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## China's growth and investment prospects

Conference on European Economic Integration

November 2023

**Chair of Global Research**

**Joyce Chang<sup>AC</sup>**

(1-212) 834-4203

joyce.chang@jpmorgan.com

J.P. Morgan Securities LLC

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Charts are taken from presentations from Global equities, economics, rates, FX, commodities, US fixed income and EM research groups.

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# Executive Summary

## China's growth and investment prospects

- **China lifts fiscal deficit with growth impact to be felt in 2024.** China's NPC standing committee announced a CNY 1trn additional central government bond in 4Q23, which raised the 2023 budget deficit to 3.8% of GDP. In addition, the State Council has permission to front-load the quota of special local government bonds until December 31, 2027. We forecast 5.2% growth this year and 4.7% in 2024.
- **A key policy challenge is weakness in private sector confidence (corporates, households, homebuyers).** Local regulations reflect the government's focus on supporting public sector-led technology innovations and manufacturing upgrades.
- **Relocation of supply chains is slow moving.** However, business sentiment surveys of multinational corporates in the US, UK, and Europe highlight the deterioration of business confidence in China.
- **China's debt level rose to 282% of GDP by end-2022, lower than Japan's 416% but higher than the DM average of 256%.** China's debt/GDP ratio may have increased 12%-pts in 2023. Government has led the leverage increase. High interest repayment burden may crowd out credit support.
- **China's equity and bond markets have experienced substantial volatility and outflows since Russia's invasion of Ukraine in March 2022.** 2023 marks a substantial deterioration of FDI inflows, which have fallen to a 26-year low. This is a sharp reversal from the peak reached in 2021, when China saw gross FDI inflows of \$334bn.
- **Risks of spillovers to global financial markets remain muted.** The level of foreign engagement is relatively low, and foreign holdings of China's A-share market remain relatively small at roughly 5%, while foreign holdings of CGBs are around 2.5%.
- **The current headwinds facing China have raised parallels to Japan in the early 1990s, but balance sheet recession is not yet a reality.** Stabilization of the housing market is critical.
- **China's public debt has risen to 95% of GDP, with LGFV debt reaching 55.8trn yuan (45% of GDP) and bond maturities set to reach a record high of 4trn yuan this year.** LGFVs are increasingly relying on local governments to support them on debt servicing and repayments. However, local government revenue growth has decelerated from 11% in 2019 to a CAGR of 0.1% in 2020-2022, and land sales revenue contracted by 23% in 2022 due to a weak real estate market.
- **Over \$100bn of China property bonded debt has defaulted over the past two and a half years.** This has effectively wiped out close to 55% of \$203bn China property bond stock (HG and HY) outstanding at the end of 2020.
- **China's external corporate bond issuance has declined dramatically after reaching a record \$537bn in 2021.** The sharp fall could be attributed to cheaper onshore funding costs. China's external corporate bond issuance declined to \$65.4bn in 2022 and stands at \$16bn YTD.

# China: Revising up 2023 full-year growth forecast to 5.2%

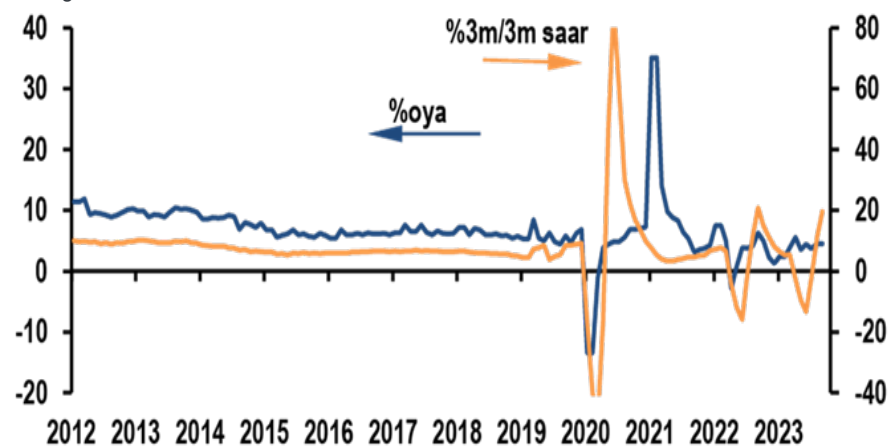
## China forecasts

	2022	2023F	2024F	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23F	1Q24F	2Q24F
<b>GDP</b>													
Real GDP growth (% oya)	3.0	5.2	4.7	4.8	0.4	3.9	2.9	4.5	6.3	4.9	5.1	4.0	5.3
<b>Contribution to real GDP growth</b>													
Consumption (% ptd, ytd)	1.0	4.2	3.6	3.2	0.8	1.3	1.0	3.0	4.2	4.3	-	-	-
Investment (% ptd, ytd)	1.5	1.6	1.4	0.6	0.5	0.6	1.5	1.6	1.8	1.5	-	-	-
Net exports (% ptd, ytd)	0.5	-0.5	-0.3	0.9	1.2	1.1	0.5	-0.1	-0.6	-0.7	-	-	-
<b>Activity indicators</b>													
Industrial production (% oya)	3.6	4.0	5.1	6.5	0.7	4.8	2.7	3.0	4.5	4.2	4.3	3.9	8.4
Retail sales (% oya)	-0.3	8.1	8.2	3.2	-4.6	3.5	-2.7	5.8	10.7	4.2	11.4	6.6	8.8
Fixed asset investment (% oya)	5.1	3.1	3.6	9.3	4.5	5.6	3.0	5.1	3.1	1.9	3.0	2.6	3.2
Exports (% oya)	6.7	-3.5	2.0	15.0	11.6	9.9	-6.6	0.9	-4.0	-10.4	0.6	-5.0	0.8
<b>Prices</b>													
CPI inflation (% oya)	2.0	0.4	1.9	1.1	2.2	2.7	1.8	1.3	0.1	-0.1	0.5	1.4	1.8
Core CPI inflation (% oya)	0.9	0.8	1.8	1.1	0.9	0.7	0.6	0.8	0.6	0.8	0.9	1.3	1.8
PPI (% oya)	4.2	-2.8	1.7	8.7	6.7	2.3	-1.2	-1.6	-4.5	-3.2	-1.7	-0.5	1.8
<b>Policy indicators</b>													
Budget fiscal deficit (% of GDP)	-2.8	-3.8	-3.8	-	-	-	-	-	-	-	-	-	-
Augmented fiscal deficit (% of GDP)	-12.9	-12.0	-12.2	-	-	-	-	-	-	-	-	-	-

Source: NBS, J.P. Morgan

## China industrial production

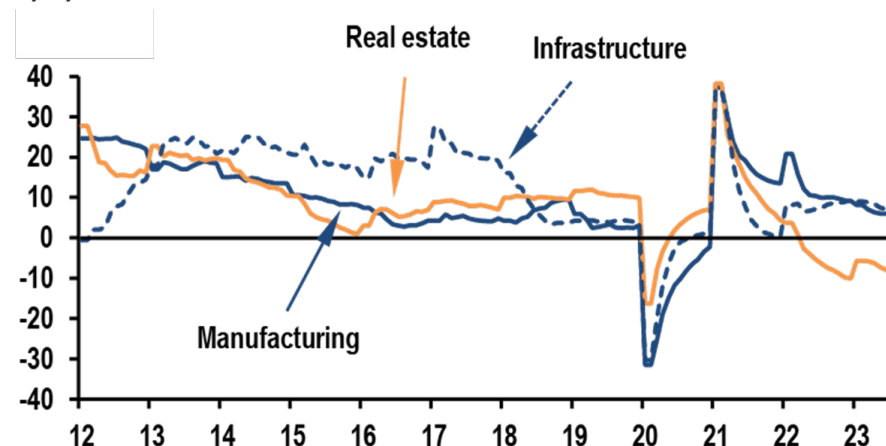
%change, both scales



Source: NBS, J.P. Morgan

## FAI growth by industry

%oya, ytd



Source: NBS, J.P. Morgan

# GDP shocks from Europe and China have less of an impact on the global economy and financial markets overall than those from the US

## Impulse response comparison

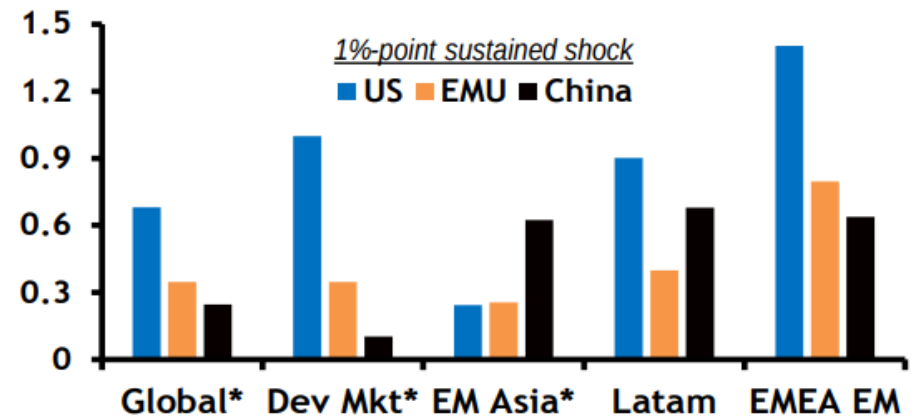
%pt cumulative impact after 1 year from 1%pt sustained impulse

	US shock			EMU shock			China shock		
	GDP	NRI	FRI	GDP	NRI	FRI	GDP	NRI	FRI
Global	0.8	0.6	0.8	0.5	0.2	0.4	0.4	0.2	0.4
<b>Spillover</b>	<b>0.7</b>	<b>0.4</b>	<b>0.7</b>	<b>0.3</b>	<b>0.1</b>	<b>0.2</b>	<b>0.2</b>	<b>0.0</b>	<b>0.3</b>
Developed	0.9	0.4	0.7	0.3	0.1	0.2	0.1	-0.1	0.2
US	...	...	...	0.2	0.2	0.0	0.0	-0.2	0.2
EMU	0.8	0.5	0.6	...	...	...	0.2	-0.3	0.1
Japan	1.1	0.1	0.9	0.7	-0.1	0.3	0.2	0.3	0.5
Emerging	0.5	0.4	0.7	0.3	0.0	0.3	0.6	0.7	0.5
Asia	0.2	0.3	0.7	0.3	-0.1	0.2	0.6	0.8	0.4
Latam	0.9	0.2	0.5	0.4	0.0	0.4	0.7	1.4	0.6
EMEA	1.4	1.0	0.6	0.8	0.4	0.6	0.6	-0.2	0.5

Source: J.P. Morgan Global Economics; Sample: GDP 1Q00-4Q19, NRI Apr 2010-Dec 2019, FRI Jan 2003 to Dec 2019. The spillover impact is the effect on GDP growth (q/q), NRI (1m chg), or FRI (1m chg) in the group excluding the impulse country. The global impact includes the direct impact of the country experiencing the shock (equal to its GDP-wgt multiplied by the cumulative 12-month impact plus the spillover effect multiplied by its wgt).

## Impulse response of GDP shock to rest of world

%pt impact after 4-quarters



Source: J.P. Morgan Global Economics; \*Region excludes the country being shocked

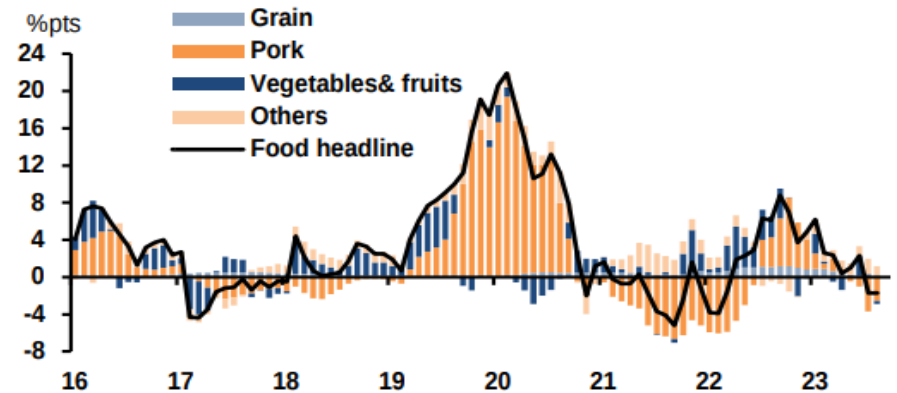
# China has been facing deflation concerns as the post-reopening recovery has lost momentum

## CPI basket weight

Items	Weight (2010)	Weight (2020)	Change
Food, tobacco& liquor	36.3	30.1	-6.2
- Food	32.8	21.0	-11.8
Clothing	9.2	5.8	-3.4
Residence	14.7	23.4	8.7
- Utility: Water, electricity& fuel	-	5.7	-
Household facilities, articles& services	6.0	5.9	-0.1
Transportation&communication	11.3	13.0	1.7
- Vehicle fuel	-	2.7	-
Education, culture& entertainment	12.9	10.1	-2.8
Healthcare& medical services	9.7	8.7	-1.0
Miscellaneous goods& services	-	2.9	-

