Capital Markets Strategy
Essential inCights for the C-Suite

MUFG

Crosscurrents & Cycles

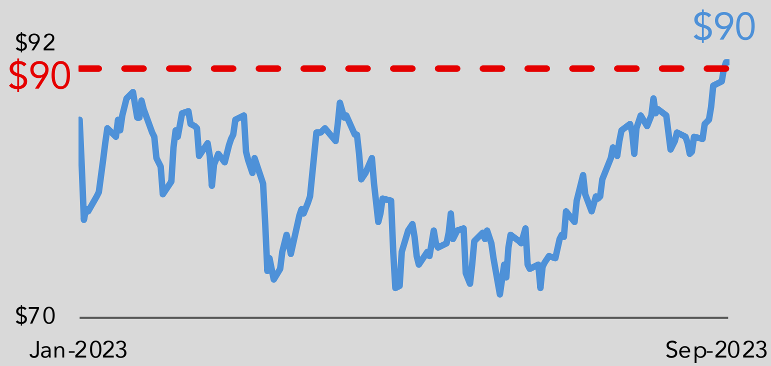
12 Themes for Global Markets into Year End

SEP 2023

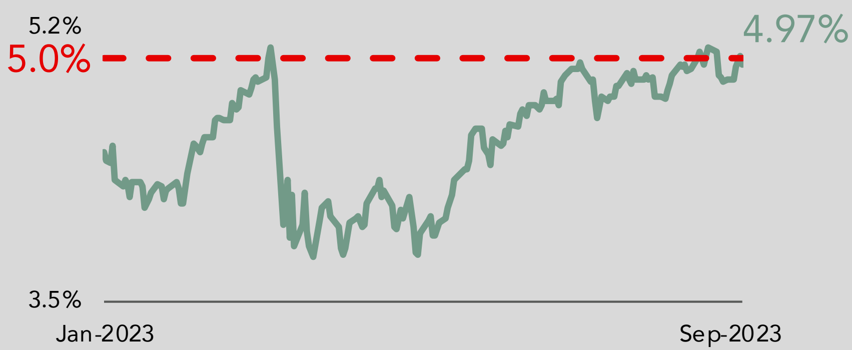
Crosscurrents, Economic & Market Cycles

As the global economy transitions to a post COVID world unlikely to resemble the prior decade, a number of formidable crosscurrents, as well as evolving economic and market cycles, are converging. Against this backdrop, many markets are trading into year-end at levels not anticipated by most forecasts earlier this year.

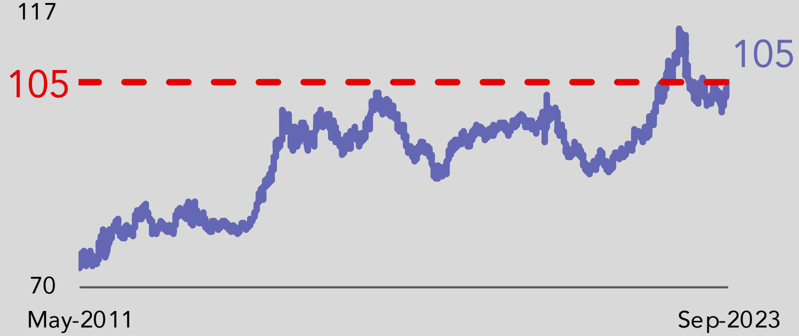
Brent oil recently above $90



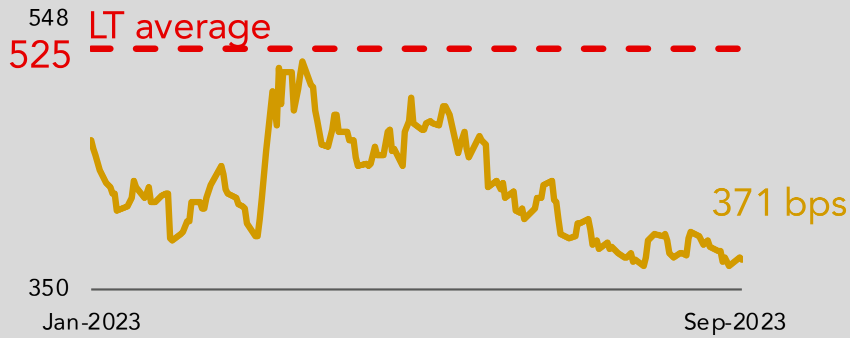
2 year UST yields breached 5%



USD index remains strong above 105



HY credit spreads below LT average



Source: (1-4) Bloomberg. Data as of September 7, 2023.

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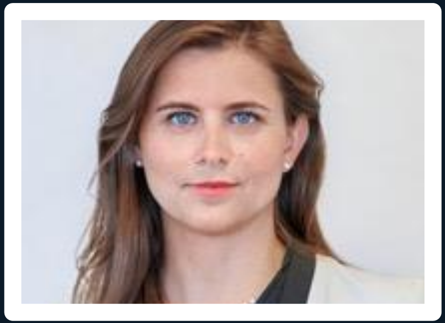

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"September 11, 2001, revealed heroism in ordinary people who might have gone through their lives never called upon to demonstrate the extent of their courage."

