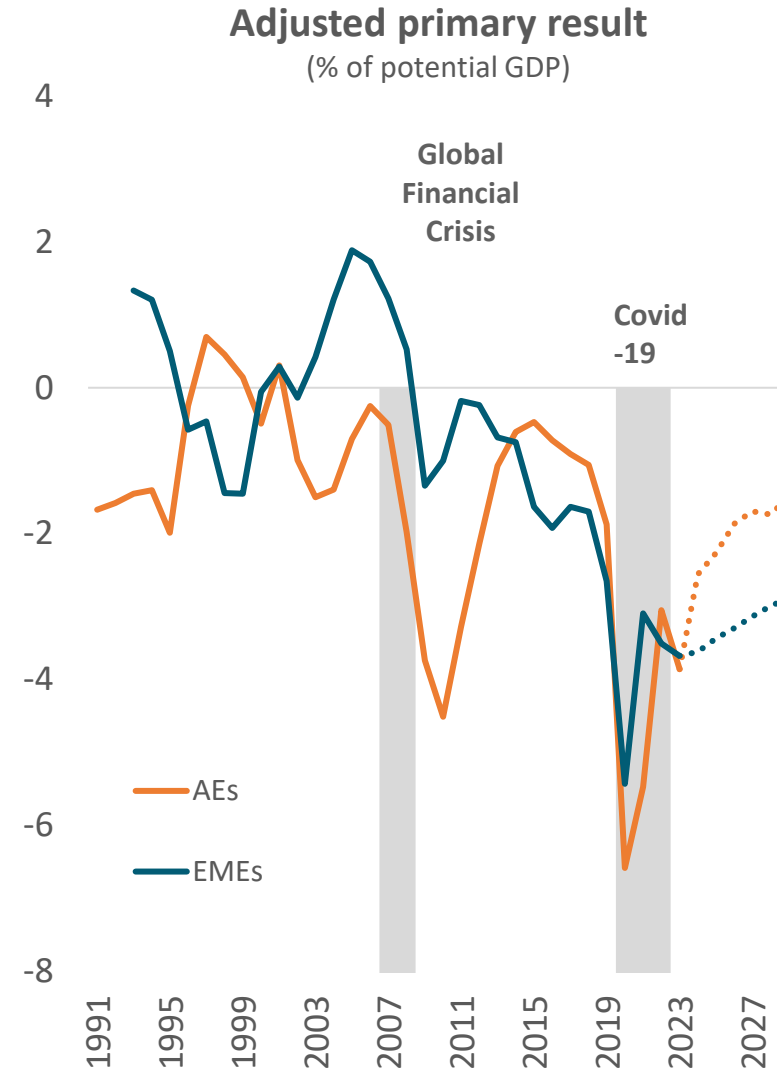
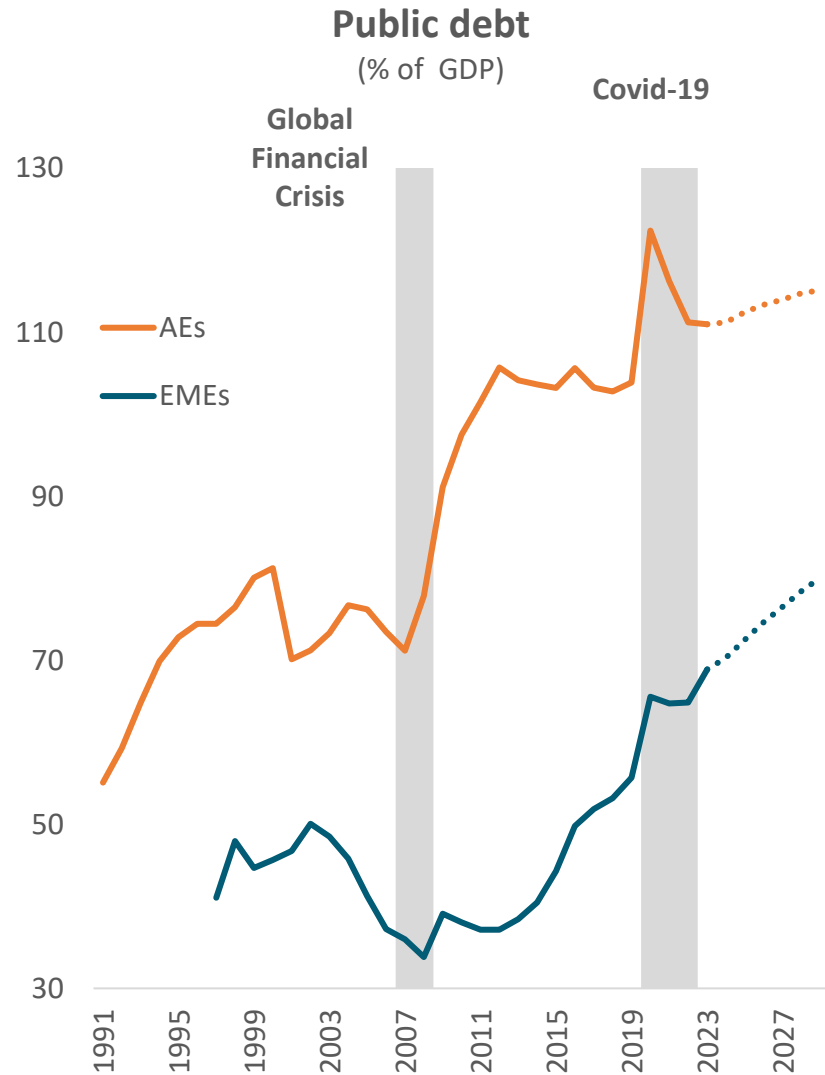
Eurosystem profit and loss



Swiss National Bank Net Income



In case of economic hard landing, there is little room for economic policy.

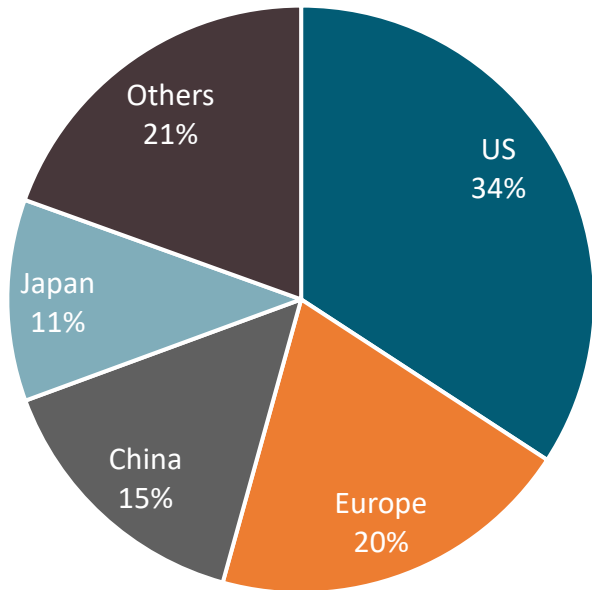


Source: IMF.

Increasing debt amount and costs in AEs will demand more and more resources.

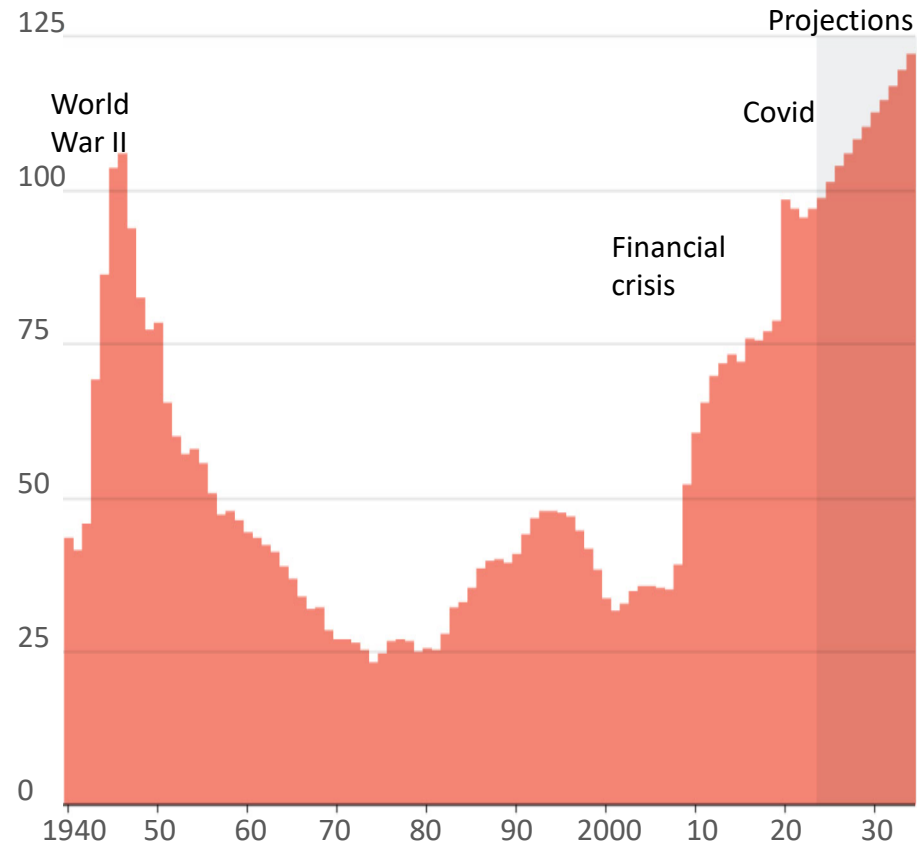
Global public debt

(% of countries' GDP)