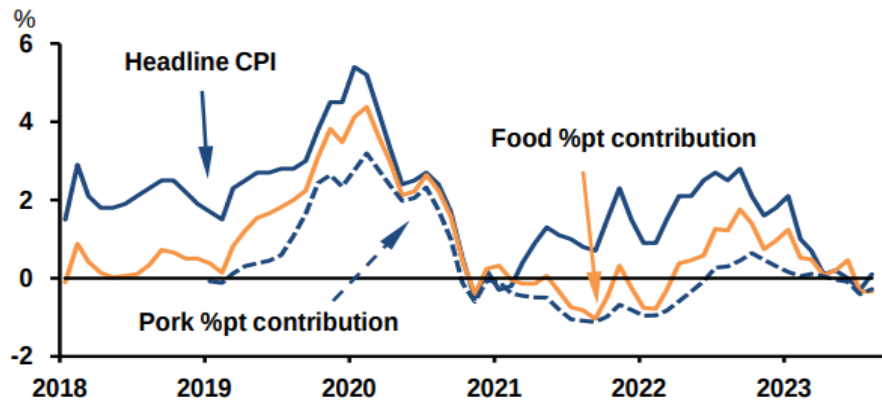
Source: NBS, J.P. Morgan

## Food price breakdown



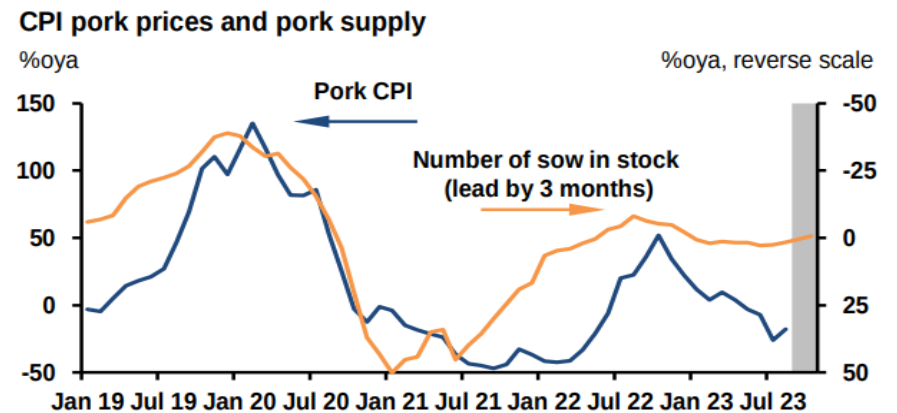
Source: NBS, J.P. Morgan

## Contribution to CPI inflation



Source: NBS, J.P. Morgan

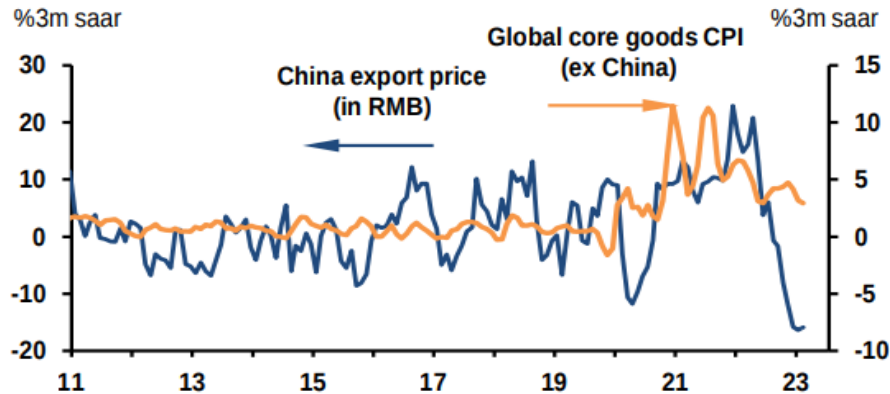
## Pork price dynamics



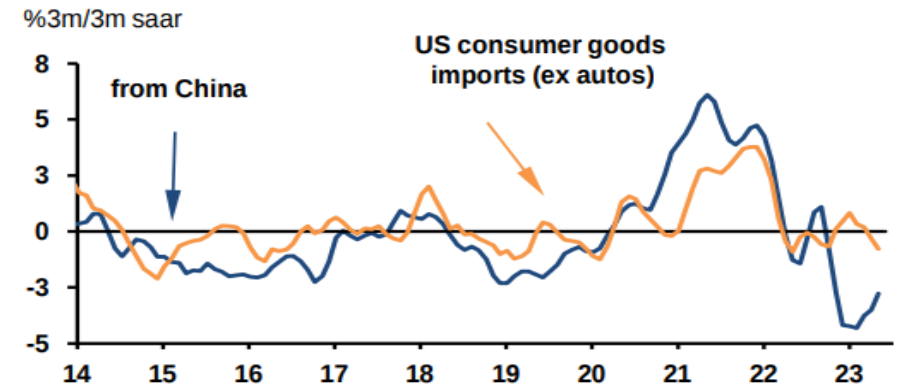
Source: NBS, J.P. Morgan

# China's export price declines are now evident in material declines in the rest of the world's import prices from China

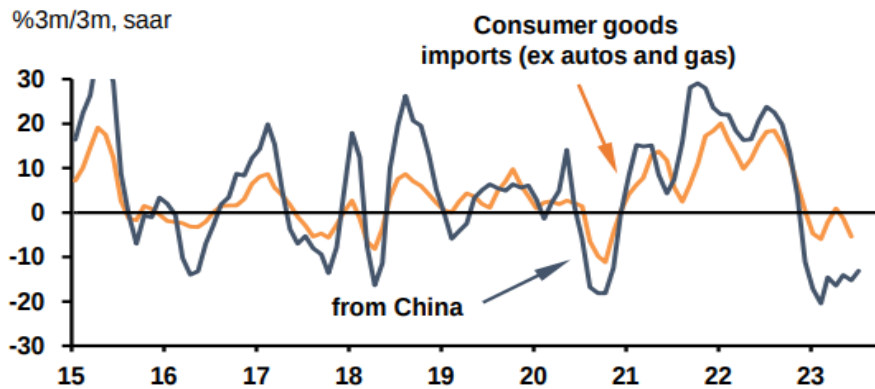
## China export price vs. global (ex China) core goods CPI



## US import prices



## Euro area import prices



## Spillover effect of China deflation

Response of core goods CPI (%q/q, saar)

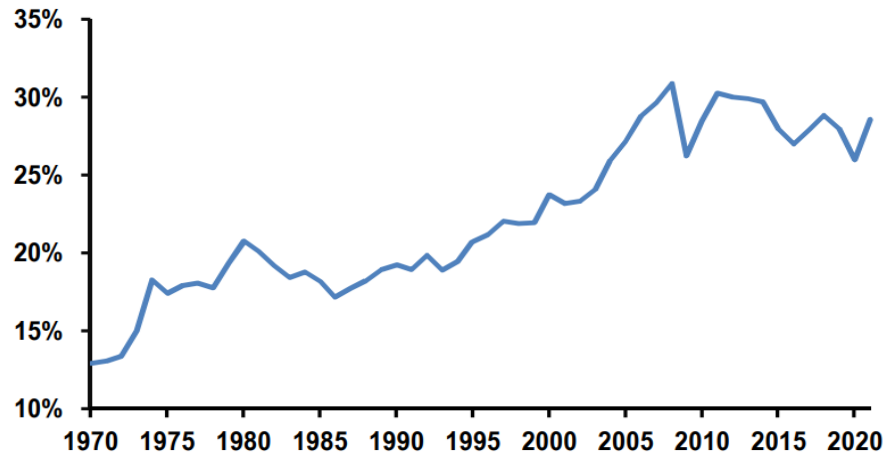
	Pre-covid (1Q00-4Q19)		Full sample (1Q00-4Q22)	
	2q after shock	4q after shock	2q after shock	4q after shock
United States	0.00	0.00	-0.09	-0.04
Euro Area	-0.02	-0.01	-0.04	-0.04
Japan	0.00	0.00	0.00	-0.04
LatAm (panel)	0.00	0.03	-0.04	-0.04
EMEA EM (panel)	0.00	0.00	-0.03	-0.04
EMAX (panel)	-0.06	-0.02	-0.10	-0.05
DM	-0.01	0.00	-0.06	-0.04
EMX	-0.03	0.00	-0.07	-0.04
Global ex Chn	-0.01	0.00	-0.07	-0.04

Source: J.P. Morgan Global Economics. Response of core goods CPI to a 1%pt shock in China export prices from VARs with the following Cholesky ordering: commodity prices, output gaps, policy rates, FX versus USD and CNY, China export prices, and core goods CPI. All VARs also control for global mfg output PMI. DM responses are GDP-weighted averages of the US, Euro area, and Japan. EMX responses are regional GDP-weighted averages. Global ex Chn responses are GDP-weighted

# Deglobalization is not yet a reality, and China still dominates the global supply chain...

## World Trade/GDP

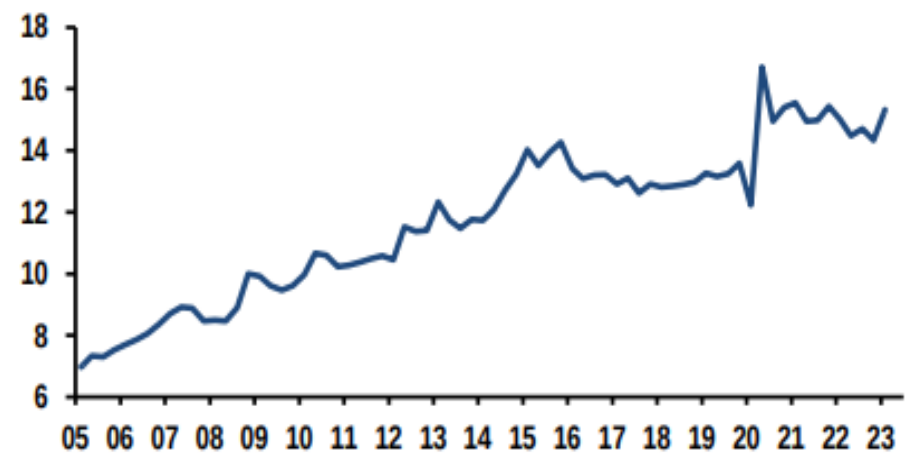
% , 1970-2021, Average of global exports and imports of goods and services over world GDP



Source: J.P. Morgan

## China's share of global exports

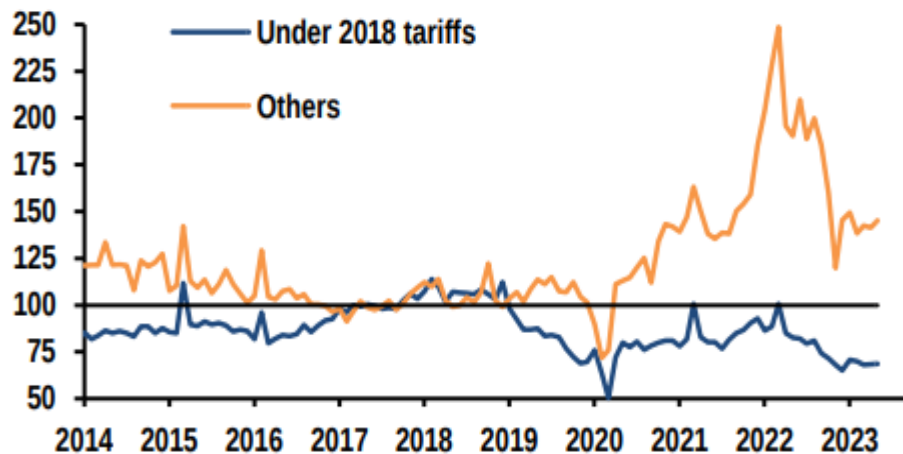
%, sa



Source: WTO, J.P Morgan

## US imports from China

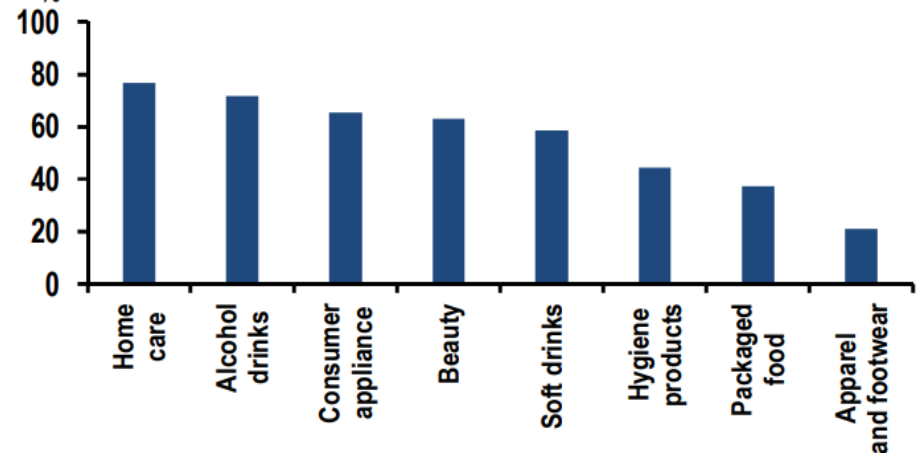
Indexed based on nominal value, 2017=100, sa



Source: Census Bureau, J.P. Morgan

## From Made-in-China to Made-for-China

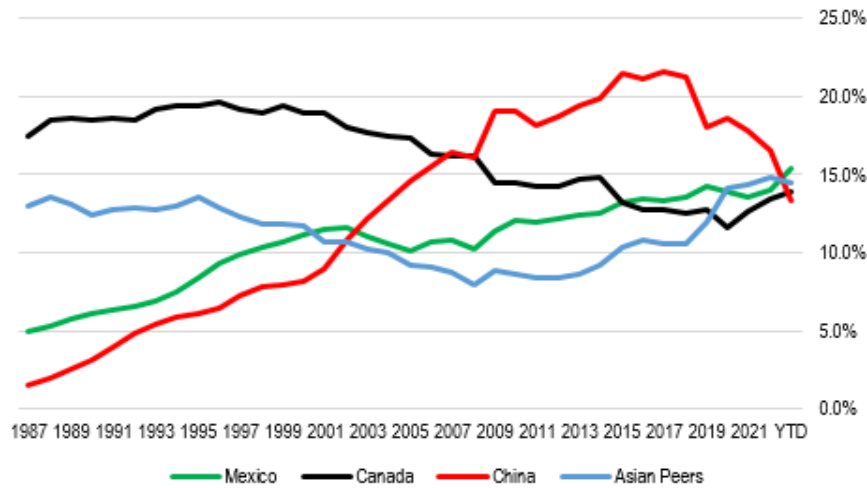
%



Source: J.P Morgan

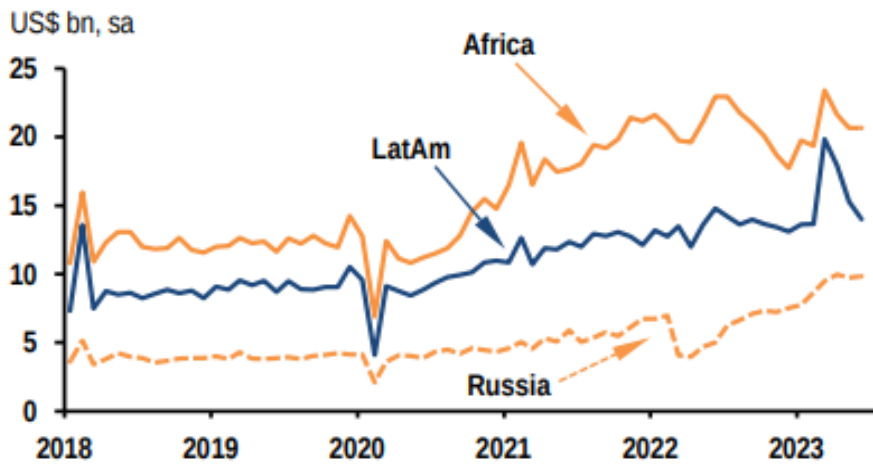
...but new trade corridors are emerging, and traditional trading patterns are being disrupted