Geraldine Brooks, Pulitzer Prize Winning Australian Author of "March"

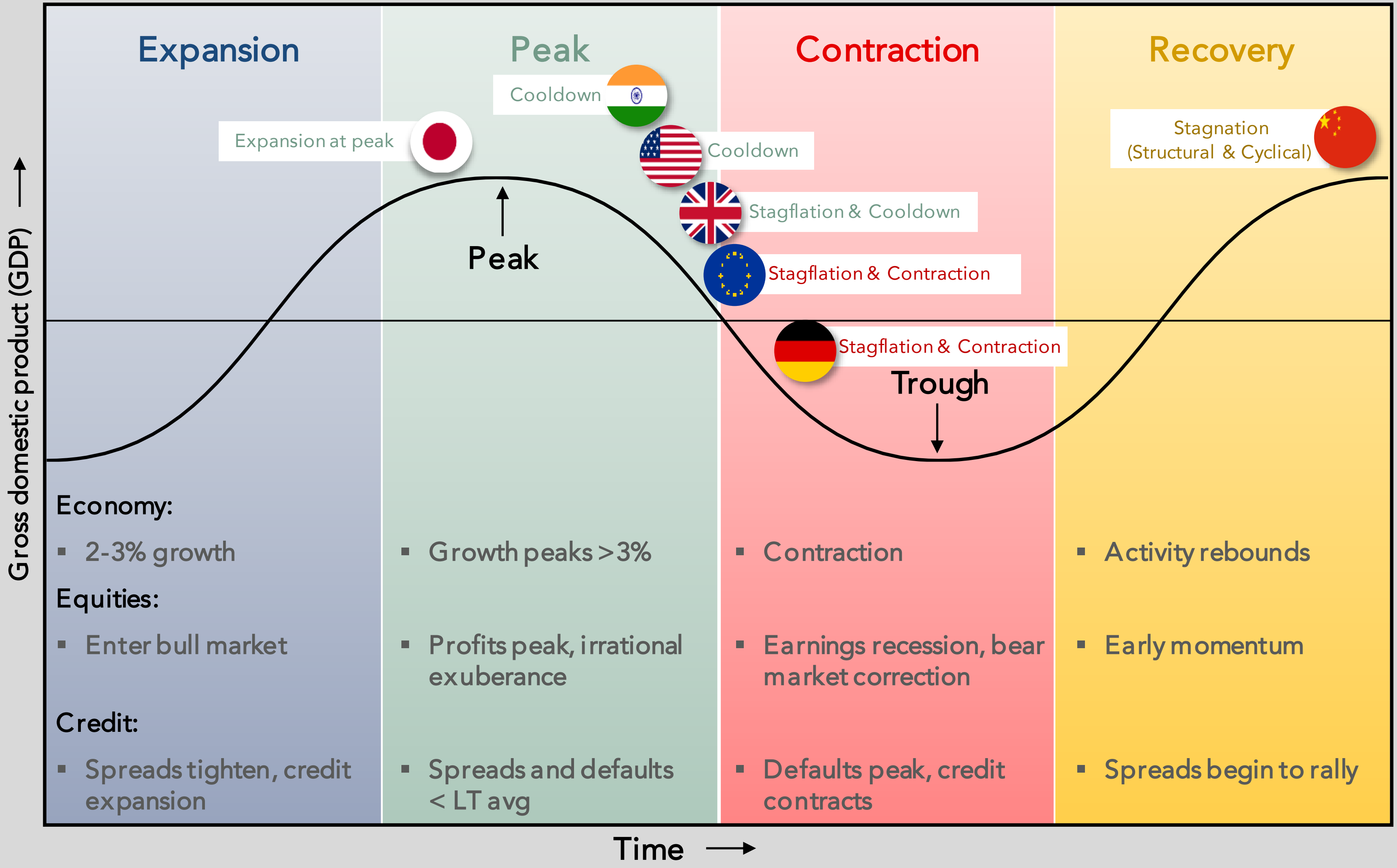
Resilient Economic Cycle

1

Global Economy Resilient to Multiple Shocks

4 Phases of the Economic Cycle

4 phases of an economic cycle



Resilient US Economy

Resilient US Economy

$10tn	Amount of US COVID stimulus (monetary & fiscal)
$2tn	Peak of "excess" US COVID consumer savings
$190bn	SF Fed estimate of remaining US consumer "excess" savings
$4tn	Amount of corporate IG & HY issuance in 2020-21
<4%	US unemployment rate for last 21 months

Less Rate Sensitive US Economy

80%	Services as % of US GDP (less rate sensitive than manufacturing)
71%	% of US consumer debt in home mortgages
95%	% of US home mortgages that are fixed rate
40%	% of US home mortgages originated during low rate environment of 2020-21
95%	% of USD IG market that is fixed rate
99%	% of USD HY market that is fixed rate

"I can look down the street but
I cannot see around the corner."