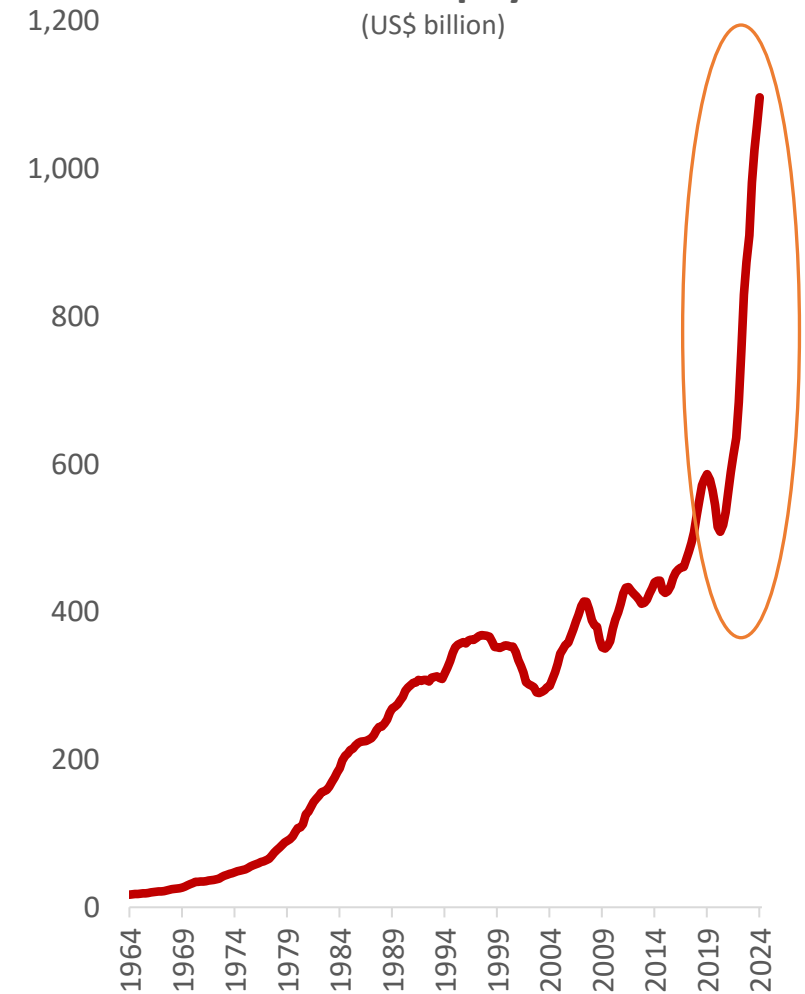
US: public debt

(% of GDP)



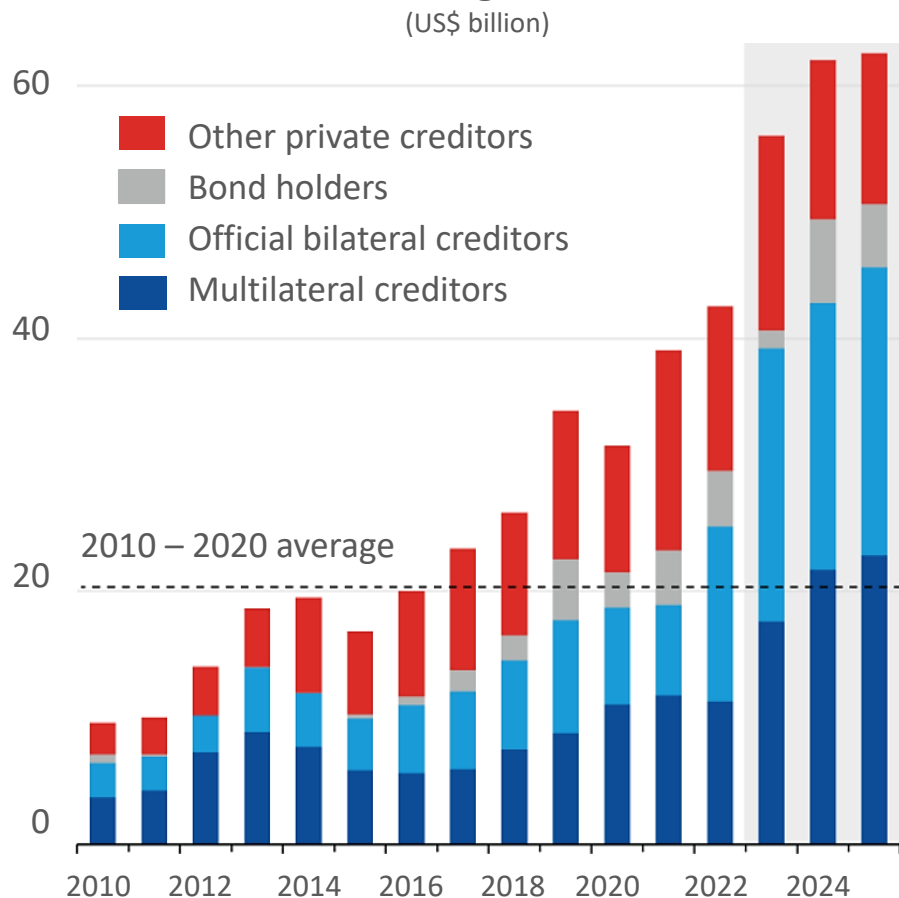
US: interest payments

(US\$ billion)



Debt service costs have been rising rapidly. Current refinancing needs are three times higher than the historical average. Reduction in EMDEs issuance.

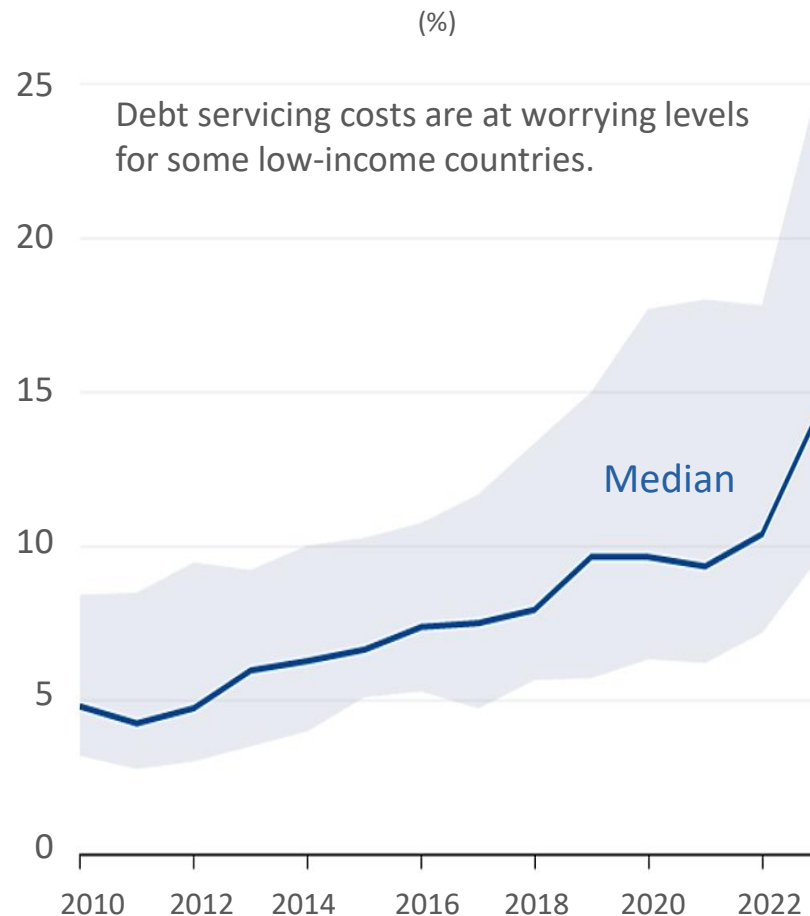
Low-income countries: principal payments due to foreign creditors
(US\$ billion)



* Figures for 2023 and beyond are projections.

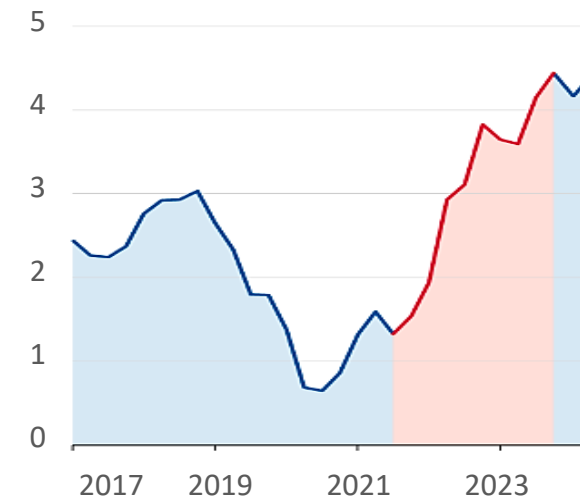
Sources: IMF, World Bank.