### US imports by country of origin



Source: U.S. Census and J.P. Morgan

### China's exports to LatAm, Africa and Russia

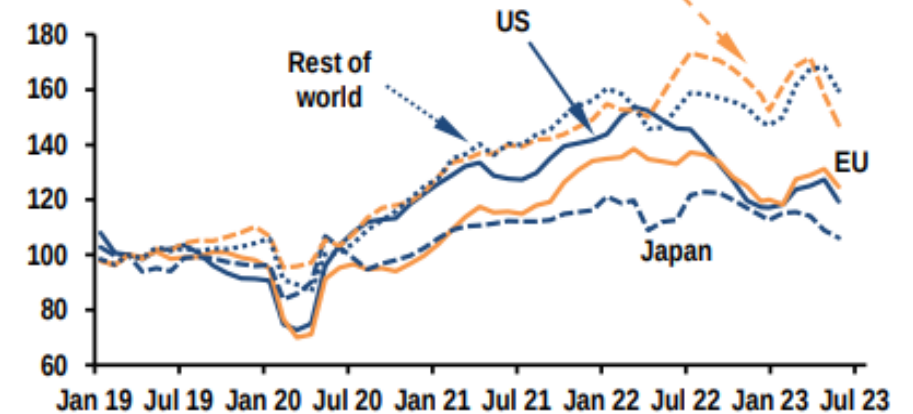


Source: Haver, J.P. Morgan

### US and EM Asia remain major trade partners of China

#### Export breakdown by region

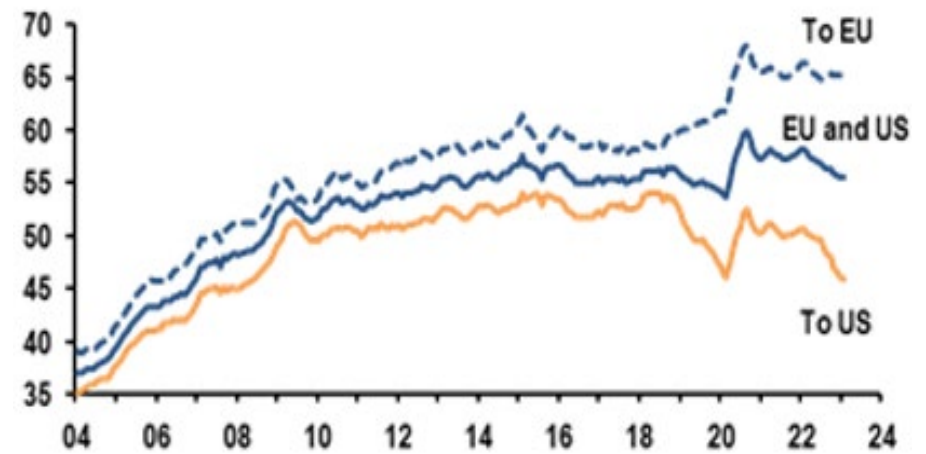
Index, 1Q19=100, sa, 3mma



Source: Haver, J.P. Morgan

### China/HK export share to EU and US

% of Asia exports



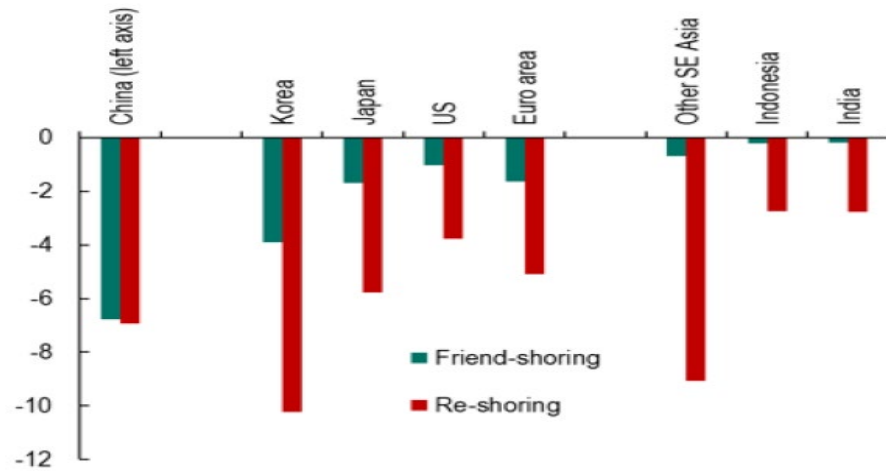
Source: National sources



IMF estimates that for each percentage point of re-shoring and friend-shoring, long-term GDP losses are 1.5% and 0.25%

### GDP losses from friend-shoring and re-shoring scenarios

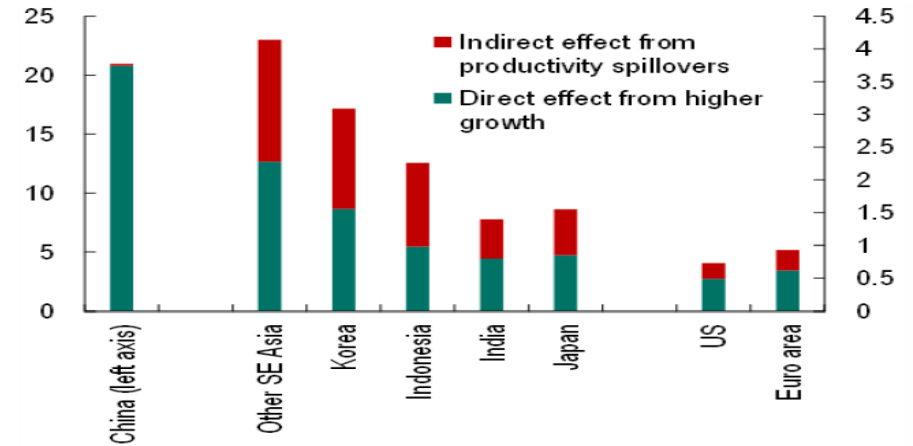
GDP levels, prevent deviation from baseline



Source: EORA GVC, IMF staff calculations

### Long-term spillovers from reigniting convergence in China

GDP levels, prevent deviation from baseline

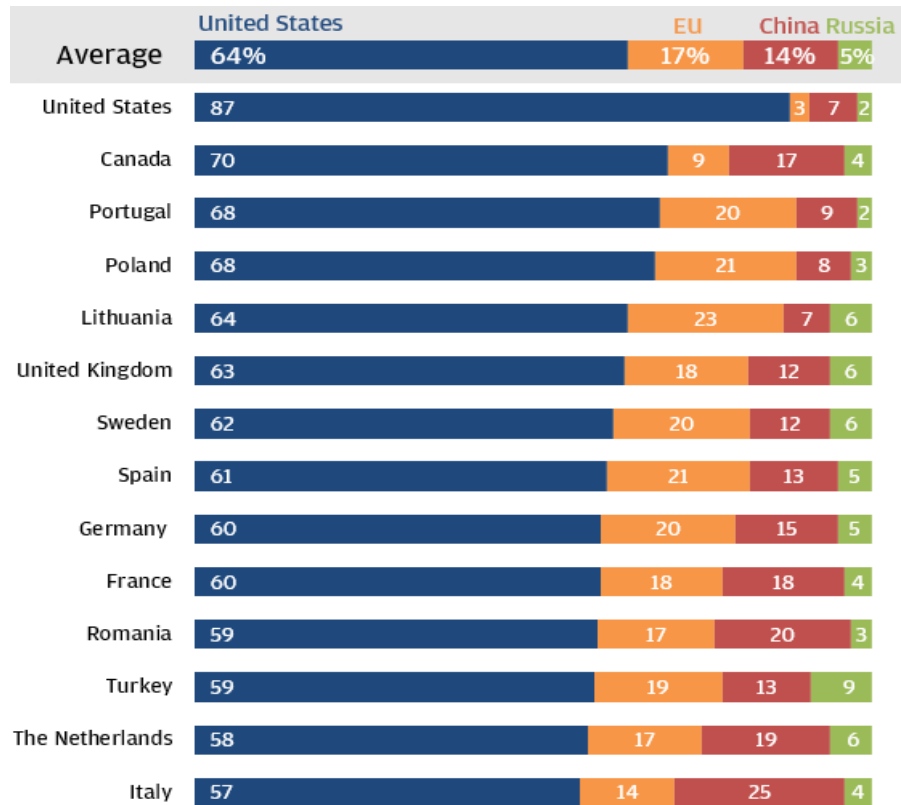


Source: IMF staff calculations

# Europeans see a decline in US global influence, and see China rising to almost that of the US over five years, with the EU and Russia unchanged

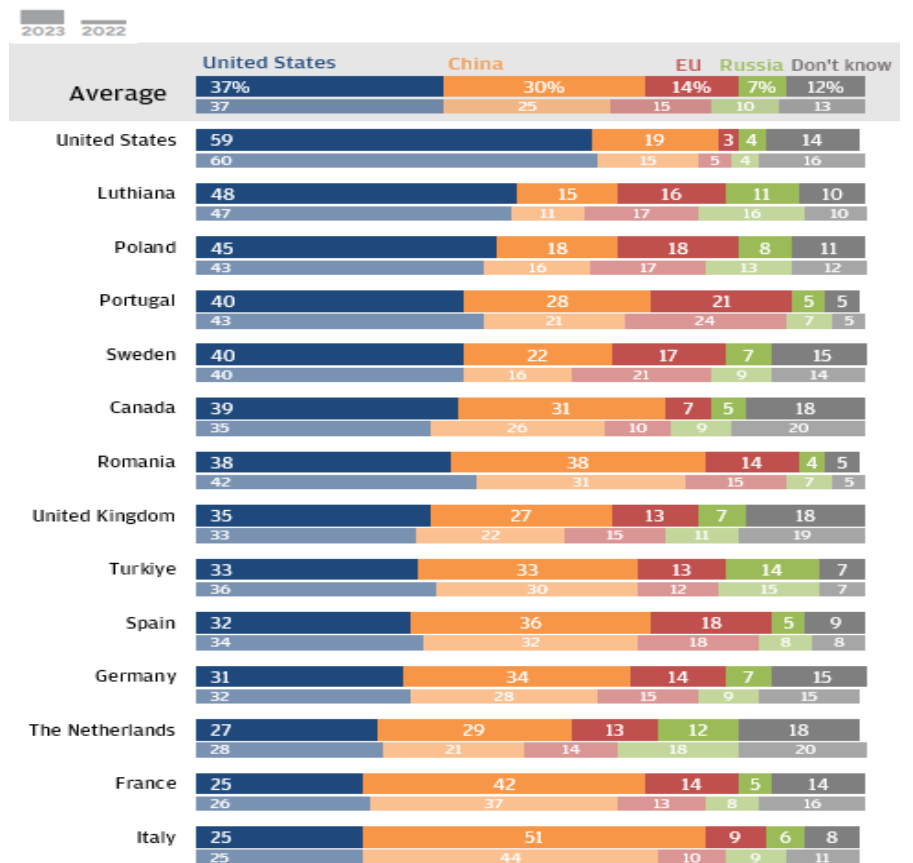
Rank the following actors in the order of which you think is most influential to least influential in global affairs

% who say \_\_\_\_\_ is the most influential actor in global affairs



Source: GMFUS, Transatlantic Trends 2023 Survey

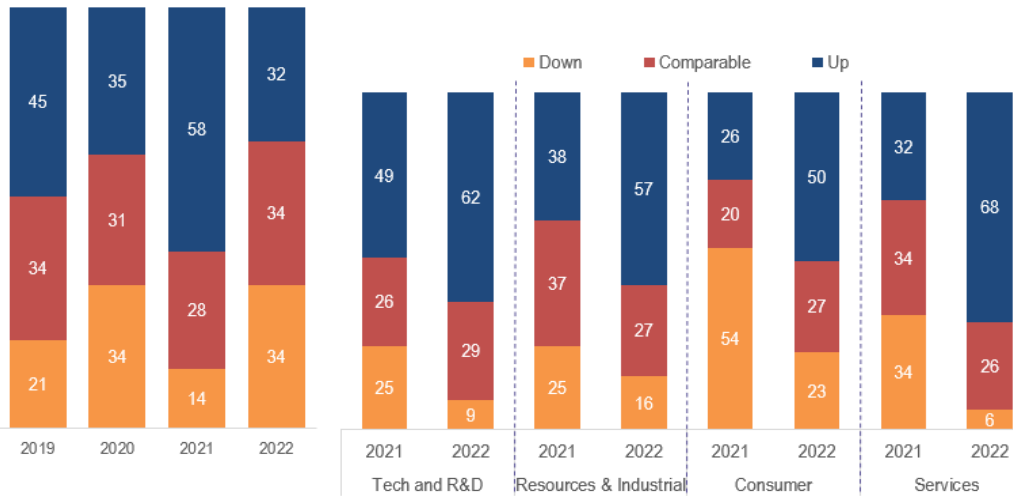
Which of the following actors will be the most influential in global affairs in the next five years?