Ed Hyman, Chairman of Evercore ISI Group

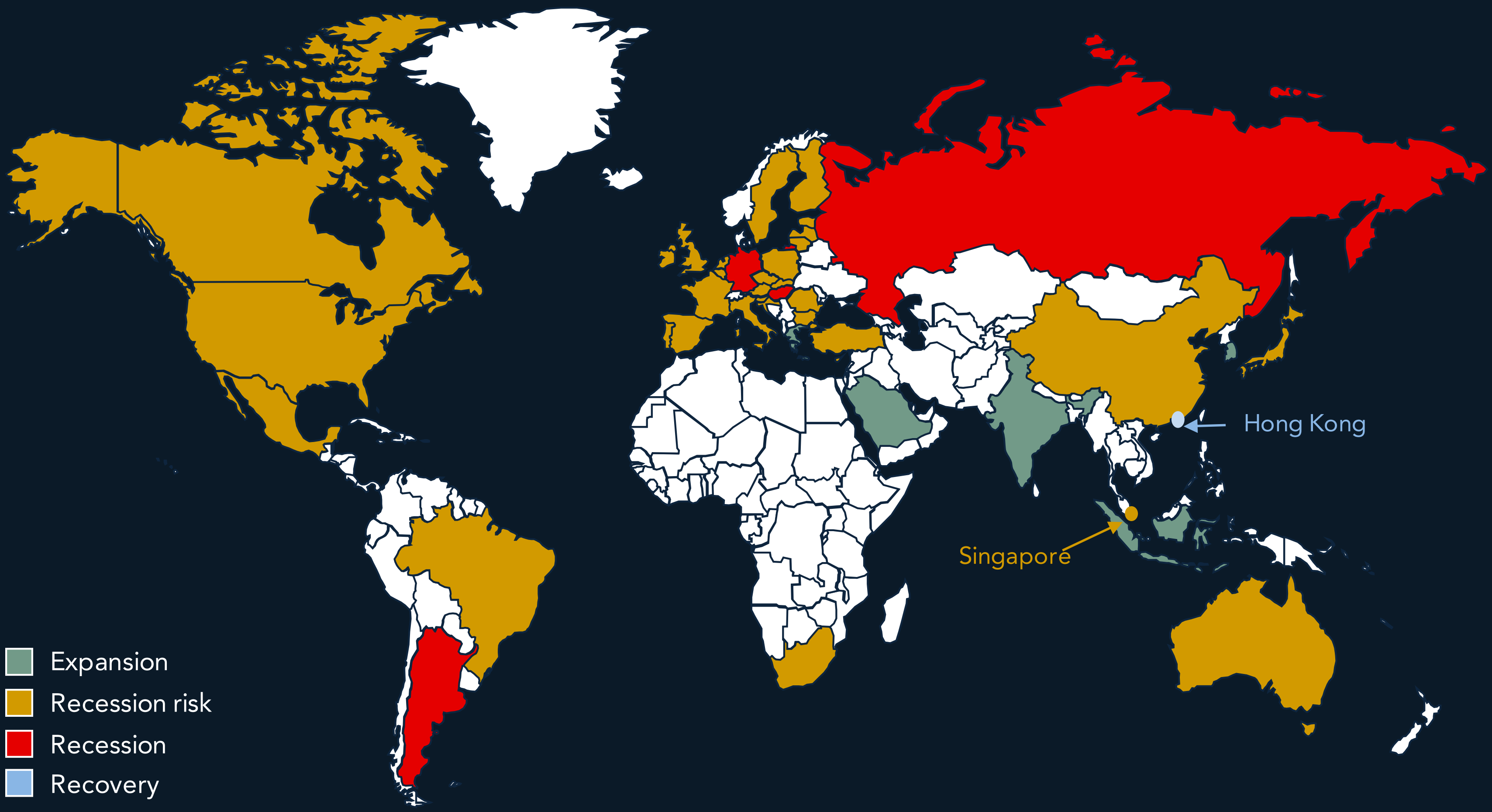
"Rolling" Recession Risk

2

Rolling Global Recession Risk

The G20 accounts for 85% of global GDP and 2/3 of the world's population.