Low-income countries: External debt service to revenues
(%)

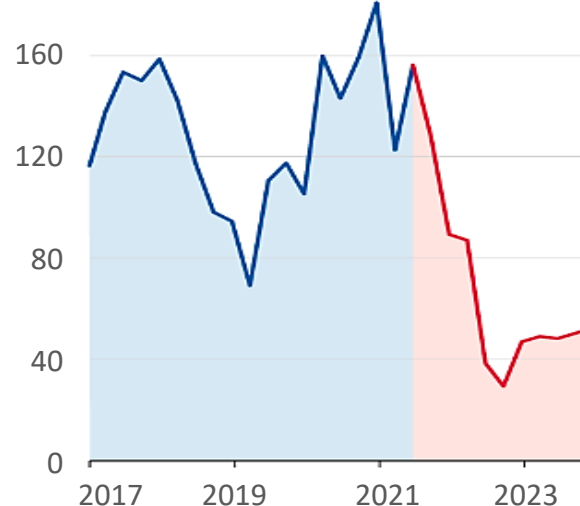


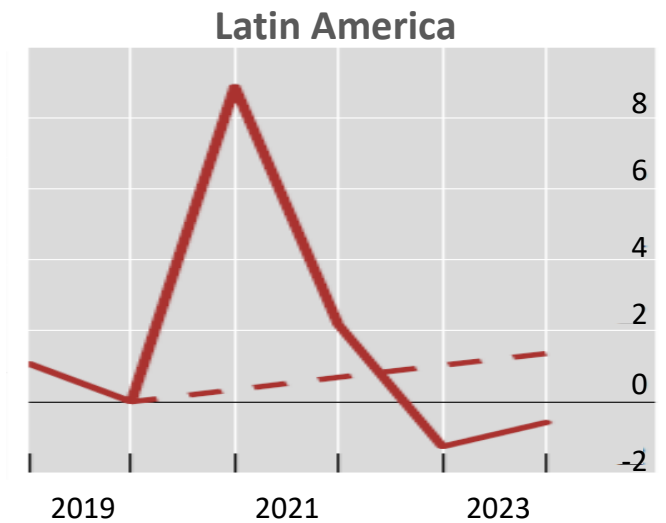
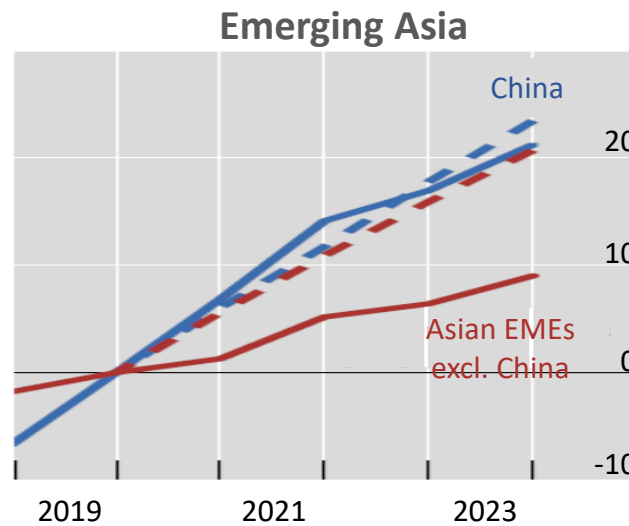
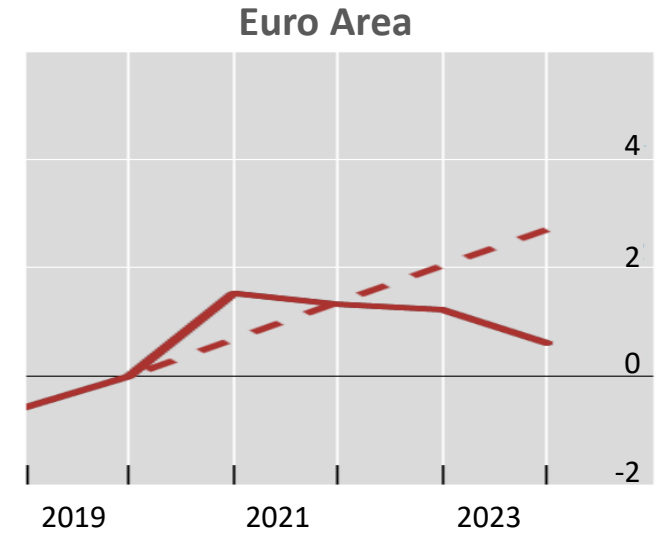
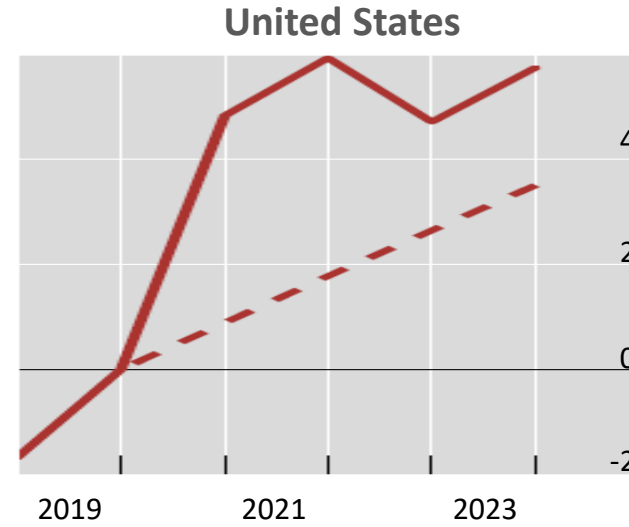
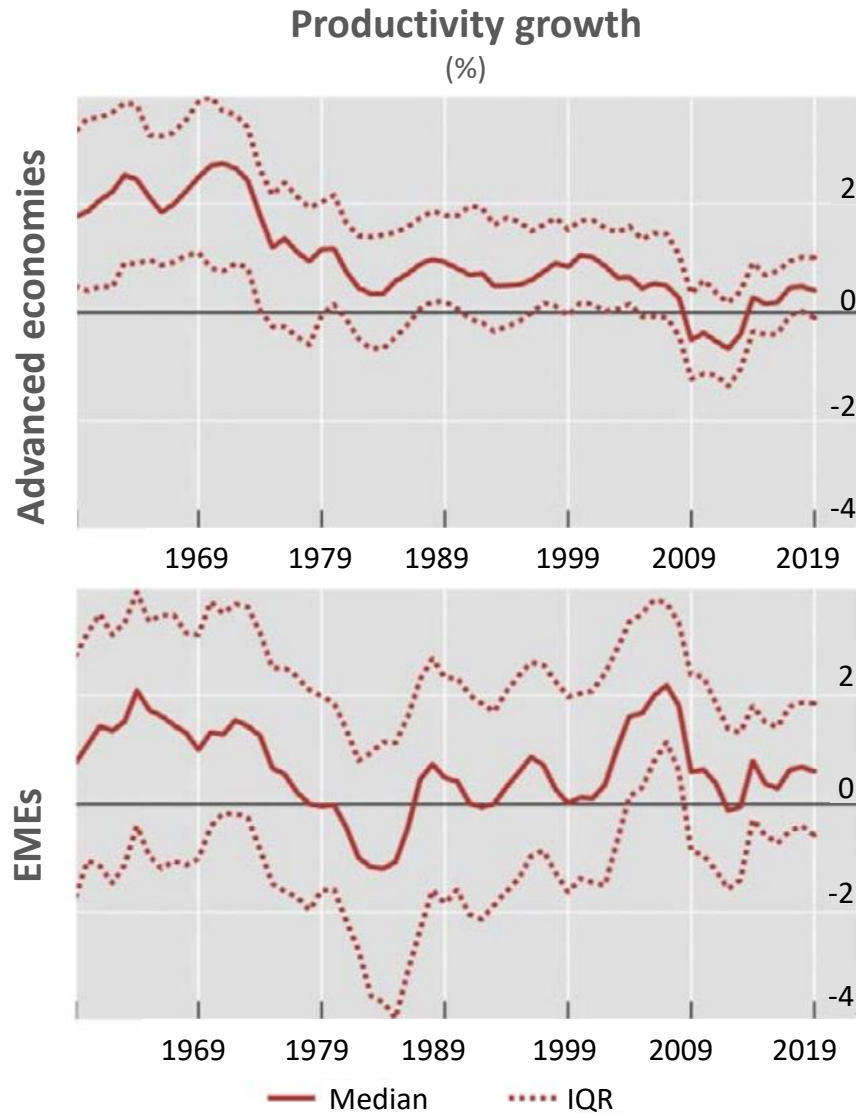
* Figures for 2023 are projections. Shaded area represents the interquartile range.