Source: GMFUS, Transatlantic Trends 2023 Survey

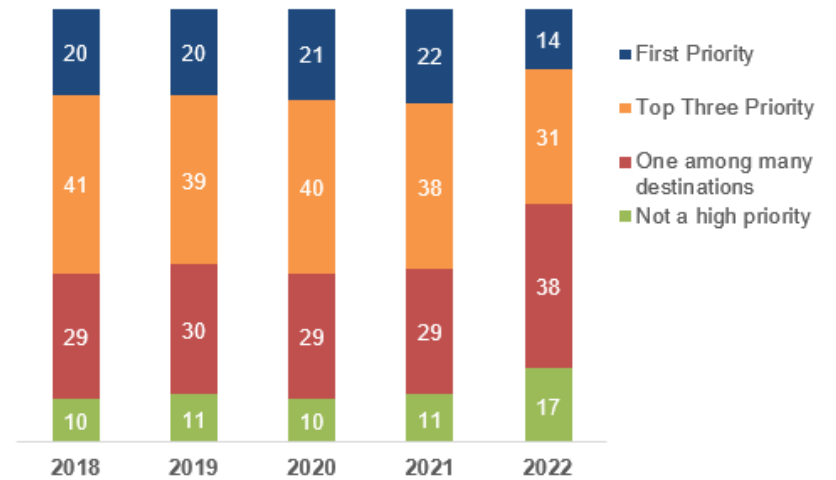
# US multinational businesses remain committed to doing business in China, but clear indications that many are in the process of diversifying supply chains

## How does the estimated 2022 revenue of your company's China operations compare with 2021 results



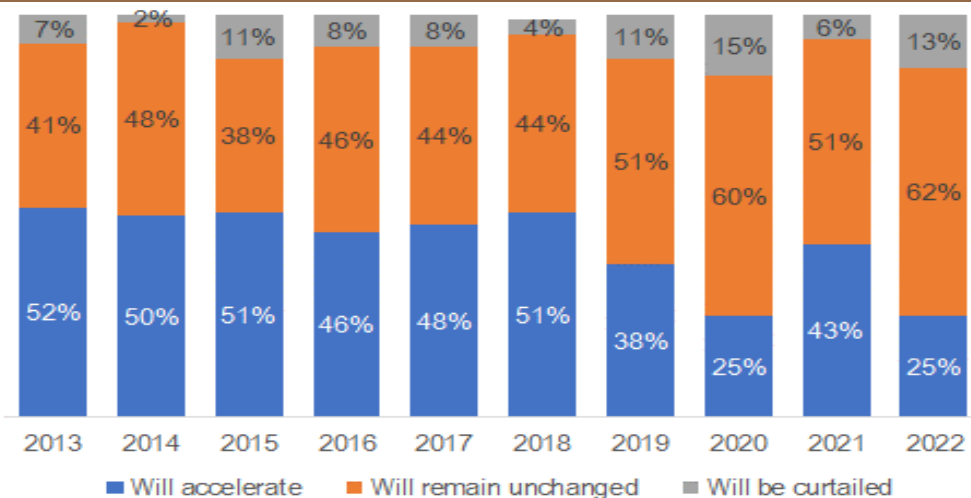
Source: AmCham China's 2023 China Business Climate Survey Report

## China's rank in near-term global investment plans



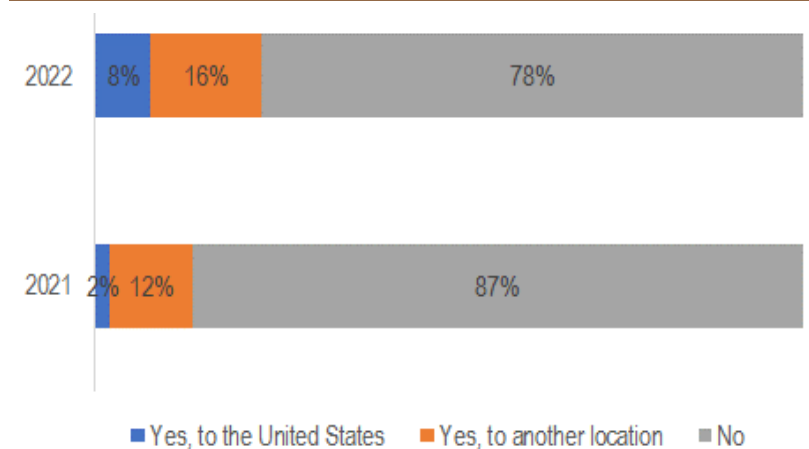
Source: AmCham China's 2023 China Business Climate Survey Report

## Resource commitment for next 12 months



Source: US-China Business Council

## Has your company moved any segments of its supply chain out of China in the past 12 months?

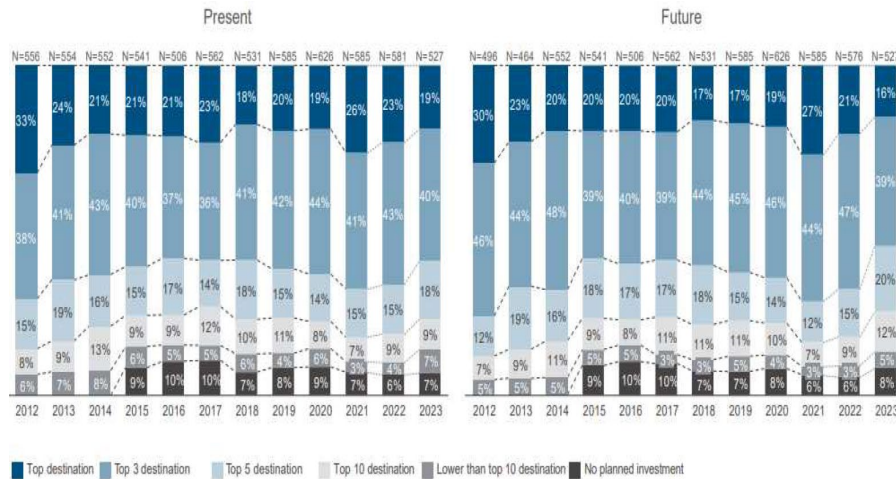


Source: US-China Business Council

# Geopolitical considerations are impacting European business sentiment toward China as European investment continues to consolidate

## Importance of China as an investment destination decreased

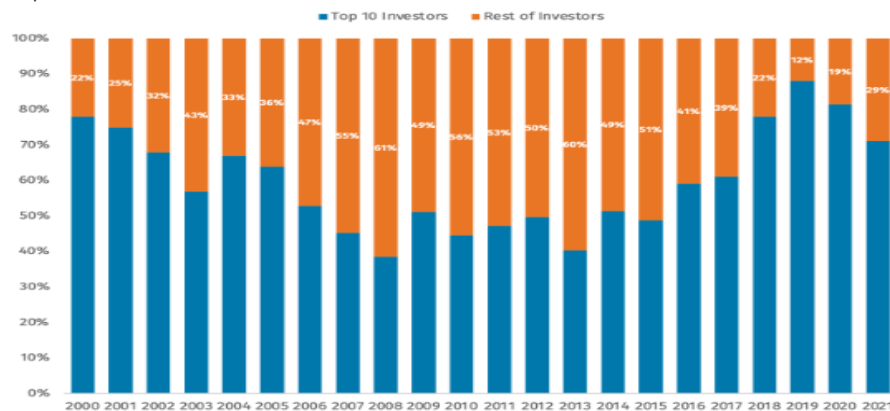
On a global scale, where does China rank as a destination for present and future investments for your company?



Source: European Business in China Business Confidence Survey 2023, European Union Chamber of Commerce in China

## Concentration of European FDI in China, 2000-2021

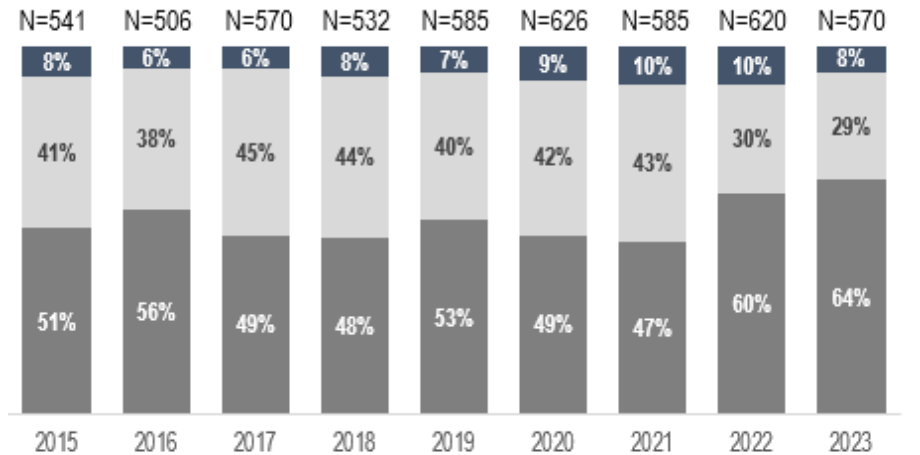
Top ten investors' share of annual FDI transaction value



Source for all charts: Rhodium Group

## Two-thirds reported doing business in China has become more difficult

How has your industry's business environment changed over the past year?

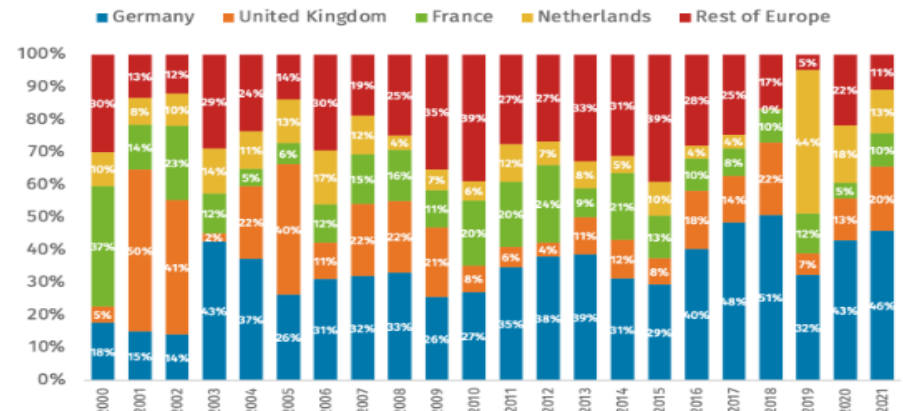


Legend: Business has become more difficult (dark grey), About the same (light grey), Business has become easier (dark blue).

Source: European Business in China Business Confidence Survey 2023, European Union Chamber of Commerce in China

## European FDI in China by Source Country, 2000-2021

Percent of annual FDI transaction value

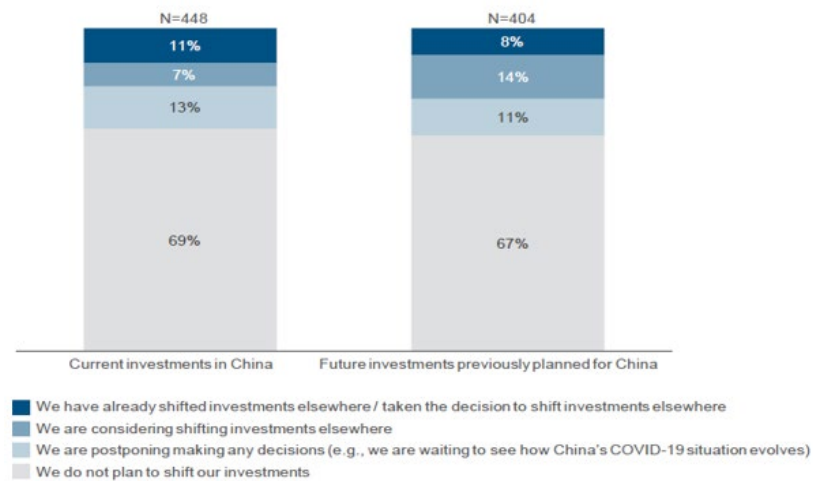


Source for all charts: Rhodium Group

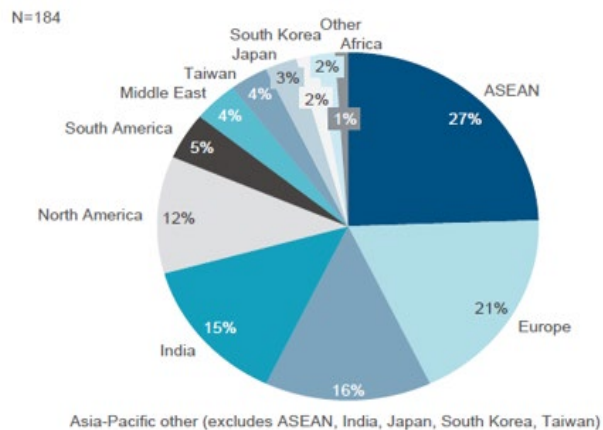
# One in 10 European businesses have shifted investments in China to other markets with ASEAN the top choice

## One in 10 shifted current investments elsewhere, with ASEAN their top choice, followed by Europe

Is your company considering shifting current or planned investments in China to other markets? <sup>1)</sup>

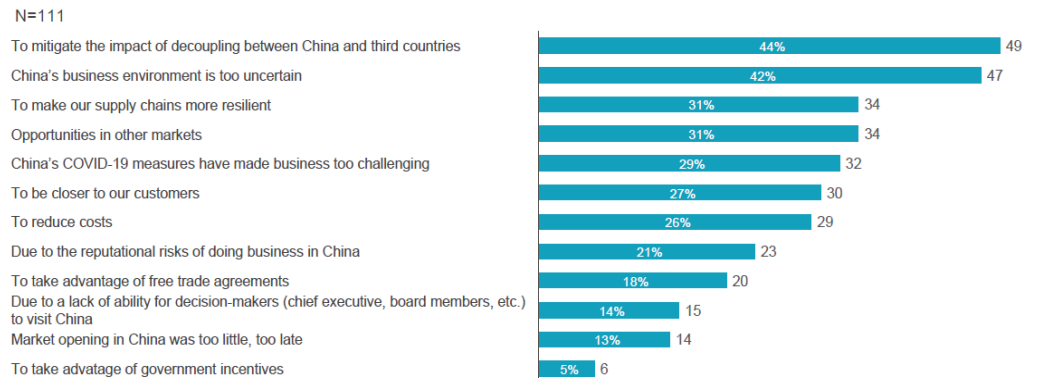


Where have you shifted / are you considering shifting investments to? <sup>2) 3)</sup>



## Investments shifted predominantly for defensive reasons

Why have you shifted / are you considering shifting current or planned investments in China to other markets? <sup>1) 2)</sup>



1) Excludes respondents that responded 'Don't Know'

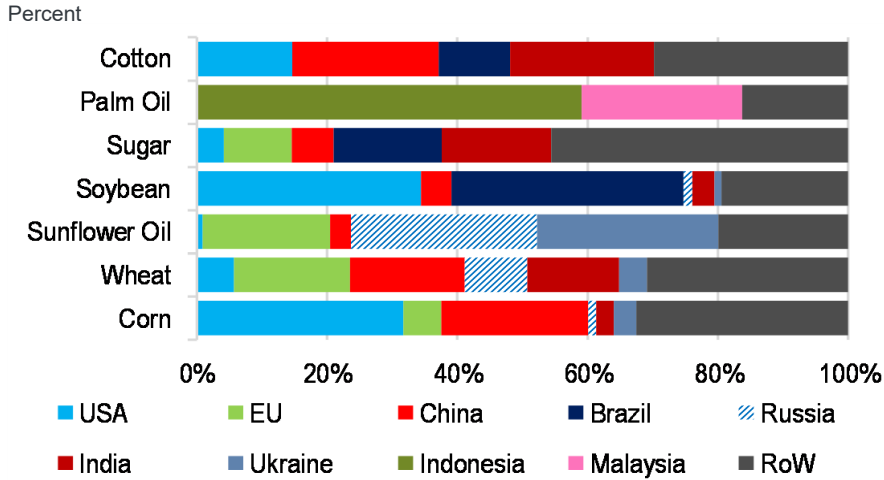
2) Question only asked to respondents that reported that they already have or are considering shifting China investments elsewhere in response to the question: Is your company considering shifting current or planned investments in China to other markets?