G20 economies plus Singapore and Hong Kong

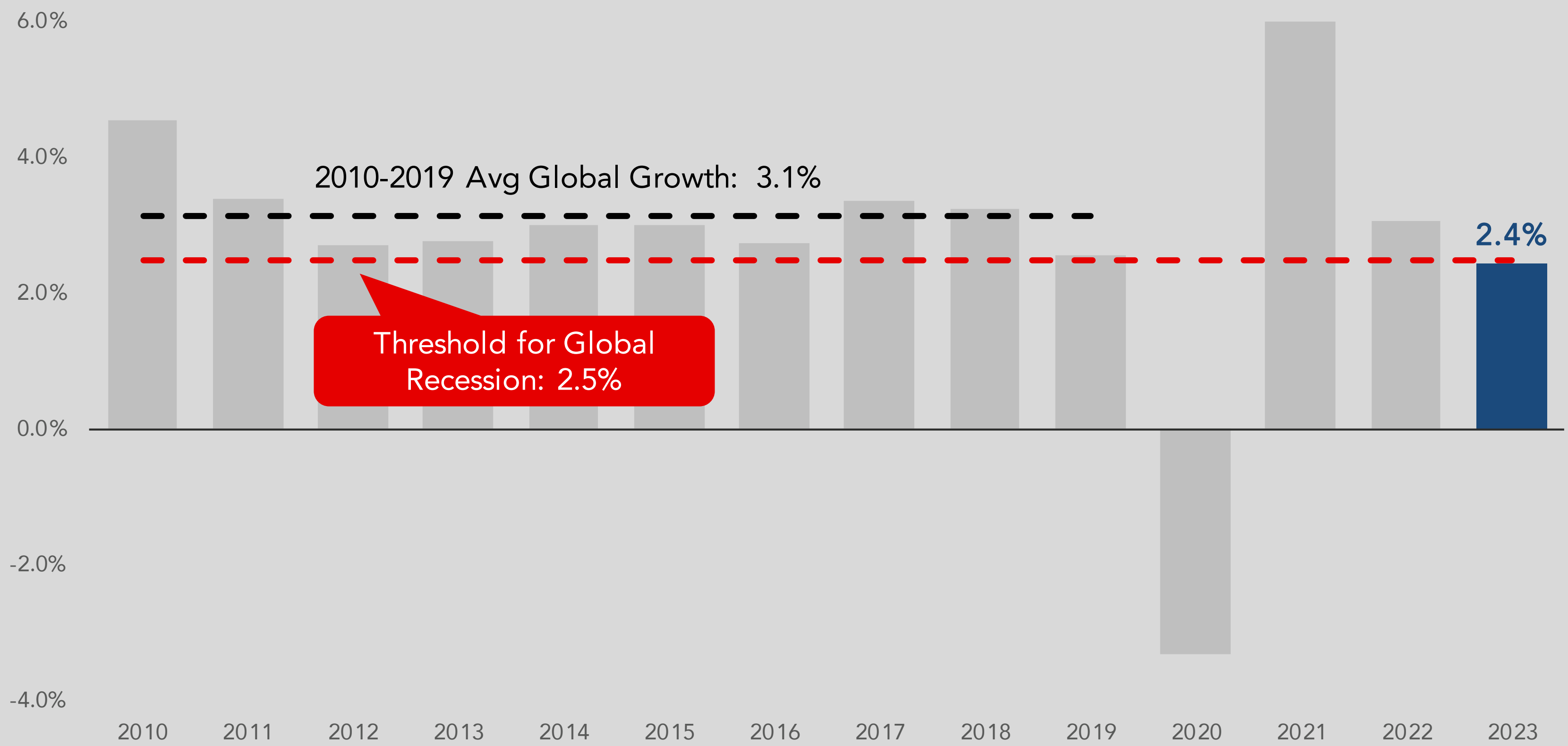


Source: Moody's Analytics

Global Growth at Recession Thresholds

China represents 17% of global GDP but ~1/3 of global GDP growth. Following the synchronized global policy tightening and elevated inflation in 2022, and a tepid post COVID recovery in China's economy in 2023, the global economy is once again slowing close to recession thresholds.