US: 10-year Treasury yield
(%)

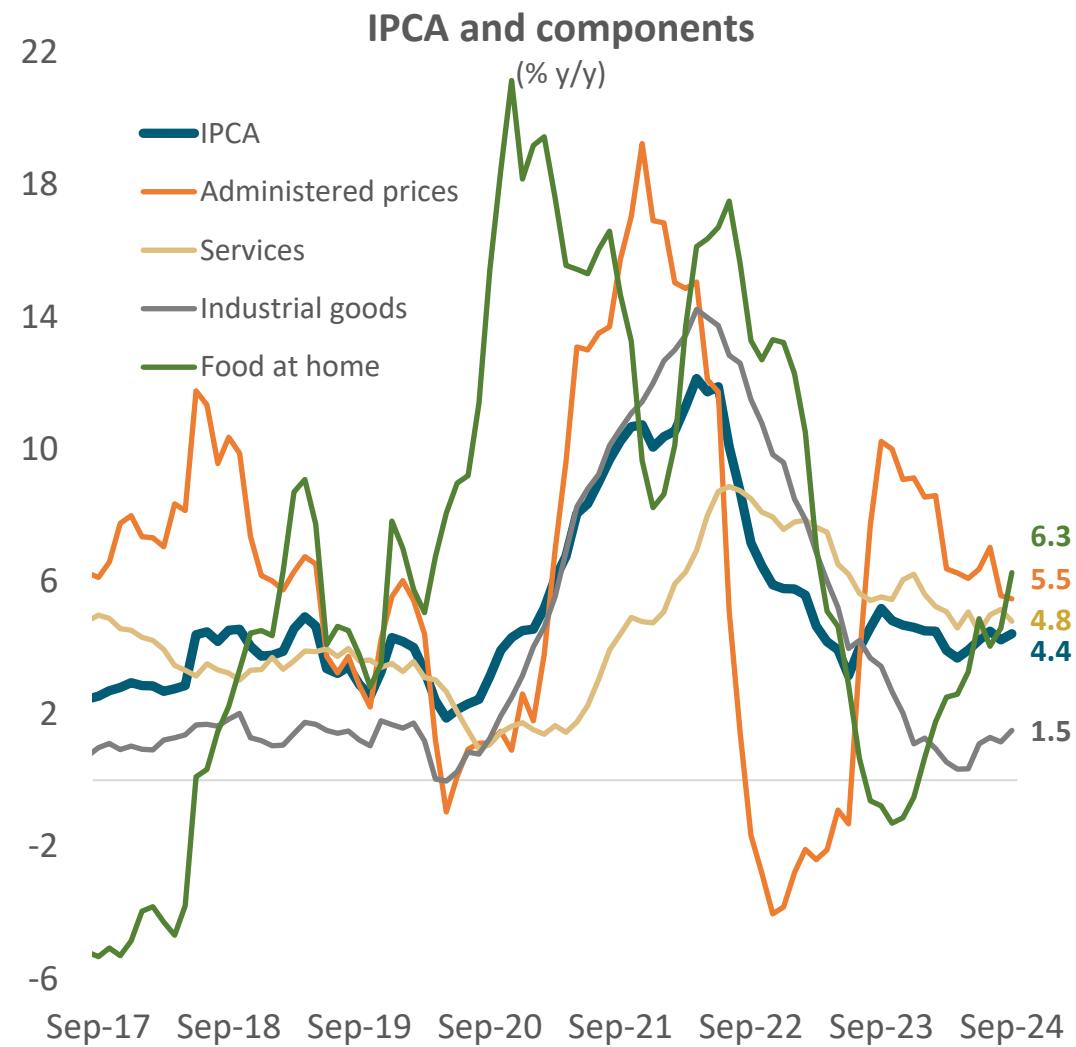
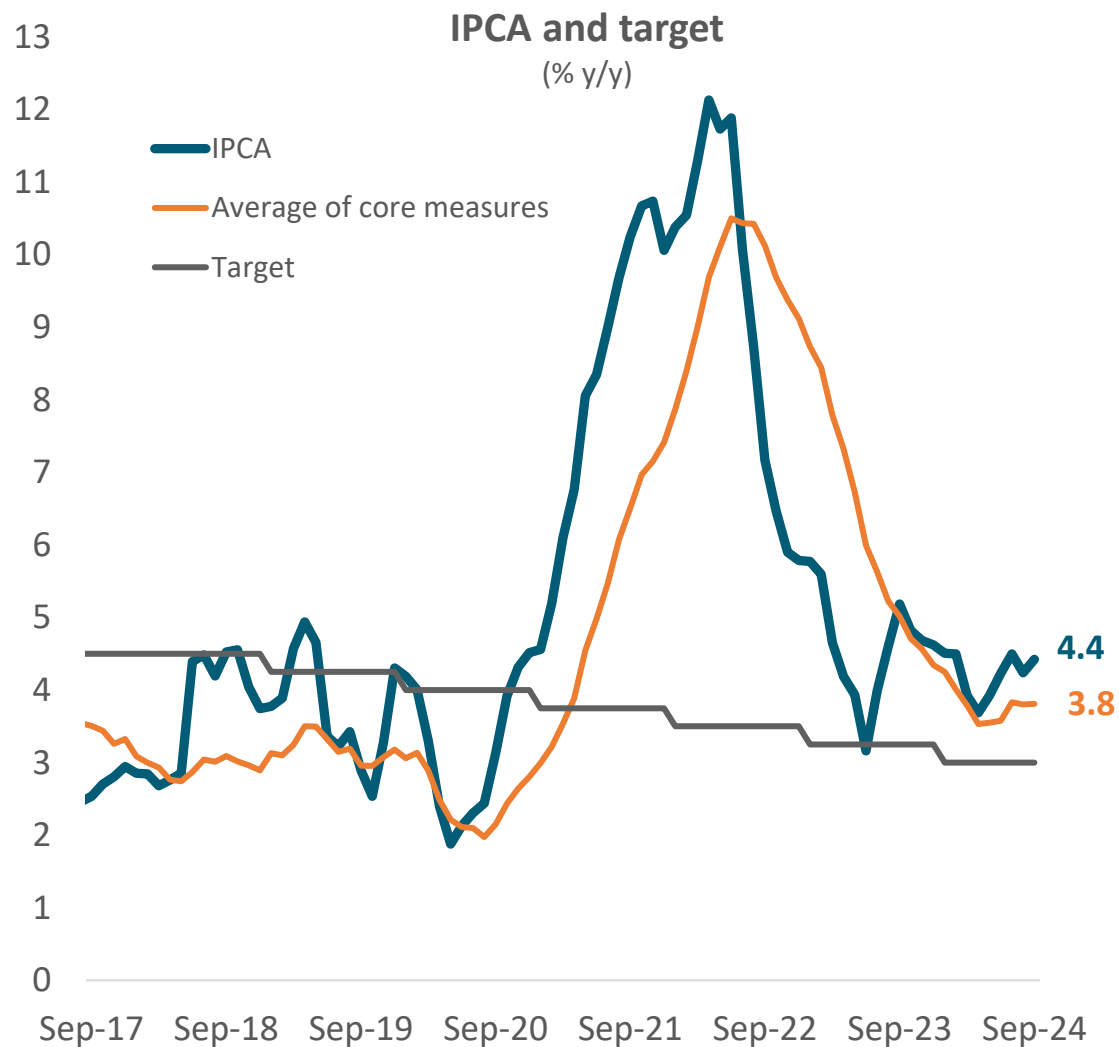


EMDEs: Eurobonds net issuance
(US\$ billion, 4-quarter rolling sum)





Headline inflation and measures of underlying inflation are above the target in recent releases.