3) Multiple answers possible; percentages based on the total number of responses

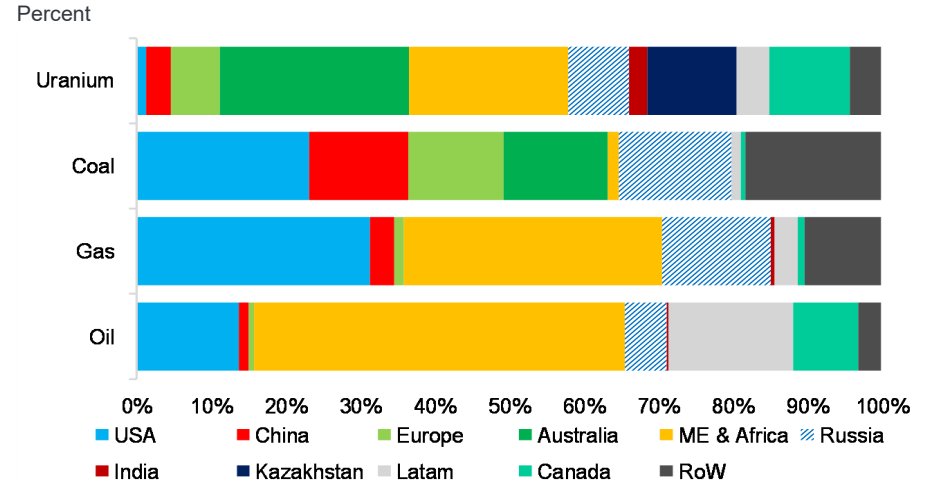
Source for all charts: European Business in China Business Confidence Survey 2023, European Union Chamber of Commerce in China

# China has spent the last 30 years in building a monopoly over rare earth refining and dominates the EV supply chain

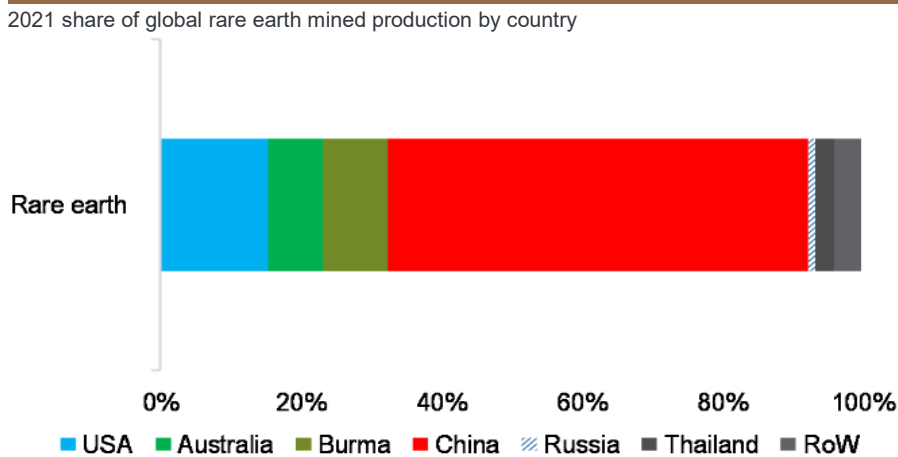
## Share of global agricultural production by country



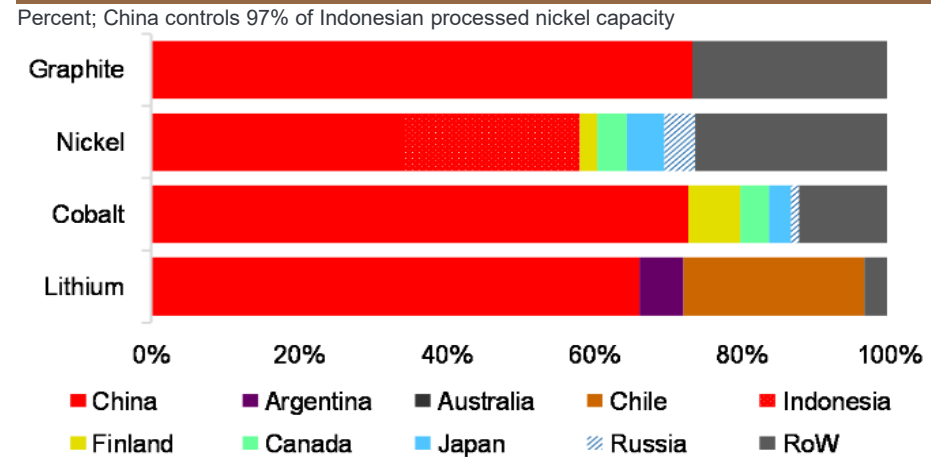
## Share of global energy reserves by country



## China has spent the last 30 years building a monopoly over the rare earth sector

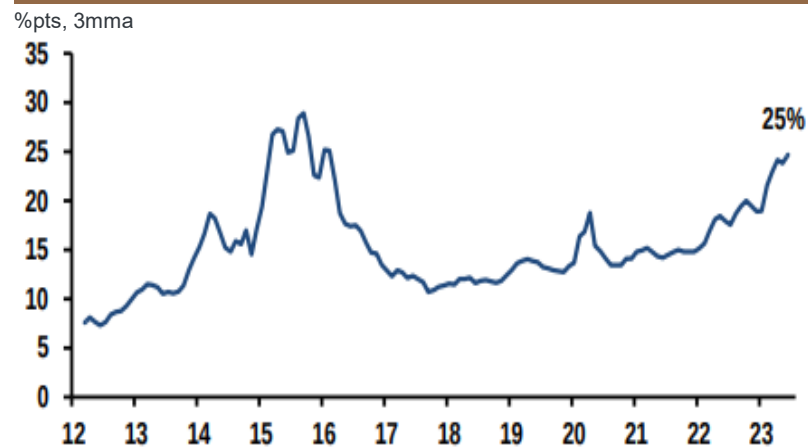


## Share of global refining of battery metals by country



# Increased RMB settlement in goods trade and increased settlement in non-USD for commodity transactions

## SWIFT lately Cross-border RMB settlement in goods trade



Source: PBOC, J.P. Morgan

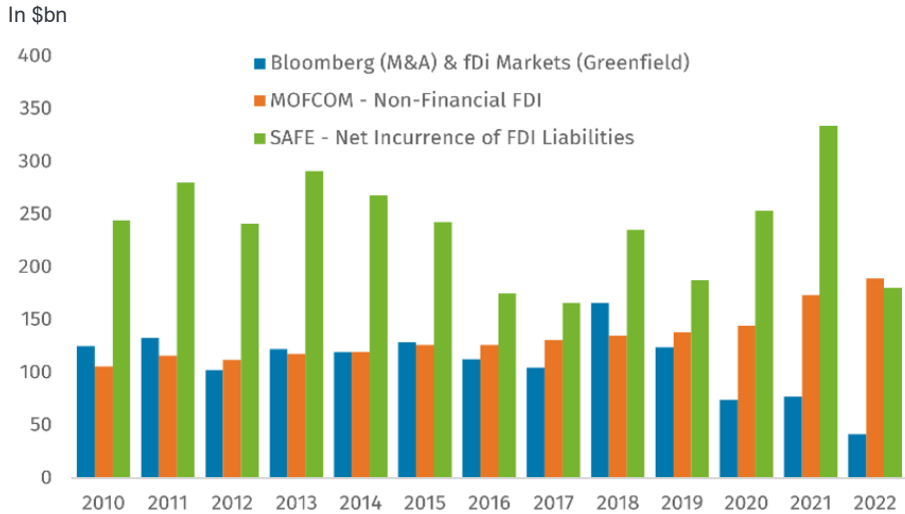
## Energy contracts in non-USD

Date	Country	Comment	Currency
Sep-17	Venezuela	Venezuela moves to sell oil and other commodities in currencies other than the dollar	yuan, yen, ruble, rupee
2019	China	Russia moved to euros for oil supplies to CNPC under long-term contract via the ESPO pipeline. Oil exports will be now paid in Chinese yuan	
Feb-22	China	Russia signs a 30-year gas contract to supply 10 Bcm/annum to China, settled in euros	euros
Jul-22	Australia	Australian iron ore spot shipments settled in yuan	yuan
Jul-22	India	Russia seeks payment in UAE dirhams for oil exports to India	UAE dirhams
Sep-22	China	Gazprom will shift gas contracts with China to be settled in rubles and yuan	yuan, rubles
Nov-22	Turkey	Turkey signs deal to pay 25% of its Russian natural gas imports in rubles, remainder in euros and dollars	rubles, euros, dollars
Nov-22	Ghana	Ghana's government is working on a new policy to buy oil products with gold	gold
Dec-22	China	China seeks to buy oil and gas in yuan	yuan
Jan-23	Saudi Arabia	Saudi Arabia will consider trading in currencies other than the US dollar	Others
Jan-23	Egypt	Russia is considering selling wheat to Egypt in rubles	rubles
Feb-23	India	Indian refiners pay for most of their Russian oil in UAE dirhams	UAE dirhams
Mar-23	China	China completes first yuan-settled LNG trade of 65,000 tons	yuan
Mar-23	Brazil	China, Brazil strike deal to trade in local currencies, rubles and reals	rubles, reals
May-23	Egypt	Strongly considering approving the currencies of its commodity trade partners, including China, India and Russia to try and lessen the need for dollars	Yuan, Rubles, Rupees
Jun-23	Pakistan	Pakistan paid for its first shipment of discounted Russian crude in Chinese currency	yuan
Jul-23	India	Indian refiners consider paying for Russian crude in yuan	yuan
Aug-23	India	India makes first crude oil payment to UAE in Indian rupees	Rupees

Source: J.P. Morgan and various news reports

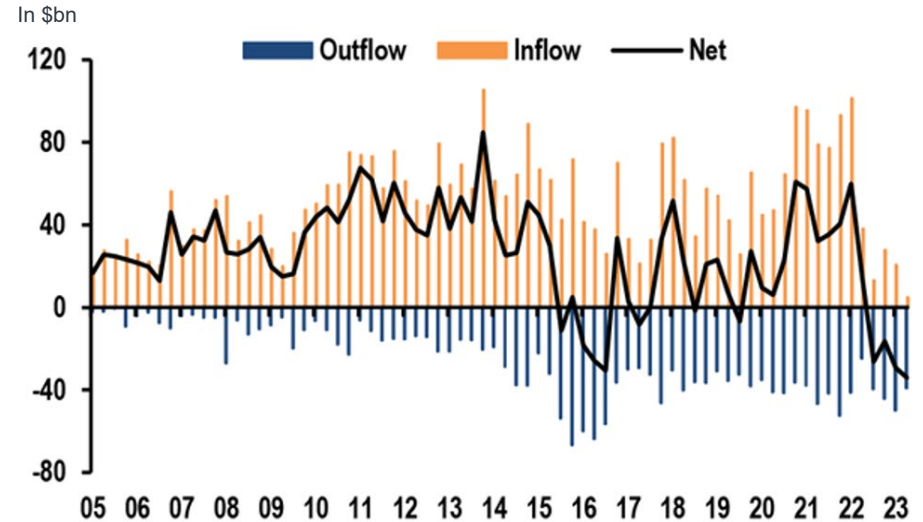
# 2023 marks a substantial deterioration in FDI inflows, which fell to a 26-year low—a sharp reversal from the peak of \$334bn reached in 2021

## Measures of China's Global Inbound FDI, 2010-2022



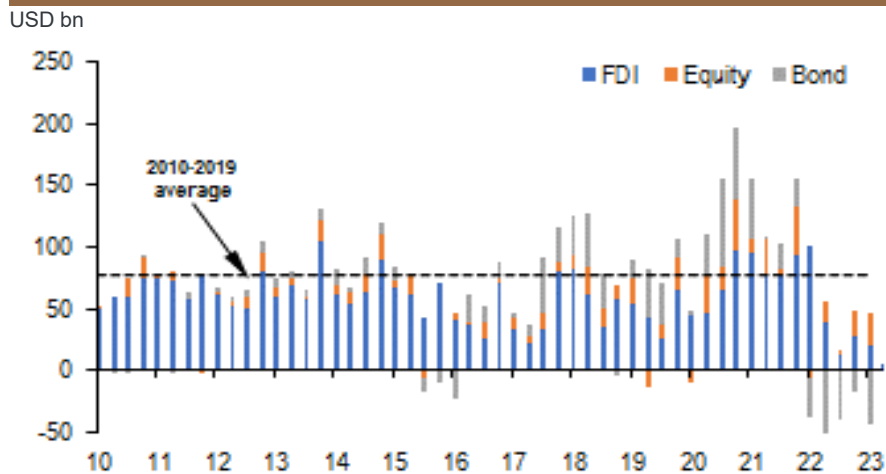
Source: SAFE, MOFCOM, fDi Markets, Bloomberg Finance L.P., Rhodium Group calculations