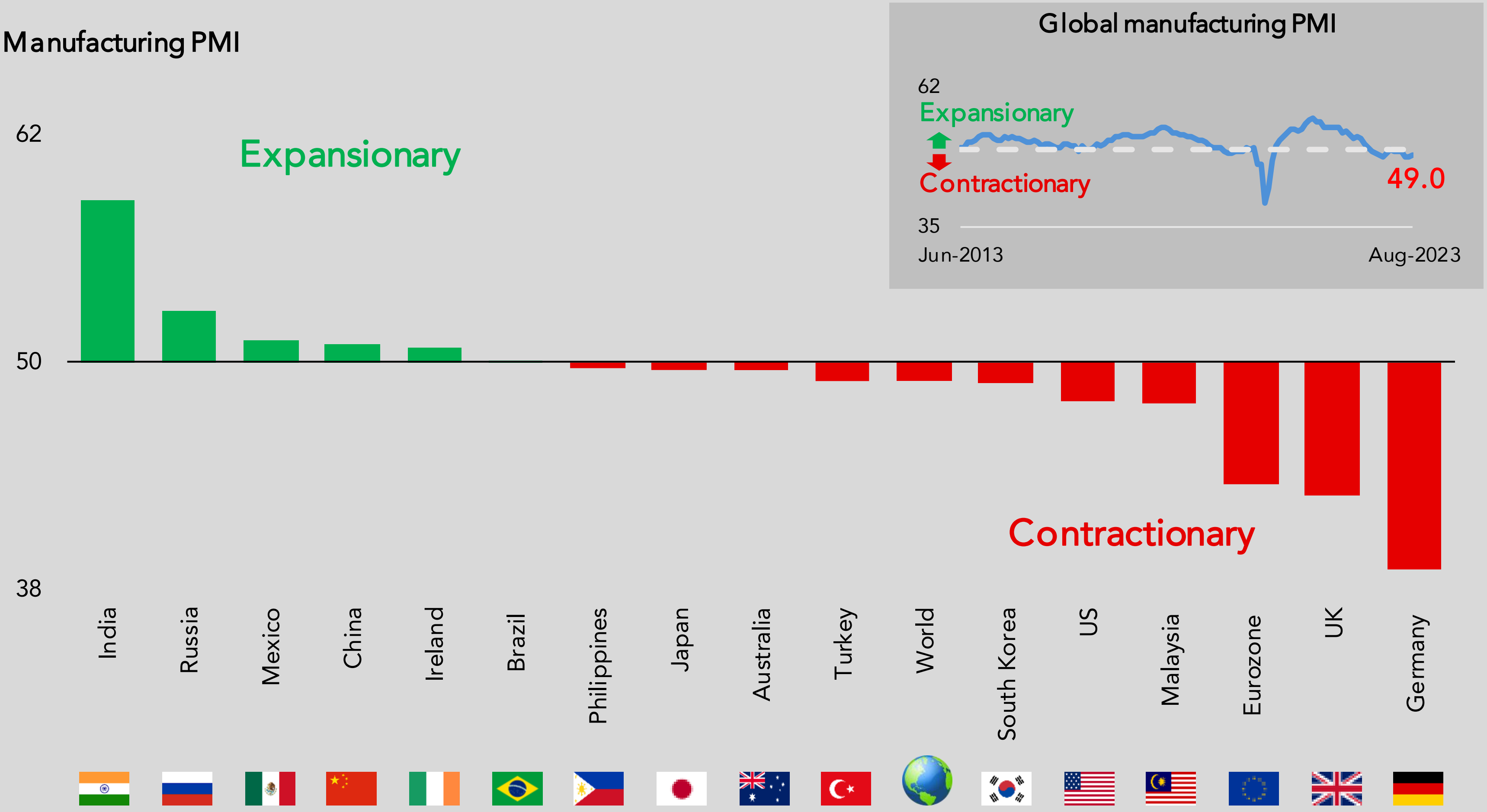
World GDP growth, y/y



Source: (1) Oxford Economics. Data as of September 7, 2023.

Global Manufacturing Recession Underway

The global manufacturing PMI index marked its 12th consecutive month in contraction territory in August. Only 10 of the 30 economies in S&P's global PMI survey had expansion in the manufacturing sector in August (6 of the 10 were in Asia).

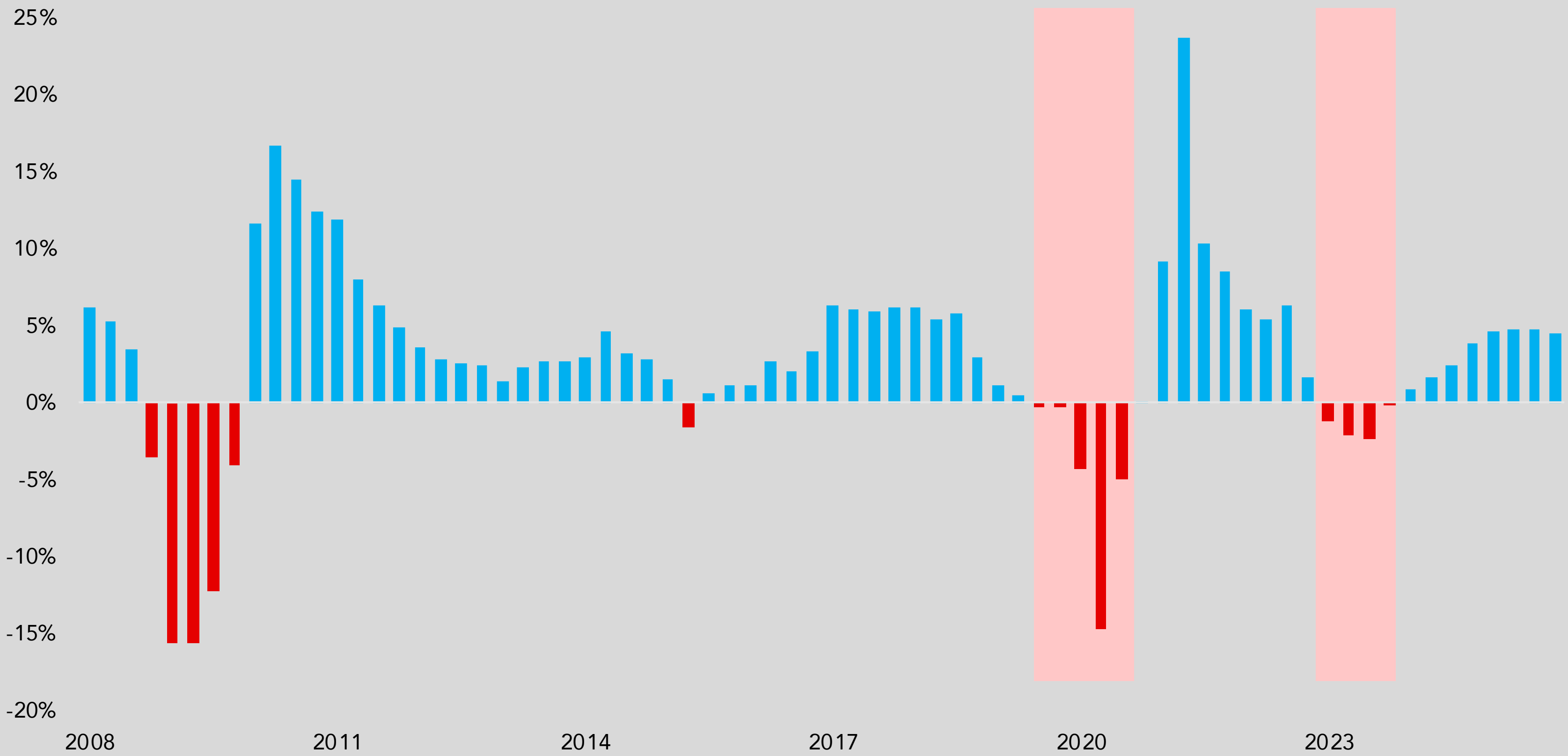


Source: (1-2) Bloomberg. Data as of September 7, 2023.August flash PMI data where available.