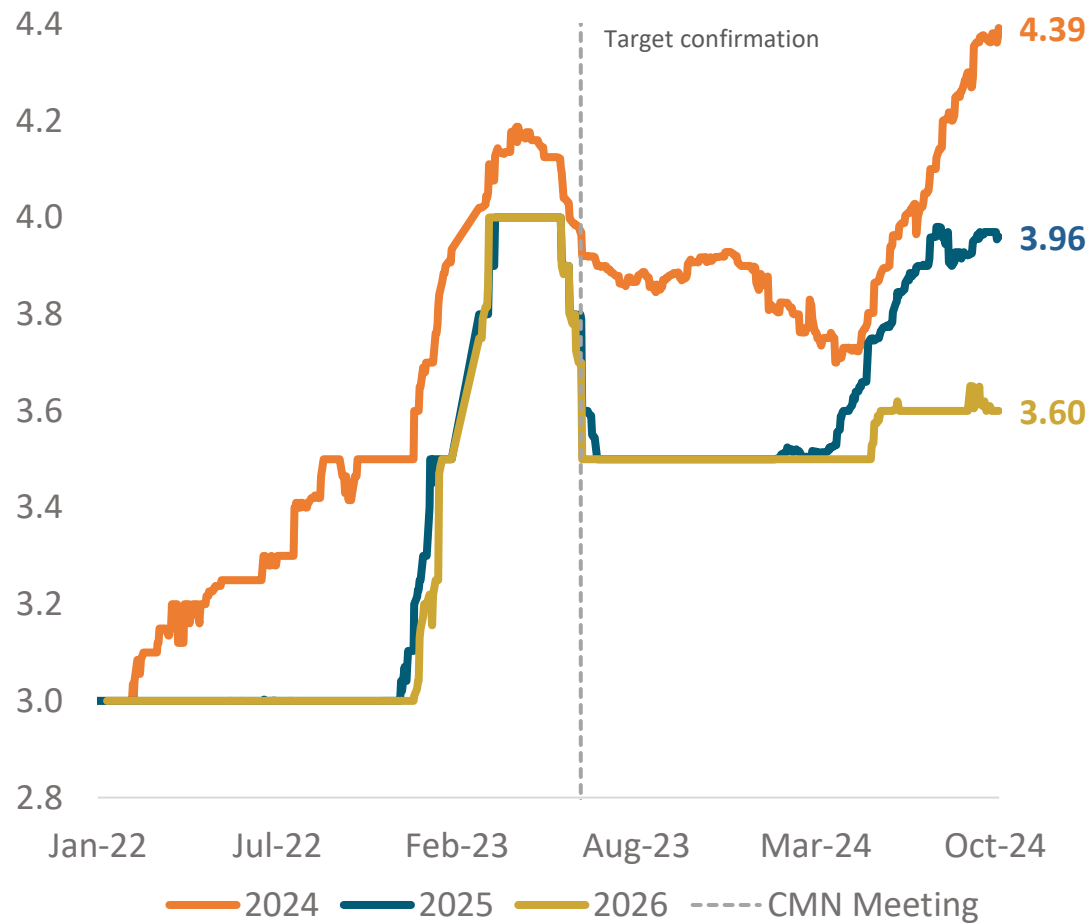


Sources: IBGE and BCB

Inflation expectations unanchored.

Inflation expectation

(% YoY, Focus*, median)



* Updated until 10/11/2024

Source: BCB

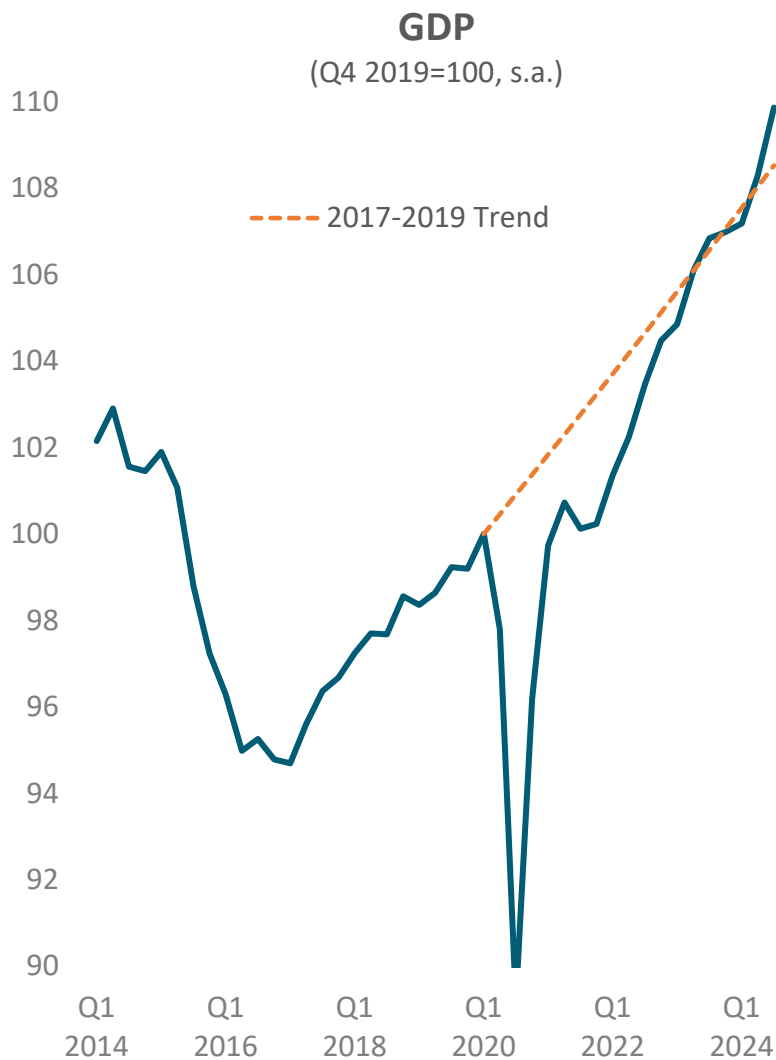
Break-even inflation

(DAT, % YoY)



• Updated until 10/17/2024

GDP growth pace higher than the 2017-19 trend. Growth remains robust and widespread, with emphasis on cyclical components.



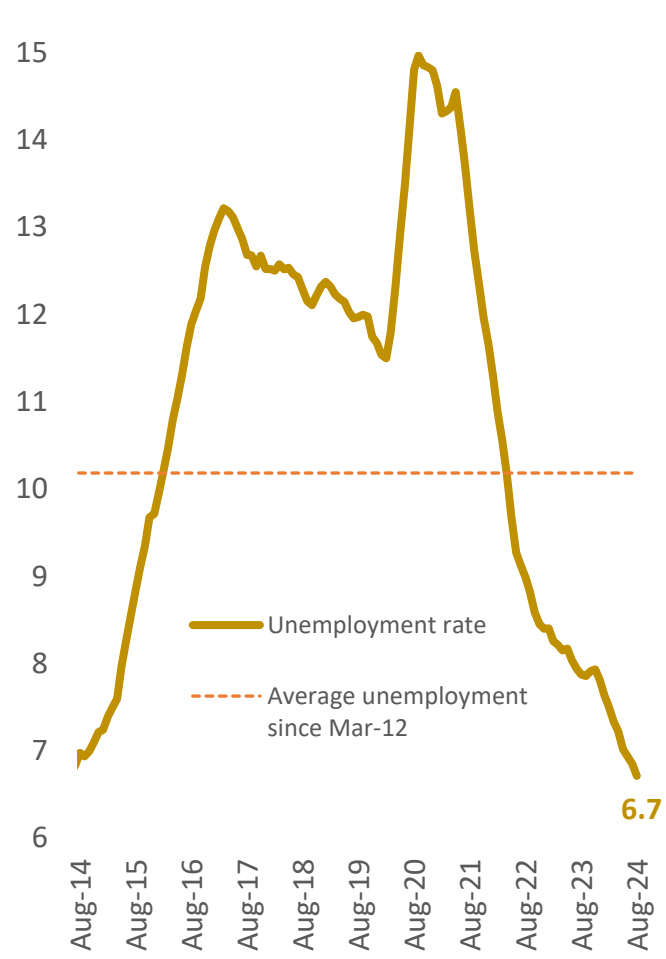
Sources: IBGE, Broadcast, BCB.

* Updated until Oct 11, 2024

Indicators of economic activity and labor market keep showing greater dynamism than expected.

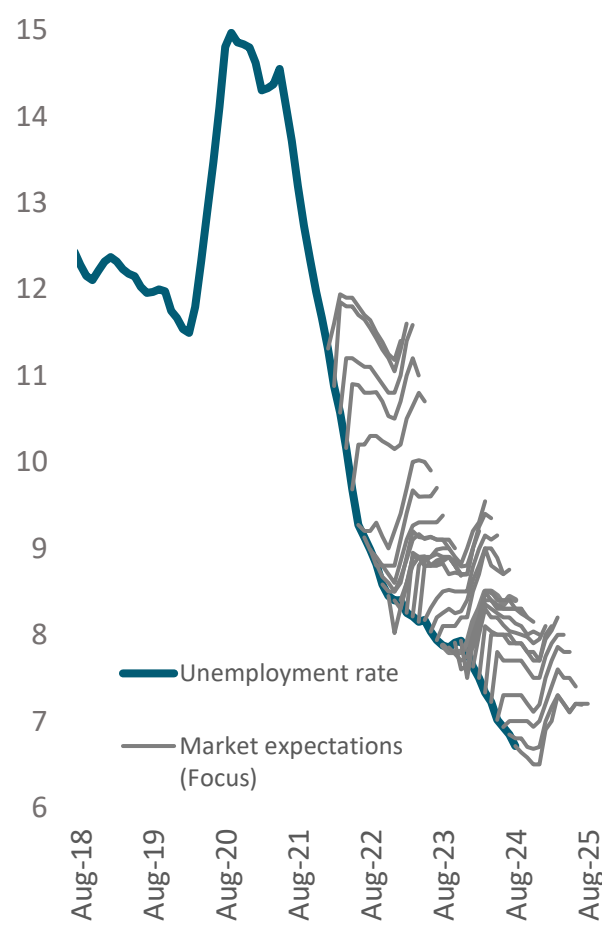
Unemployment rate

(quarterly, %, s.a.)