## China's direct investment under BoP



Source: SAFE, J.P. Morgan

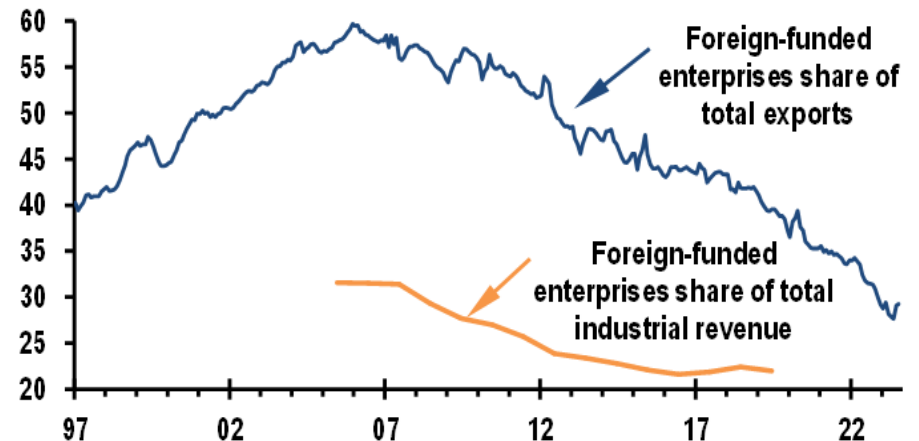
## FDI and portfolio inflows under BoP



Source: SAFE, HKEX, CCDC, SHCH, J.P. Morgan

## Foreign-funded enterprise contribution to China's exports and industrial revenue have declined sharply

% share of total exports / national industrial sales revenue

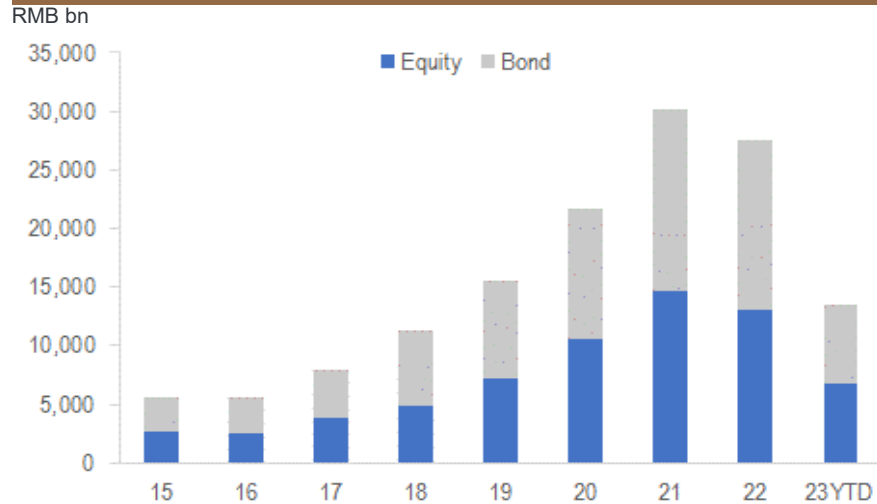


Source: China Customs, J.P. Morgan



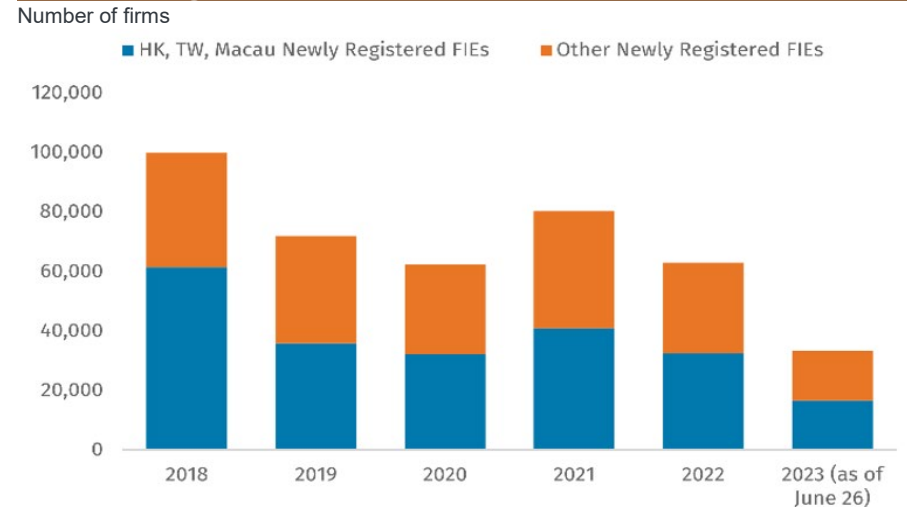
# China's equity and bond markets have experienced substantial volatility since Russia's invasion of Ukraine in March 2022

## Outstanding amount held by foreign investors



Source: PBoC, J.P. Morgan

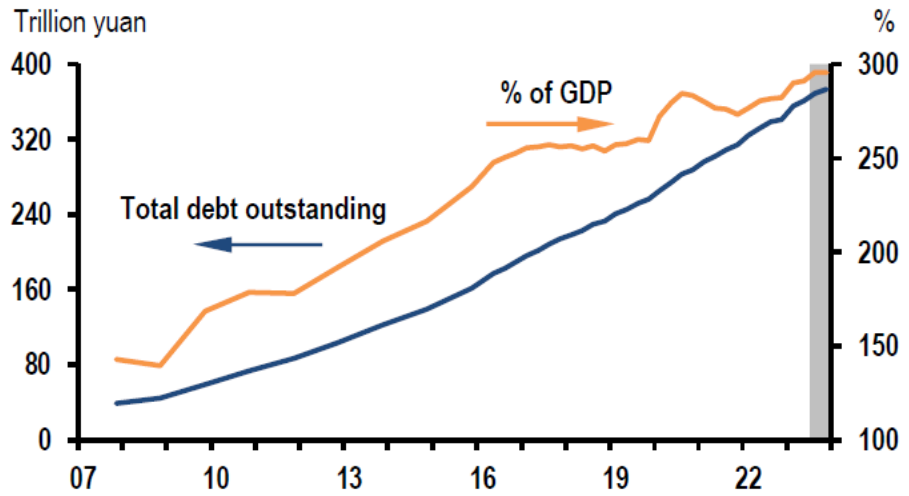
## China's newly registered foreign-invested enterprises, 2018-2023 (through June 26)



Source: Rhodium Group, Qichacha

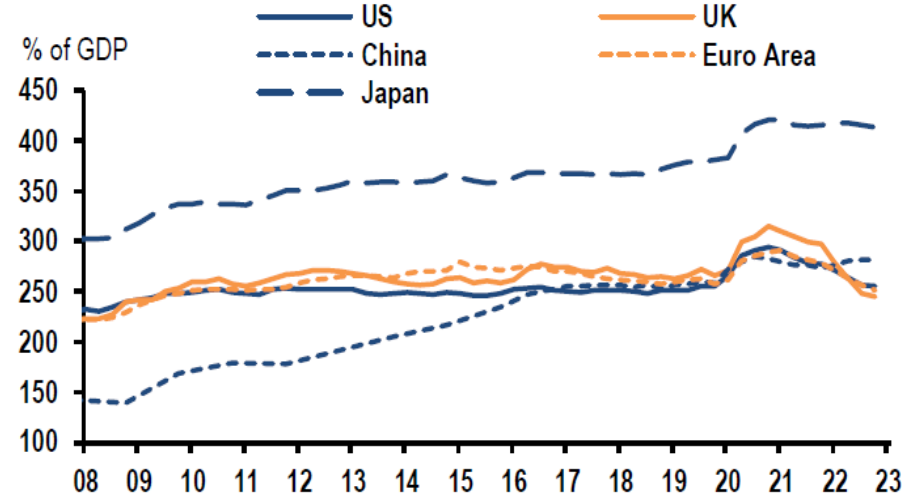
# China's debt level has risen dramatically since 2008

## China Debt/GDP ratio may increase by 12%pts in 2023



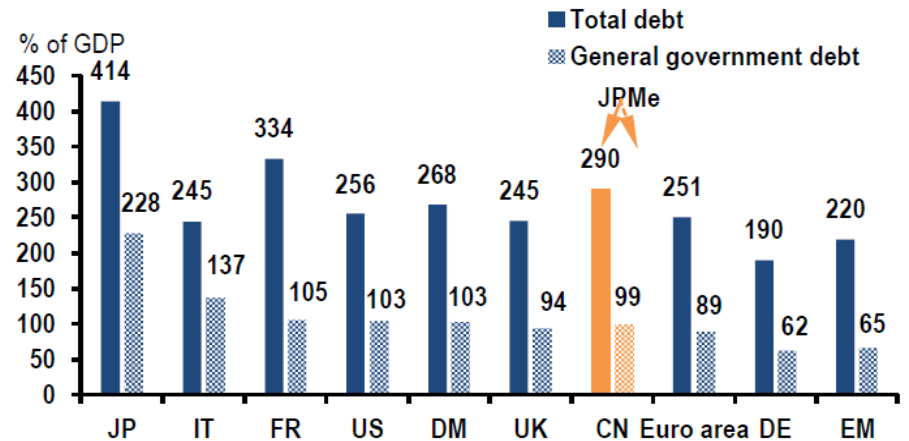
Source: CEIC, J.P. Morgan estimates

## Debt/GDP ratio in major economies



Source: Bank for International Settlements, J.P. Morgan

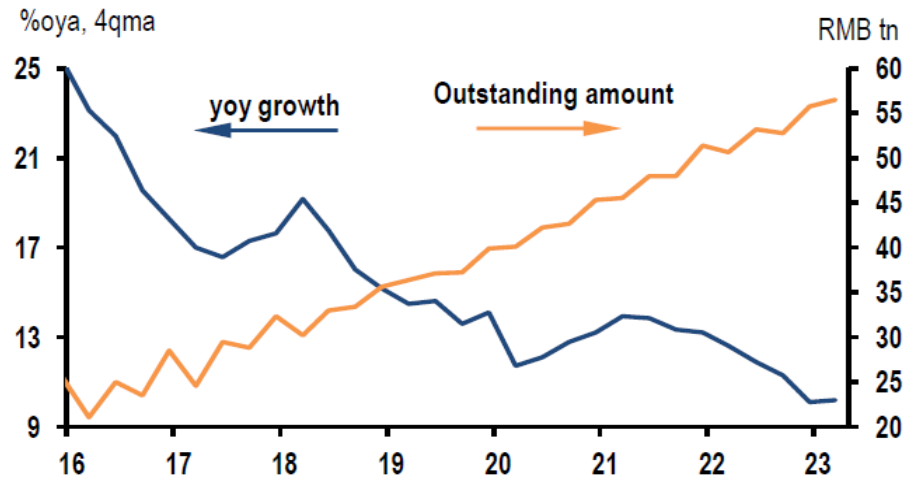
## LGFV, debt problem and financial stability



Source: BIS, J.P. Morgan. Note: JPM estimates for China as of 1Q23, and government debt includes central and local government debt and LGFV debt; BIS estimates for other economies as of 4Q22.