Shallow Global Trade Recession in Late 2023

Led by weakness across Europe and parts of Asia (i.e., China), a shallow contraction in global trade of about 1.5-2% is expected in the 2H of 2023, followed by a modest recovery in 2024. Key drivers include a contraction in dollar credit globally on policy tightening, a decline in corporate investment and capital goods, deglobalization pressures and China's slowdown.

Goods trade volume % point contribution to annual growth in world trade

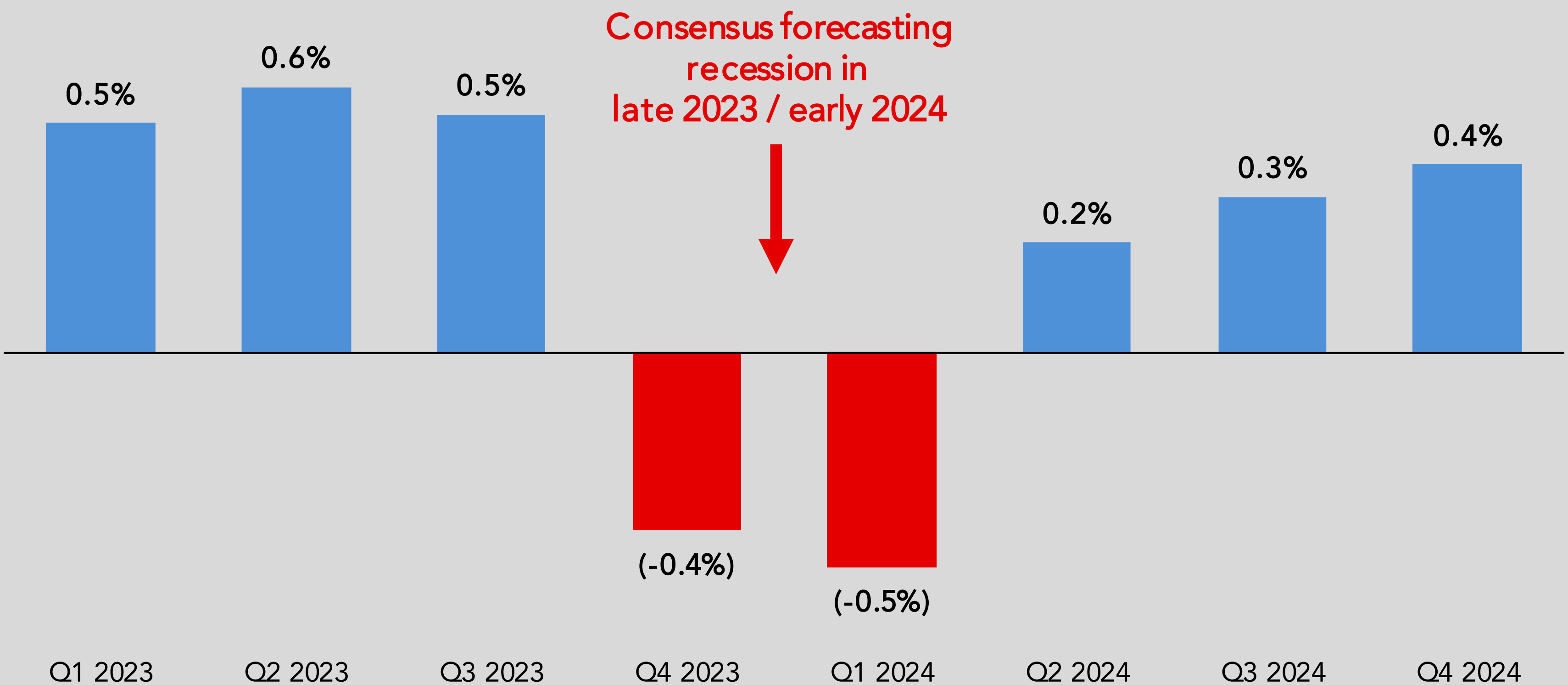


Source: (1) Oxford Economics, "Stagnant Outlook for World Goods Trade" (September 6, 2023).

Consensus Forecasting Mild US Recession

While the US economy and consumer have been far more resilient than anticipated, dozens of economic and market metrics are pointing to a slowdown. Given the pace of Fed tightening, collapse in M2 money supply, yield curve inversion, impact of depleting savings and inflation on the consumer, and tighter bank lending standards, we believe near-term recession risk remains high. Less clear is whether the recession begins in late 2023 or early 2024.