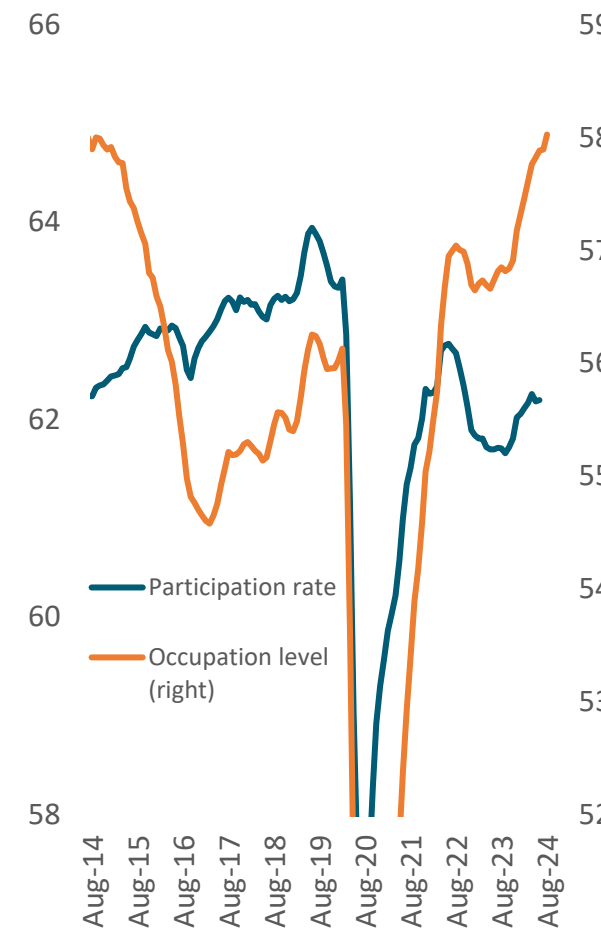
Unemployment rate and market forecasts*

(%)



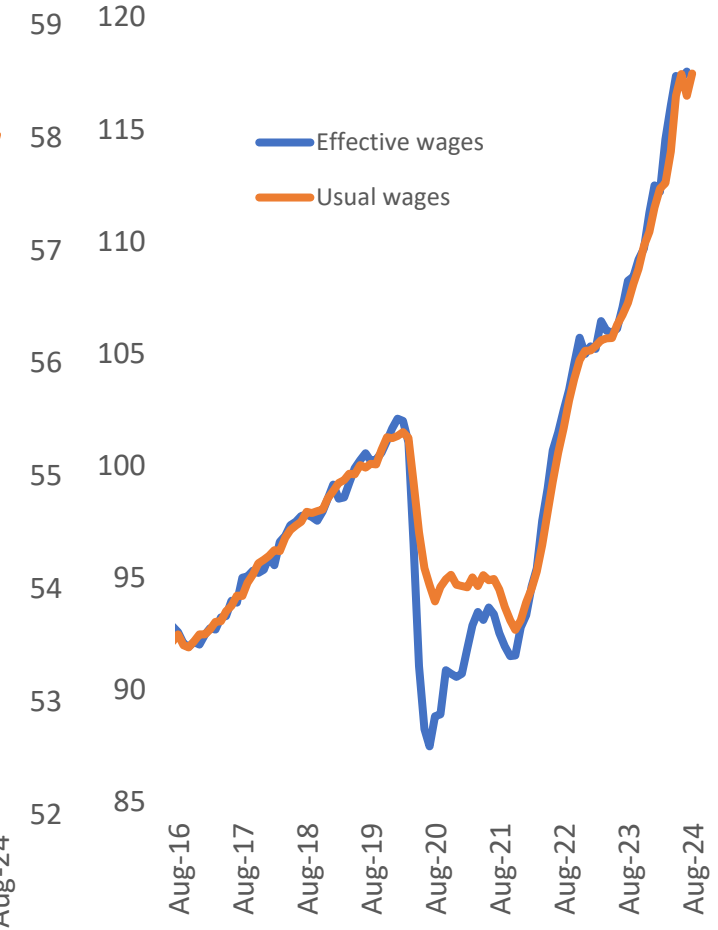
Participation rate and occupation level

(quarterly, %, s.a.)



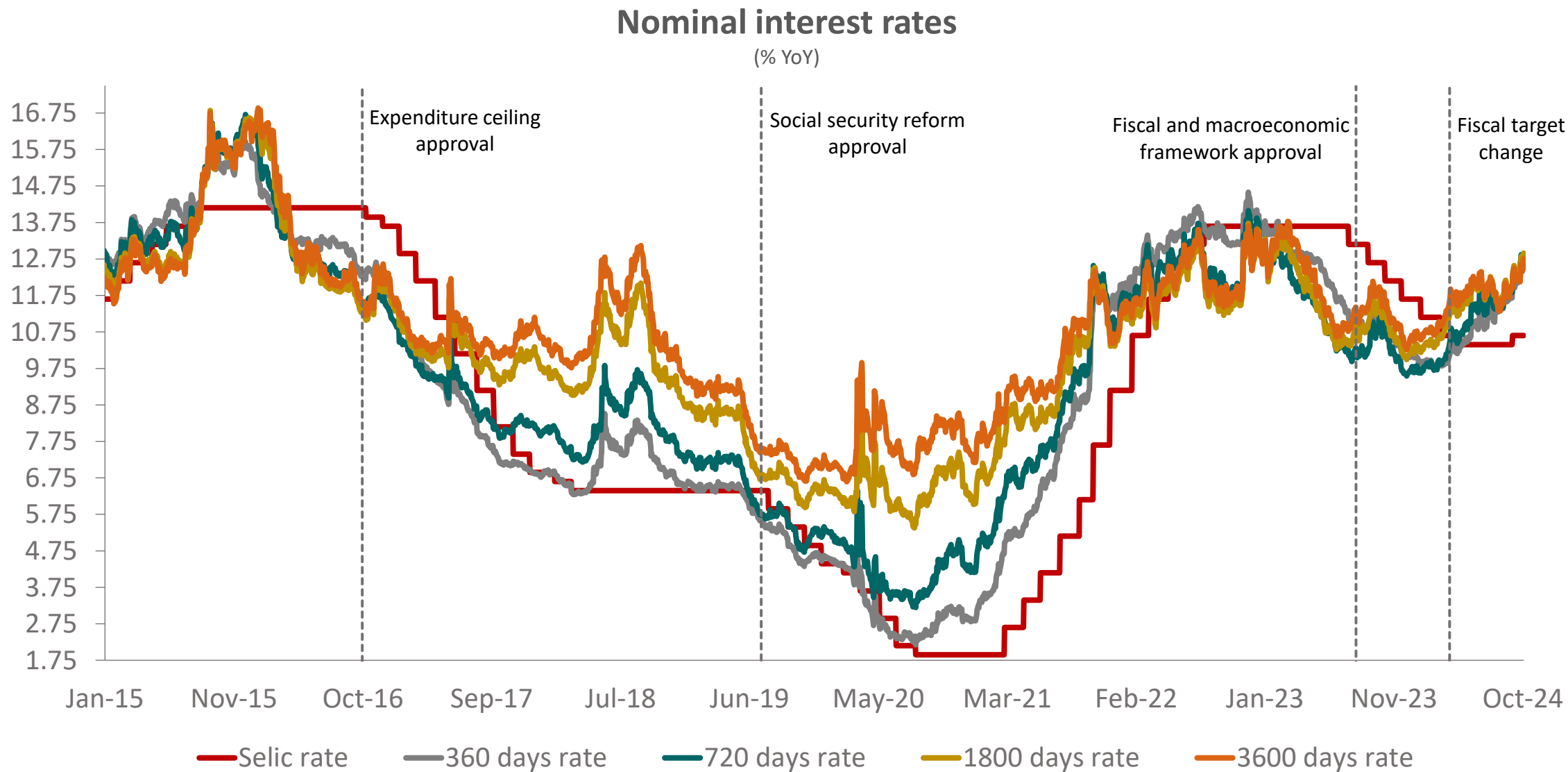
Aggregate real earnings

(2019 = 100 quarterly, s.a.)



Sources: IBGE, MTE.