# Mounting concerns on LGFV debt buildup and default risk

## China LGFV debt

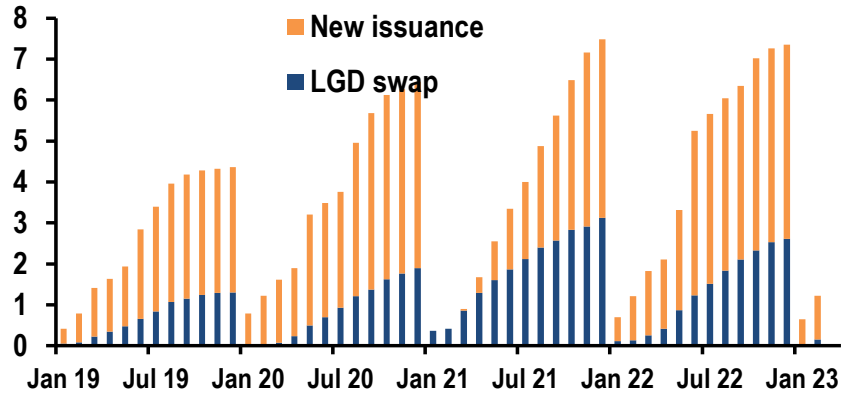


Source: Wind, J.P. Morgan

## Local government bond issuance

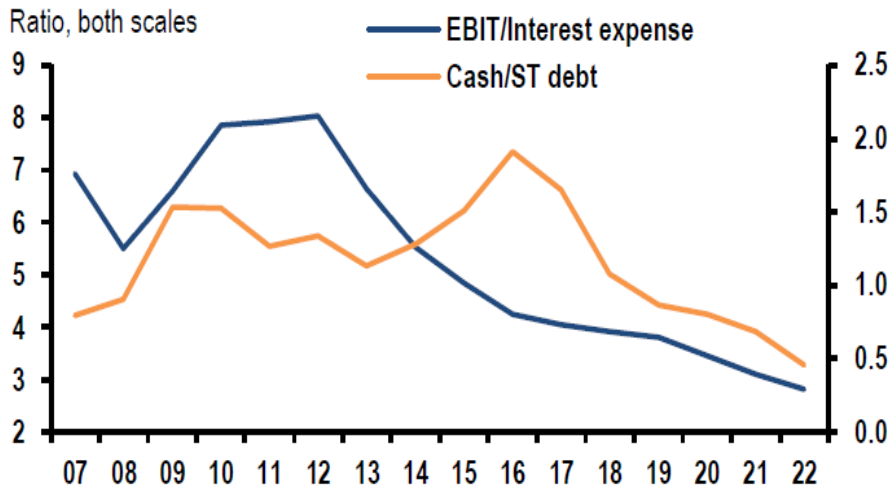
### Local government bond issuance

RMB tn, ytd



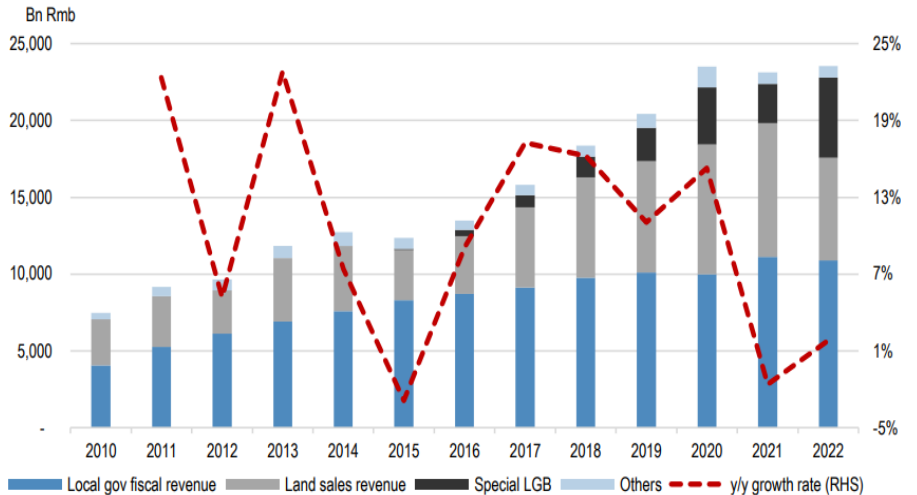
Source: MOF, J.P. Morgan

## LGFV debt repayment capacity (sample median)



Source: Wind, J.P. Morgan

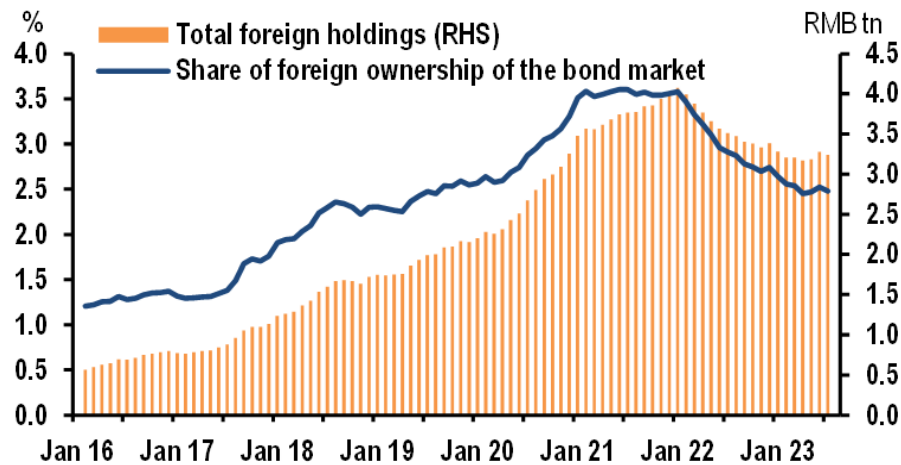
## Local government revenue breakdown and growth rate



Source: MOF, J.P. Morgan. Note: Both local government fiscal revenue and fund revenue (land revenue, special LGB, others) included in local government revenue

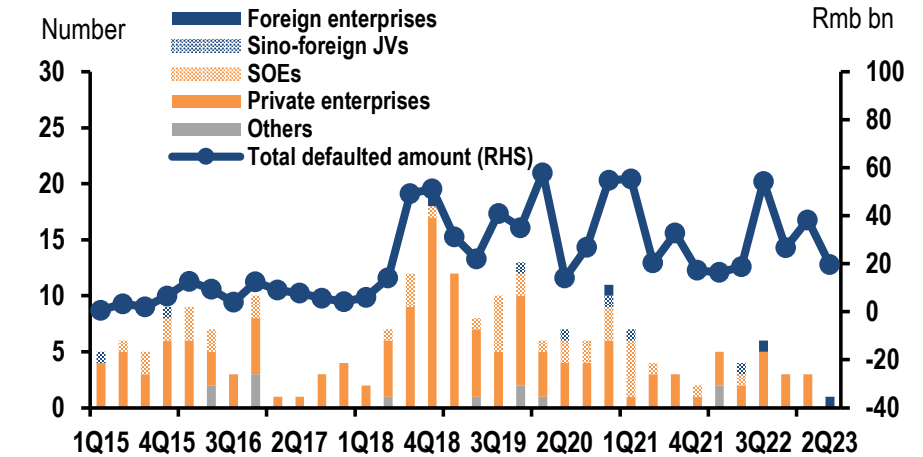
# Roughly half of China's high yield property sector has defaulted, but foreigners are not the primary holders

Foreign holding of total bonds outstanding



Source: CEIC, Bloomberg Finance L.P., J.P. Morgan

Bond default breakdown by ownership



Source: CEIC, Bloomberg Finance L.P., J.P. Morgan

# Growth and inflation outlook and forecasts

	Real GDP			Real GDP						Consumer prices			
	% over a year ago			% over previous period, saar						% over a year ago			
	2022	2023	2024	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	2Q23	4Q23	2Q24	4Q24
United States	1.9	2.3	1.3 ↑	2.1	4.3 ↑	1.5	0.5	0.5	1.0	4.1	3.3	2.6	2.1
Canada	3.4	1.4	1.8	-0.2	0.8	2.8	1.5	2.0	2.5	3.5	3.3 ↓	2.1	2.1
Latin America	3.7	1.9	1.4 ↓	1.1	1.0 ↓	-0.4 ↓	1.8	2.3	1.7 ↓	5.8	4.9	4.1	3.8
Argentina	5.0	-3.1	-1.7	-10.2	1.5	-10.0	-3.0	3.0	4.0	114.5	179.8 ↑	254.4 ↑	130.8 ↑
Brazil	2.9	2.9 ↓	1.2	3.7	-1.2 ↓	-0.4	2.0	1.8	1.5	3.8	4.7 ↓	3.4 ↑	3.7
Chile	2.4	-0.1	2.2	-1.2	0.4	1.8	2.6	2.4	2.8	8.7	4.1	3.8	3.6
Colombia	7.3	1.5	1.1 ↓	-4.1	2.4 ↑	0.0 ↓	1.0	1.0 ↓	2.5 ↓	12.4	9.8	8.6	4.8
Ecuador	2.9	1.4	1.2	10.4	1.0	0.3	0.5	1.0	0.4	2.0	2.4	2.6	2.1
Mexico	3.9	3.4	2.5	3.4	3.0	1.5	3.5	3.0	0.7	5.7	4.4	4.1	3.8
Peru	2.7	0.2 ↓	2.5 ↓	1.3	1.5 ↓	5.0	2.0	2.5	2.0 ↓	7.4	3.8	2.9	2.9
Uruguay	4.9	0.7	2.5	-5.5	7.8	2.4	1.0	3.0	2.5	6.9	4.5	4.3	6.1
<b>Asia/Pacific</b>	3.2	4.1 ↑	3.6 ↑	1.3 ↓	4.5 ↑	3.8 ↑	3.5	3.5	3.6	1.9	2.0 ↓	2.7 ↓	2.7 ↓
Japan	1.0	1.7	0.6	4.8	-1.2	0.0	0.6	0.6	0.8	3.4	3.7	4.1	3.4
Australia	3.7	1.9	2.1	1.4	1.3	1.5	2.6	2.3	2.6	6.0	4.1 ↓	3.6 ↓	3.3
New Zealand	2.7	1.7	2.1	3.5	2.5	1.5	2.2	1.2	3.2	6.0	4.4	3.0	2.0
EM Asia	3.6	4.6 ↑	4.3 ↑	0.6 ↓	5.8 ↑	4.7 ↑	4.1	4.2	4.2	1.3	1.5 ↓	2.4 ↓	2.6 ↓
China	3.0	5.2 ↑	4.7 ↑	-0.8 ↓	6.9 ↑	5.5 ↑	4.5	4.5	4.5	0.1	0.5 ↓	1.8 ↓	2.2 ↓
India	7.2	5.5	5.0	5.0	4.8	4.2	4.0	4.8	5.2	4.6	5.4	5.5	5.5
Ex China/India	3.5	2.4	2.7	2.5	2.8	2.3	2.7	2.8	3.0	3.3	2.7	2.5	2.1
Hong Kong	-3.5	3.5	2.3	-5.1	1.8	1.8	3.2	3.2	3.2	2.0	2.2	2.5	2.4
Indonesia	5.3	4.8	4.1	5.1	3.6	3.5	3.5	4.0	4.2	3.9	2.6	2.4	2.4
Korea	2.6	1.1	1.8	2.5	2.0	1.0	1.8	1.8	2.5	3.2	3.5	3.0	1.6
Malaysia	8.7	3.4	3.0	6.3	4.0	2.5	3.0	3.0	2.5	2.8	2.3	2.2	2.1
Philippines	7.6	4.0	4.3	-3.6	3.5	5.0	6.0	5.0	4.0	6.0	4.5	4.4	3.8
Singapore	3.6	0.7	0.6	0.3	1.2	0.3	0.2	0.5	1.0	5.1	2.8	1.3	1.2
Taiwan	2.4	0.6	3.0	5.6	3.8	3.2	2.5	2.5	2.6	2.0	2.0	1.6	1.8
Thailand	2.6	2.5	3.1	0.7	2.8	3.0	3.6	3.2	3.0	1.1	0.3	2.0	2.4
<b>Western Europe</b>	3.5	0.5	0.6	0.4	0.0	0.6	0.8	0.6	0.7	6.7	3.6	2.9 ↑	2.3 ↑
Euro area	3.4	0.5	0.6	0.5	0.0	0.5	0.8	0.8	1.0	6.2	3.3 ↓	2.9	2.1 ↑
Germany	1.9	-0.3	0.6	0.1	-0.5	0.5	0.8	0.8	1.0	6.9	2.7 ↓	2.3 ↓	2.0
France	2.5	0.8	0.7	2.2	0.0	0.5	0.8	0.8	1.0	6.1	4.4 ↓	2.6 ↓	2.1 ↑
Italy	3.9	0.7	0.6	-1.5	0.0	0.8	0.8	0.8	1.3	7.8	2.0	1.7	1.1
Spain	5.8	2.4	1.1	2.1	0.8	1.0	0.8	1.3	1.5	2.8	4.3 ↑	4.6 ↑	3.0
Norway	3.7	1.2	0.7	-0.2	0.5	0.8	0.8	0.8	0.8	6.5	4.9	2.9	2.4
Sweden	2.9	-0.5	0.3	-3.3	-0.5 ↑	0.0 ↓	0.8	0.8	1.3	9.8	5.6	3.9	2.9
United Kingdom	4.3	0.6	0.2	0.8	0.0	1.0	0.8	0.0	-1.0	8.4	4.4	2.5	3.0
<b>EMEA EM</b>	2.3	1.9	1.9	3.0	2.8	1.4	1.9	1.7	2.0	12.5	15.9	16.4	10.7
Czech Republic	2.4	-0.2	1.3	-0.1	0.0	1.3	1.5	1.8	1.8	11.1	8.4	3.0	2.7
Hungary	4.6	-1.0	2.3	-1.1	2.3	2.5	2.8	2.3	2.5	21.8	8.5	4.8	4.5
Israel	6.4	3.2	1.9	3.1	2.3	-1.5	0.5	3.5	5.5	4.6	4.0	2.9	2.2
Poland	5.1	-0.9	1.8	-8.5	3.3	2.5	2.5	2.8	2.5	13.0	6.5	4.5	5.6
Romania	4.7	2.2	4.0	3.5	2.8	2.0	2.4	5.3	6.6	10.7	7.3	6.2	5.6
Russia	-1.9	2.6	1.5	3.0	2.8	1.0	0.8	1.5	1.8	2.7	6.9	7.1	4.9
South Africa	1.9	0.8	1.2	2.4	0.3	0.8	1.4	1.0	1.5	6.2	5.2 ↓	5.0 ↓	4.7
Turkey	5.5	4.0	2.7	14.6	5.0	3.0	4.5	-1.0	-1.0	40.4	63.0	71.1	41.6
<b>Global</b>	2.9	2.5	2.1 ↑	1.4	3.1 ↑	2.1 ↑	1.9	1.9	2.1	4.3	3.7	3.5 ↓	2.9 ↓
Developed markets	2.6	1.5	1.0	1.6	1.9 ↑	1.1	0.7	0.7	1.0	5.0	3.5	2.8	2.3
Emerging markets	3.5	3.9 ↑	3.6 ↑	1.0 ↓	4.8 ↑	3.6 ↑	3.5	3.6	3.6	3.4	3.9 ↓	4.5 ↓	3.8 ↓
Emerging ex China	3.9	2.7	2.6	2.7	2.7 ↓	1.7 ↓	2.5	2.7	2.8	6.6	7.3	7.3 ↑	5.4
Global — PPP weighted	3.4	2.9 ↑	2.5 ↑	1.4	3.2 ↑	2.3 ↑	2.2	2.3	2.5	4.7	4.6	4.7	3.7

Source: J.P. Morgan as of October 20, 2023. Note: Any long-form nomenclature for references to China; Hong Kong; Taiwan; and Macau within this research material is Mainland China; Hong Kong SAR (China); Taiwan (China); and Macau SAR (China).