US GDP, Q/Q



Source: (1) US GDP Q/Q is Oxford Economics. Data as of September 7, 2023.

Assessing "Soft" & "Hard" Landing Scenarios

In our view, a "hard landing" (recession) over the next 6-9 months appears more likely than not, though timing is less certain. Historically, it has been very difficult to forecast the start date of US recessions as the US consumer and labor markets are often quite strong right up to the late stages of the cycle.

The case for a "soft landing" (i.e., no recession)

- Structurally tight labor markets
- Strength of balance sheets
- Housing markets structurally undersupplied
- Rapid progress on inflation
- Strong services sector
- Stabilization of US bank sector

The case for a "hard landing" (i.e., recession) — More Likely

- Accelerated Fed tightening cycle
- Most rapid contraction in US M2 money supply since the 1930s
- Inverted yield curve
- Significant tightening in bank lending
- "Excess" consumer COVID savings depleting rapidly
- Manufacturing & corporate earnings recession underway
- Mature credit default cycle

"Not all those who wander are lost."

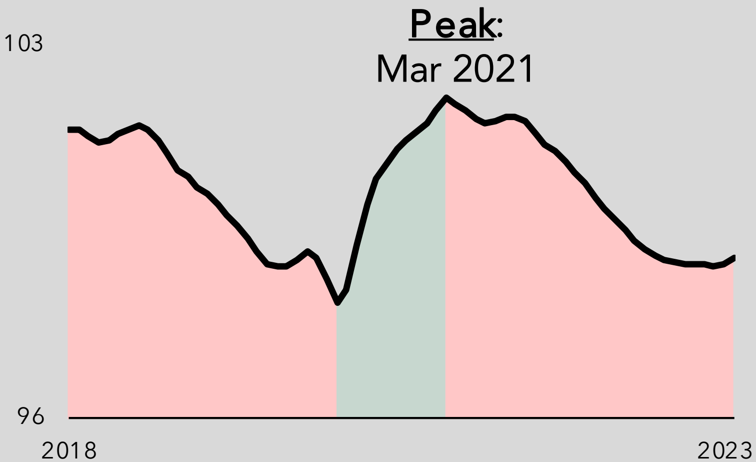
J.R.R. Tolkien, in The Fellowship of the Ring (1954)