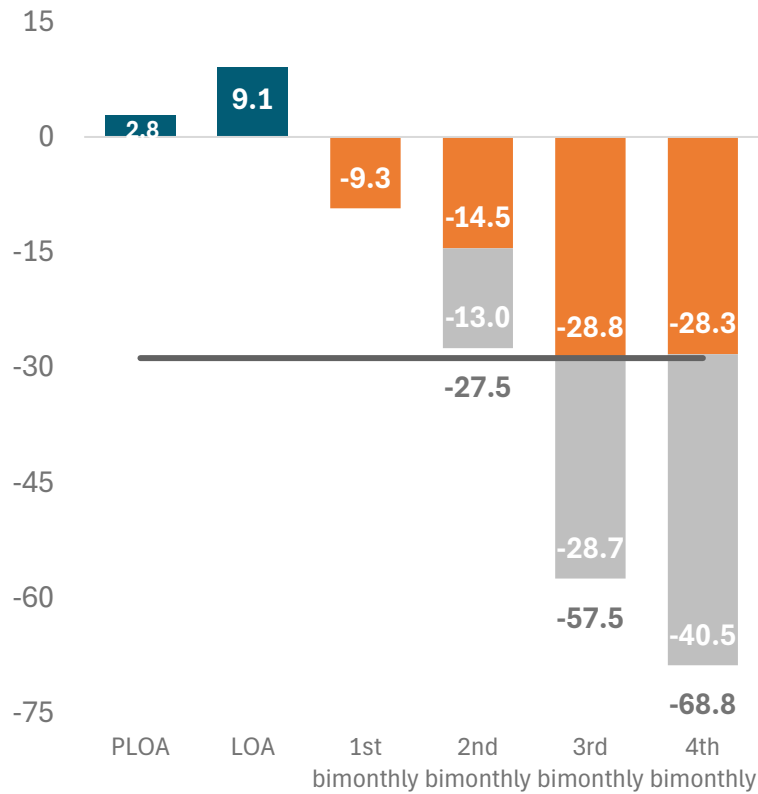
* Updated until Oct 11, 2024



National Treasury forecast for 2024

primary result

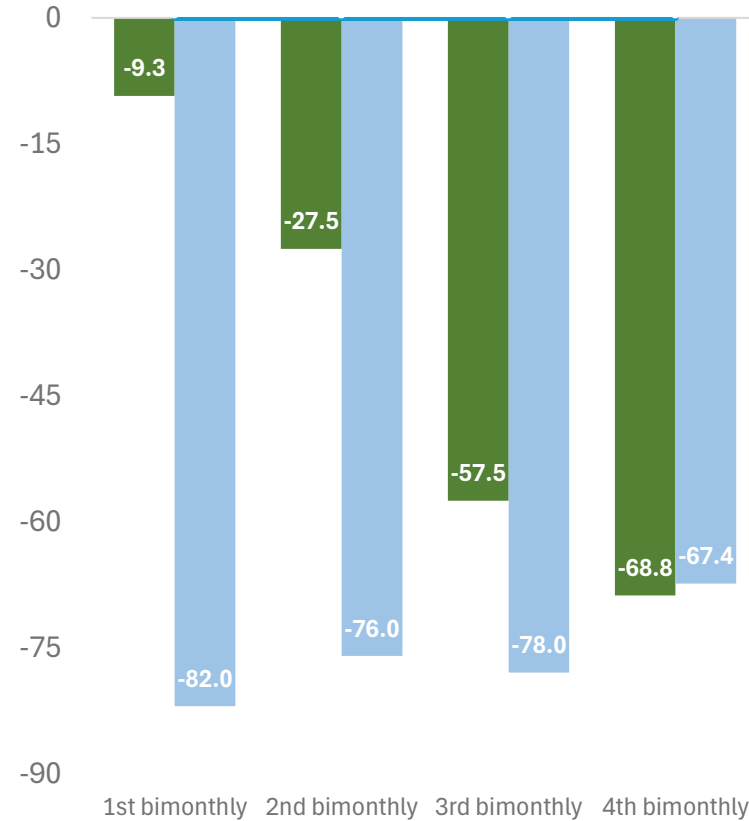
(R\$ billion, RARDP)



■ Beyond the target
■ Compatible with target
— 2024 deficit ceiling by the legal fiscal framework

Treasury and market forecasts for 2024 primary result

(R\$ billion)

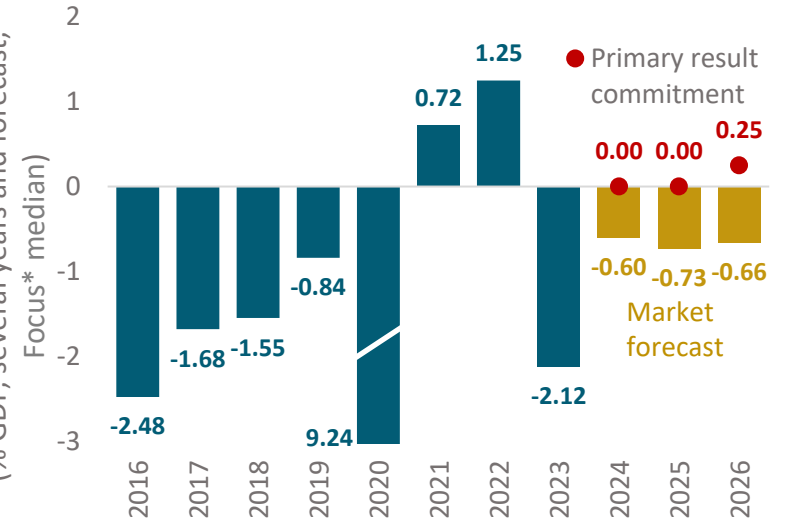


■ STN
■ QPC

Sources: BCB, STN (RARDP) and PLDO 2025.

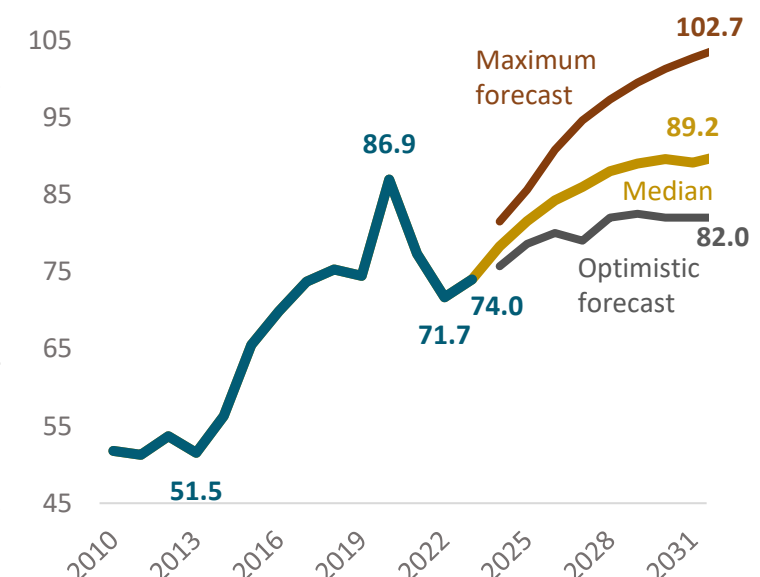
Public sector primary result

(% GDP, several years and forecast, Focus* median)



Evolution of GGGD/GDP

(%, several years, Focus* median)



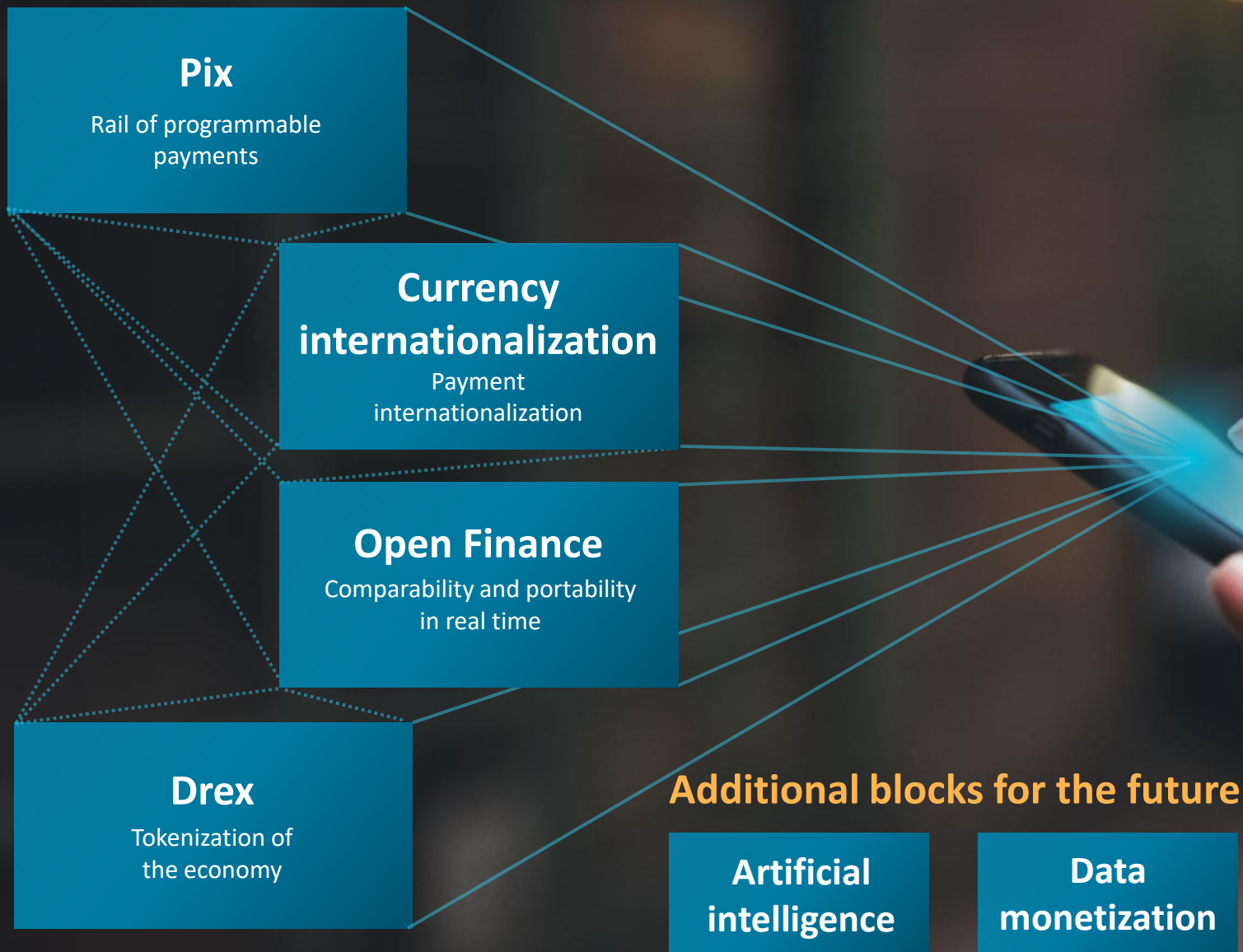
* Updated until 10/11/2024

Technology Agenda

Design of the financial system
of the future

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

800 million

active Pix's keys.