# US Treasury Yields Forecasts

## J.P. Morgan interest rate forecast; %

	Actual 19-Oct	1m ahead 19-Nov	4Q23 31-Dec	1Q24 31-Mar	2Q24 30-Jun	3Q24 30-Sep
<b>Rates (%)</b>						
Effective funds rate	5.33	5.35	5.35	5.35	5.35	5.10
SOFR*	5.30	5.30	5.30	5.30	5.30	5.05
2-yr Treasury	5.17	5.10	5.00	4.85	4.55	4.30
3-yr Treasury	5.03	4.95	4.90	4.75	4.50	4.30
5-yr Treasury	4.96	4.90	4.75	4.55	4.20	3.90
7-yr Treasury	5.02	4.95	4.70	4.45	4.15	3.95
10-yr Treasury	4.99	4.95	4.75	4.55	4.20	4.00
20-yr Treasury	5.33	5.30	5.10	4.95	4.55	4.35
30-yr Treasury	5.10	5.05	4.90	4.80	4.50	4.35
<b>Spreads (bp)</b>						
Fed funds/2yr	-16	-25	-35	-50	-80	-80
2s/10s	-18	-15	-25	-30	-35	-30
2s/5s	-21	-20	-25	-30	-35	-40
5s/10s	3	5	0	0	0	10
5s/30s	14	15	15	25	30	45
10s/30s	11	10	15	25	30	35

\*1-month moving average

Source: J.P. Morgan as of October 20, 2023

## TIPS breakeven targets, and real yield and curve levels based on those targets\*; units as indicated

	Actual 20-Oct-23	1m ahead 20-Nov-23	4Q23 31-Dec-23	1Q24 31-Mar-24	2Q24 30-Jun-24	3Q24 30-Sep-24
<b>Breakevens (bp)</b>						
5Y	246	245	245	240	230	225
10Y	247	245	245	240	225	220
30Y	255	255	245	240	225	220
<b>Real yields (%)</b>						
5Y	2.40	2.35	2.30	2.15	1.90	1.65
10Y	2.46	2.40	2.30	2.15	1.95	1.80
30Y	2.55	2.50	2.45	2.40	2.25	2.15

\* Targets for real yields are based on our nominal yield forecasts and breakeven targets  
Source: J.P. Morgan as of October 20, 2023

# Global Commodities Price Forecasts

Price and forecasts are quarterly and annual spot averages

		2021	1Q22	2Q22	3Q22	4Q22	2022	1Q23	2Q23	3Q23	4Q23	2023	1Q24	2Q24	3Q24	4Q24	2024
<b>Brent</b>	Avg	71	98	114	102	90	101	82	77	80	85	81	83	83	81	85	83
	EoP	75	115	104	104	88	88	79	72	86	86	86	83	79	86	85	85
<b>WTI</b>	Avg	68	95	111	99	82	97	78	73	76	81	76	79	79	77	81	79
	EoP	75	112	101	101	80	84	78	67	82	81	81	78	75	82	81	81
<b>WTI - Brent Spread</b>	Avg	-2.7	-3.0	-3.0	-3.5	-8.0	-4.4	-4.2	-4.5	-4.0	-4.5	-4.8	-4.5	-4.5	-4.0	-4.5	-4.4
<b>Realized Avg/ Forward Curve</b>	Brent	71	97	112	98	89	99	82	78	86	91	91	89	87	85	84	86
	WTI	68	95	109	91	83	94	76	74	82	88	88	85	82	81	79	82
<b>Realized EoP/ Forward Curve</b>	Brent	75	112	118	90	81	81	79	75	93	93	93	89	87	85	84	84
	WTI	75	108	114	84	77	77	73	70	89	88	88	85	82	80	79	79

		1Q23A	2Q23A	3Q23A	4Q23	1Q24	2Q24	3Q24	4Q24	2023	2024
<b>Energy</b>											
<b>WTI Crude</b>	US\$/bbl	76	74	82	81	79	79	77	81	78	79
<b>Brent Crude</b>	US\$/bbl	82	78	86	85	83	83	81	85	83	83
<b>US Natural Gas (Henry Hub)</b>	US\$/MMBtu	4.08	2.32	2.57	3.00	3.25	2.90	3.20	4.00	2.99	3.34
<b>European Natural Gas (TTF)</b>	Eur/MWh	53	35	34	30	45	35	30	45	38	39
<b>Base Metals</b>											
<b>Aluminum</b>	US\$/mt	2,401	2,260	2,160	2,150	2,200	2,325	2,450	2,600	2,243	2,394
<b>Copper</b>	US\$/mt	8,941	8,461	8,367	8,500	8,700	9,200	9,700	10,300	8,567	9,475
<b>Nickel</b>	US\$/mt	25,973	22,277	20,392	19,000	18,500	20,000	21,000	22,000	21,911	20,375
<b>Zinc</b>	US\$/mt	3,132	2,527	2,435	2,300	2,250	2,300	2,400	2,600	2,598	2,388
<b>Precious Metals</b>											
<b>Gold</b>	US\$/t oz	1,893	1,981	1,929	1,920	1,950	2,030	2,100	2,175	1,931	2,064
<b>Silver</b>	US\$/t oz	22.57	24.28	23.62	23.30	24.30	26.50	28.80	30.20	23.44	27.45
<b>Platinum</b>	US\$/t oz	994	1,030	932	900	930	950	1,000	1,050	964	983
<b>Palladium</b>	US\$/t oz	1,548	1,435	1,249	1,200	1,180	1,150	1,120	1,100	1,358	1,138
<b>Agriculture</b>											
<b>Wheat</b>	US\$/bu	726	648	622	780	800	800	750	780	694	783
<b>Corn</b>	US\$/bu	658	625	498	650	650	650	600	650	608	638
<b>Soybeans</b>	US\$/bu	1,508	1,433	1,406	1,450	1,400	1,400	1,380	1,400	1,449	1,395
<b>Sugar (ICE #11)</b>	US\$/lb	20.8	25	25	26	25	24	24	24	24.2	24.3
<b>Cotton (ICE #2)</b>	US\$/lb	83	82	86	90	90	90	100	110	85	98
<b>MDE-Bursa Palm Oil</b>	MYR/tonne	3,983	3,804	3,793	4,800	5,000	5,000	5,000	5,500	4,095	5,125

Source: J.P. Morgan Commodities Research as of October 20, 2023, \*1Q23, 2Q23 and 3Q23 are realized

# FX Forecasts

Exchange rates vs. U.S dollar										JPM forecast gain/loss vs September 24*			Actual change in local FX vs USD			
Majors	Current					Spot	Forwards	Consensus**	Past 1mo	Past 3mo	YTD	Past 12mos				
	20-Oct	Dec 23	Mar 24	Jun 24	Sep 24											
EUR	1.06	1.00 ↓	1.03 ↓	1.05 ↓	1.10 ↓	4.1%	2.2%	0.0%	-4.0%	-4.0%	-1.3%	8.0%				
JPY	150	152	153	153	149	0.7%	-4.7%	-7.4%	-10.5%	-10.5%	-12.6%	0.1%				
GBP	1.21	1.14 ↓	1.18 ↓	1.21 ↓	1.26 ↓	4.5%	3.9%	1.1%	-4.0%	-4.0%	0.1%	7.7%				
AUD	0.63	0.66 ↓	0.69 ↓	0.69 ↓	0.69	9.6%	8.2%	1.5%	-6.3%	-6.3%	-7.6%	0.3%				
CAD	1.37	1.36 ↓	1.36 ↓	1.36 ↓	1.36 ↓	0.9%	0.2%	-2.9%	-1.6%	-1.6%	-1.2%	0.3%				
NZD	0.58	0.61 ↓	0.62 ↓	0.61 ↓	0.61	4.9%	4.7%	-1.6%	-7.6%	-7.6%	-8.4%	2.4%				
JPM USD index	133.8	135.3 ↑	134.6 ↑	134.3 ↑	132.4 ↑	-1.1%	-0.9%	2.0%	4.9%	4.9%	3.3%	-1.9%				
DXY	106.4	111.3 ↑	108.9 ↑	107.2 ↑	103.0 ↑	-3.1%	1.1%	1.2%	4.9%	4.9%	2.7%	-5.8%				
<b>Europe, Middle East &amp; Africa</b>																
CHF	0.89	0.93 ↓	0.92 ↓	0.91 ↓	0.87 ↓	2.2%	-1.6%	2.1%	0.1%	0.1%	3.7%	12.5%				
ILS	4.05	3.85 ↓	3.85 ↓	3.90 ↓	3.95 ↓	2.5%	0.1%	-6.3%	-10.0%	-10.0%	-13.2%	-12.3%				
SEK	11.02	12.00 ↓	11.65 ↓	11.24 ↓	10.73 ↓	2.7%	1.1%	-3.2%	-7.4%	-7.4%	-5.3%	2.2%				
NOK	11.06	11.40 ↓	10.87 ↓	10.57 ↓	10.09 ↓	9.6%	8.4%	-0.6%	-4.0%	-4.0%	-11.4%	-3.9%				
CZK	23.36	25.00 ↓	24.76 ↓	24.76 ↓	23.86 ↓	-2.1%	-2.6%	-6.7%	-9.0%	-9.0%	-3.4%	7.2%				
PLN	4.22	4.40 ↓	4.22 ↑	4.10 ↑	3.95 ↑	6.8%	7.1%	5.7%	-1.6%	-1.6%	3.6%	15.4%				
HUF	363	385 ↓	374 ↓	371 ↓	364 ↓	0.0%	2.8%	-2.5%	-6.8%	-6.8%	2.7%	14.9%				
TRY	28.02	28.00	29.00	30.00	31.00	-9.6%	29.0%	-3.2%	-30.4%	-30.4%	-33.2%	-33.6%				
ZAR	19.08	19.25 ↓	19.50 ↓	20.00 ↓	20.50 ↓	-6.9%	-4.3%	-7.3%	-3.7%	-3.7%	-10.7%	-4.1%				
<b>Americas</b>																
ARS	350.0	750	1100	1350	1400	-75.0%	38.0%	-41.4%	-35.5%	-35.5%	-49.4%	-56.1%				
BRL	5.07	5.00 ↓	5.00 ↓	5.00 ↓	5.20 ↓	-2.6%	1.2%	-3.3%	-1.6%	-1.6%	4.2%	2.9%				
CLP	940	920 ↓	920 ↓	930 ↓	940 ↓	0.0%	2.0%	-7.7%	-15.0%	8.8%	-9.4%	4.1%				
COP	4230	4500 ↓	4550 ↓	4600 ↓	4650 ↓	-9.0%	-1.5%	-9.7%	8.8%	8.8%	14.7%	16.0%				
MXN	18.34	17.75 ↓	17.35 ↓	17.50 ↓	17.80 ↓	3.0%	9.3%	1.1%	-2.4%	-2.4%	6.3%	9.3%				
PEN	3.87	3.75	3.80	3.85	3.85	0.6%	1.5%	-2.6%	-4.0%	-4.0%	-1.7%	2.9%				
<b>Asia</b>																
CNY	7.32	7.35	7.40	7.40	7.25	0.9%	-1.3%	-1.4%	-5.6%	-5.6%	-5.7%	-1.4%				
HKD	7.82	7.83	7.82	7.81	7.80	0.3%	-0.3%	0.1%	0.3%	0.3%	-0.3%	0.4%				
IDR	15875	15800 ↓	15700 ↓	15700 ↓	15700 ↓	1.1%	1.9%	-4.1%	-7.6%	-7.6%	-1.9%	-1.9%				
INR	83.09	83.50 ↓	84.00 ↓	84.50 ↓	85.00 ↓	-2.2%	-0.6%	-2.7%	-1.6%	-1.6%	-0.4%	-0.4%				
KRW	1353	1370 ↓	1380 ↓	1380 ↓	1380 ↓	-2.0%	-4.0%	-6.9%	-2.2%	-2.2%	-6.4%	5.9%				
MYR	4.77	4.80 ↓	4.85 ↓	4.85 ↓	4.75 ↓	0.4%	-1.8%	-4.2%	-7.0%	-7.0%	-7.6%	-0.9%				
PHP	56.85	57.00 ↓	57.50 ↓	57.25 ↓	57.00 ↓	-0.3%	0.0%	-0.6%	-2.7%	-2.7%	-2.0%	3.7%				
SGD	1.374	1.370 ↓	1.370 ↓	1.365 ↓	1.360 ↓	1.0%	-0.8%	-2.2%	-3.5%	-3.5%	-2.5%	3.7%				
TWD	32.33	32.30 ↓	32.50 ↓	32.50 ↓	32.00 ↓	1.0%	-1.9%	-1.6%	-5.2%	-5.2%	-5.0%	-0.7%				
THB	36.54	37.00 ↓	37.25 ↓	37.00 ↓	37.00 ↓	-1.2%	-4.0%	-6.8%	-6.9%	-6.9%	-5.3%	4.4%				
EMCI	46.4	45.7 ↓	45.6 ↓	45.3 ↓	44.9 ↓	-3.1%	3.0%	-4.1%	-8.7%	-8.7%	-7.2%	-4.3%				
<b>Exchange rates vs Euro</b>																
JPY	158.5	152 ↑	158 ↑	161 ↑	164 ↑	-3.3%	-6.7%	-7.4%	-6.7%	-6.7%	-11.4%	-7.3%				
GBP	0.87	0.88	0.88	0.87	0.87	0.4%	1.7%	1.1%	0.0%	0.0%	1.3%	-0.3%				
CHF	0.94	0.93	0.95	0.96	0.96	-1.8%	-3.7%	2.1%	4.2%	4.2%	5.0%	4.2%				
SEK	11.64	12.00 ↑	12.00 ↑	11.80 ↑	11.80 ↑	-1.3%	-1.0%	-3.2%	-3.5%	-3.5%	-4.2%	-5.3%				
NOK	11.69	11.40 ↓	11.20 ↓	11.10 ↓	11.10 ↓	5.3%	6.1%	-0.6%	0.0%	0.0%	-10.2%	-10.9%				
CZK	24.69	25.00 ↓	25.50 ↓	26.00 ↓	26.25 ↓	-6.0%	-4.6%	-6.7%	-5.2%	-5.2%	-2.1%	-0.7%				
PLN	4.47	4.40 ↑	4.35 ↑	4.30 ↑	4.35 ↑	2.6%	4.8%	5.7%	2.5%	2.5%	4.9%	6.8%				
HUF	384	385 ↓	385 ↓	390 ↓	400 ↓	-4.0%	0.7%	-2.5%	-2.9%	-2.9%	4.0%	6.4%				
RON	4.97	5.00	5.00 ↑	5.00 ↑	5.00 ↑	-0.5%	1.6%	0.6%	-0.9%	-0.9%	-0.6%	-1.1%				
TRY	29.65	28.00 ↑	29.87 ↑	31.50 ↑	34.10 ↑	-13.0%	26.3%	-3.2%	-27.6%	-27.6%	-32.6%	-38.6%				
BRL	5.35	5.00 ↑	5.15 ↑	5.25 ↑	5.72 ↑	-6.4%	-0.9%	-3.3%	2.6%	2.6%	5.8%	-4.6%				
MXN	19.38	17.75 ↑	17.87 ↑	18.38 ↑	19.58 ↑	-1.0%	7.0%	1.1%	1.6%	1.6%	7.7%	1.2%				

↑ indicates a revision resulting in a stronger currency forecast, ↓ indicates a revision resulting in a weaker currency forecast. Source: J.P. Morgan. Data as of October 20, 2023

\* Positive indicates JPM more bullish on local currency than spot, consensus or forward rates. \*\* Bloomberg FX Consensus Forecasts compares 4Q'22



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