154,0 million people
and **15,3 million**
companies use Pix.



224.2 million
operations in one
day

5.5 billion transactions in
Sep/24, against **3.8 billion** in
Sep/23, **increase of 44%**.

Sources: BCB, BIS.

Pix and financial inclusion

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

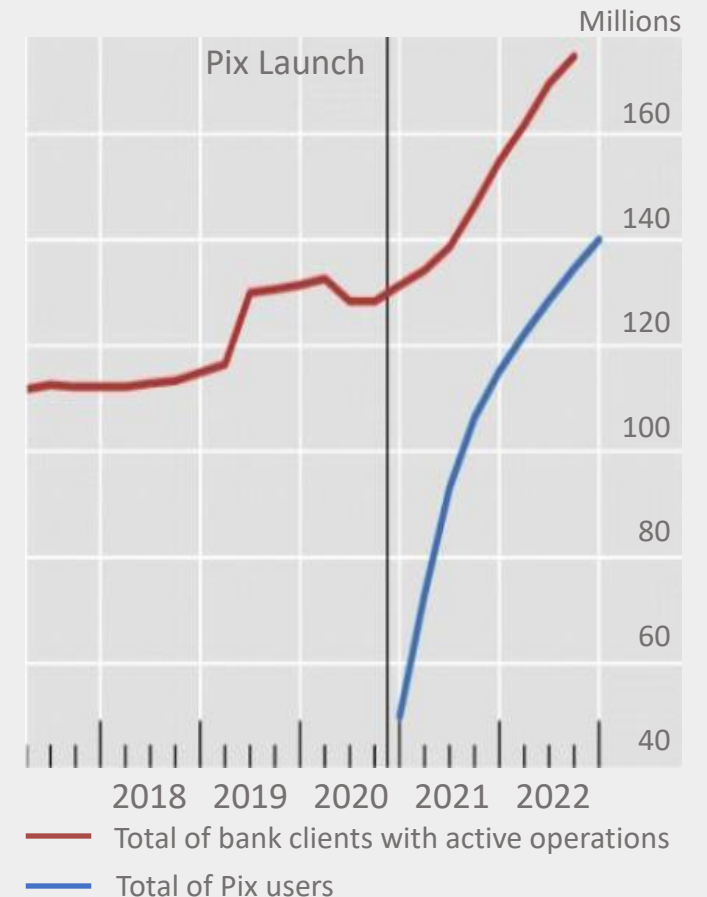
Transactions by value range

(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



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

Comparability and portability in real time

Examples of benefits of the Open Finance:

Reports from participant institutions (traditional banks, fintechs and credit unions)

More efficiency in credit operations:

- R\$ 1.2 billion credit via loan portability, with a 61% effectiveness gain during the process.
- R\$ 1 billion in credit origination.
- + R\$ 240 million in credit recovery.
- R\$ 2.5 million in personal loan through lower rates.
- Credit card offered to 1.3 million clients, who did not have access to the facility.
- Analysis of data shared via Open Finance already results in 80% of credit origination for new sellers.

Overdraft facility:

- R\$ 8 million in savings from paying overdraft interest at another financial institution in the first twelve months.

Better investment performance:

- R\$ 1.5 billion in more profitable investments for clients.
- 2.6 million clients been notified that their idle funds on another institution could be earning interest.

Improved financial management:

- + 9 million clients using management tools.
- 4 million customers engaged in consolidated financial management, with 47 million accesses.

Easier account opening process (onboarding):

- Reduction from 32 hours to 2h10m in the account opening process based on information obtained within the scope of Open Finance.
- 34% growth in account opening requests.



Timeline

July 31, 2024

Specific regulation for non-redirect payment journey

November 14, 2024

Testing in production

February 28, 2025

Launching to the population

BC launches rules for contactless Pix and defines new governance structure**Non-redirect payment journey**

- Changes that enhance customers' experience in the payment initiation journey, enabling:
 - Contactless Pix payment via wallet
 - More convenience in online payments
- Customers will be able to choose their institution, add their account to their preferred digital wallet, and save it to make in-person payments with contactless Pix, just as is done with cards.
- Furthermore, customers will no longer need to leave the online shopping environment, in e-commerces, to make the payment.

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

Drex Pilot:

Objectives

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

Guidelines

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



Broadening the test scope

- Governance
 - 3rd party smart contracts
 - business models
- Privacy
 - variability of requirements

New assets

- Tightening partnership with other regulators

Steps

- 2024 – current participants
- H1/2025 – new participants

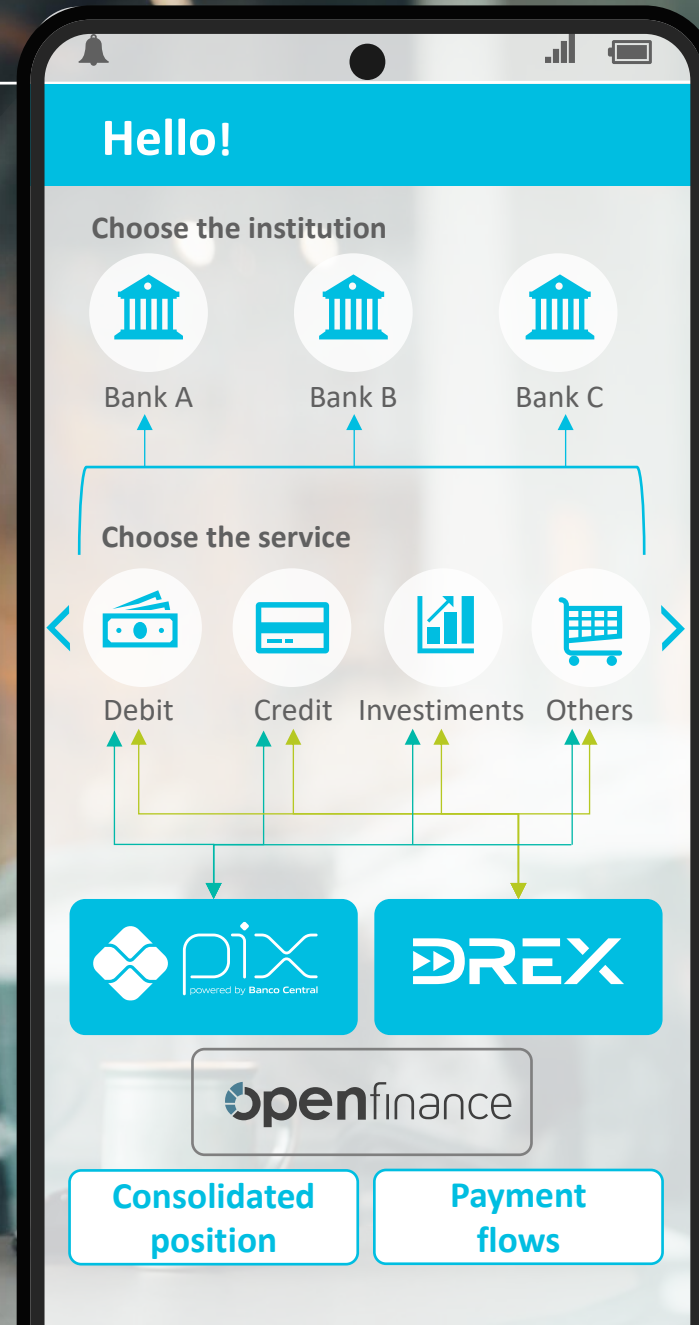
The 13 selected use cases and their themes:

- Credit card receivables financing
- Credit collateralization
 - on term deposits
 - on government bonds
- International Trade Finance
- FX Market Optimization
- Liquidity Pool for government bonds
- Transactions with RWA
 - Bank Credit Notes
 - Debentures
 - Agribusiness Assets
 - Decarbonization Credits - CBIO
 - Vehicles
 - Real Estate
- Transactions with Virtual Assets



Financial services aggregator

- Marketplace environment
- Competition by channel and for principality



 Offline

 Online

 Data wallet

Thank you!

Roberto Campos Neto

Governor of Banco Central do Brasil

October 21st, 2024