Cautious Business Cycle

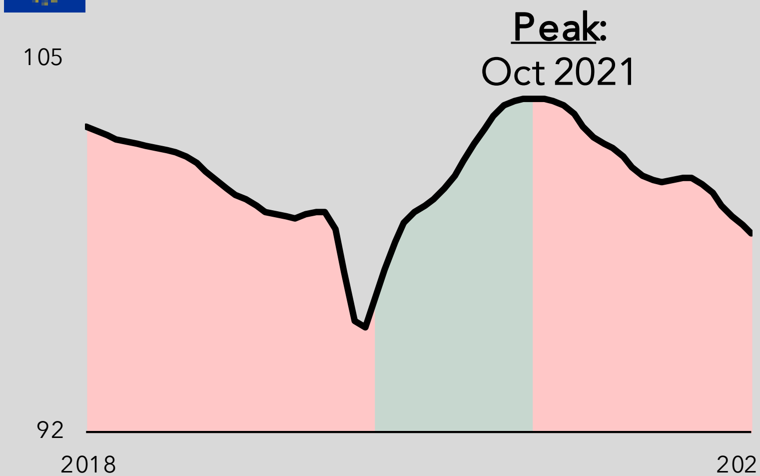
3

Business Confidence More Cautious

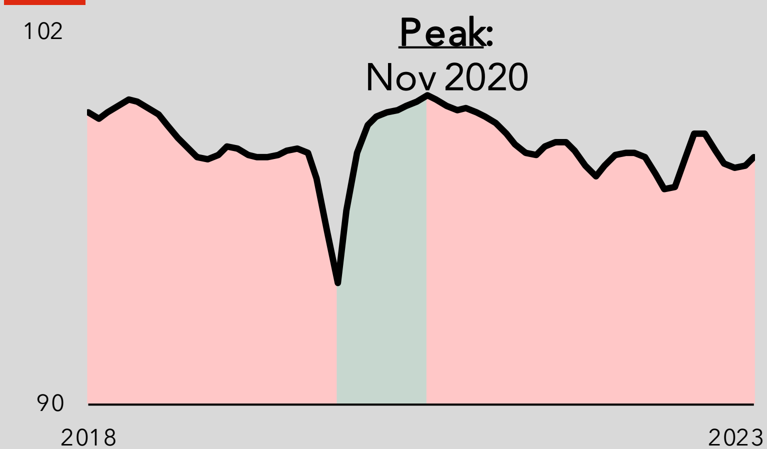
US business confidence



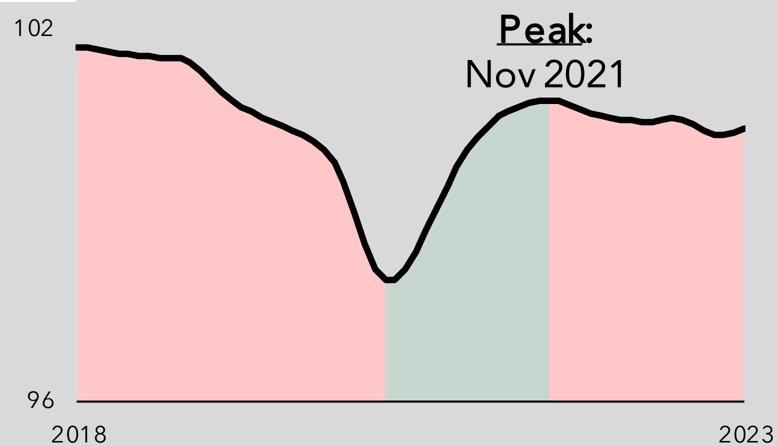
Eurozone business confidence



China business confidence



Japan business confidence

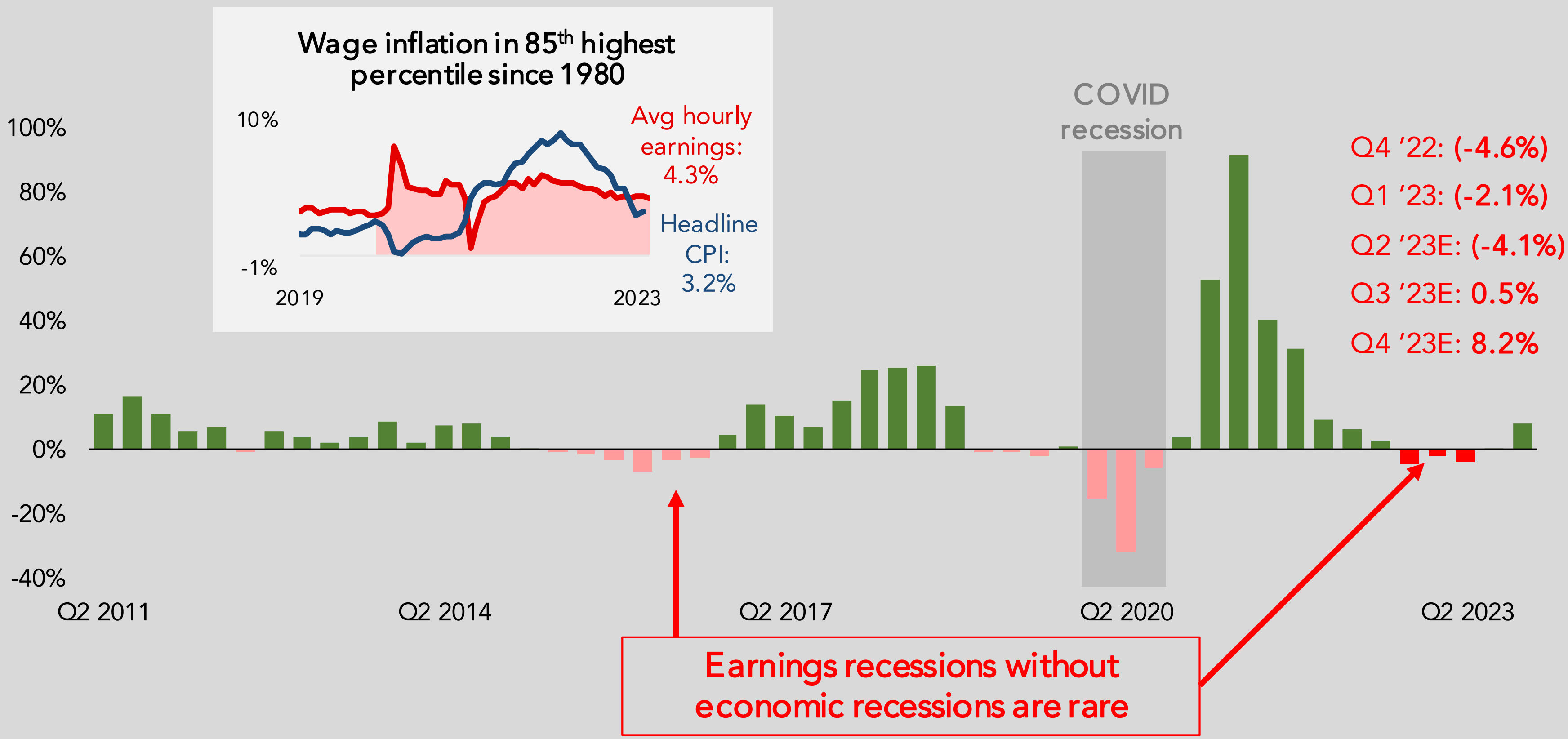


Source: (1-4) OECD. Business confidence indices. Data as of September 7, 2023.

Earnings Recession & Downgrade Cycle

S&P 500 corporate earnings recessions in the absence of economic recessions are reasonably rare events, with a strong US dollar and/or low oil prices the culprit on each such occasion. The two quarter contraction in corporate earnings from Q4 '22 to Q1 '23, in the absence of a US economic recession, was only the 5th such occasion over the last 50 years, going back to 1974.

S&P 500 quarterly earnings growth, y/y

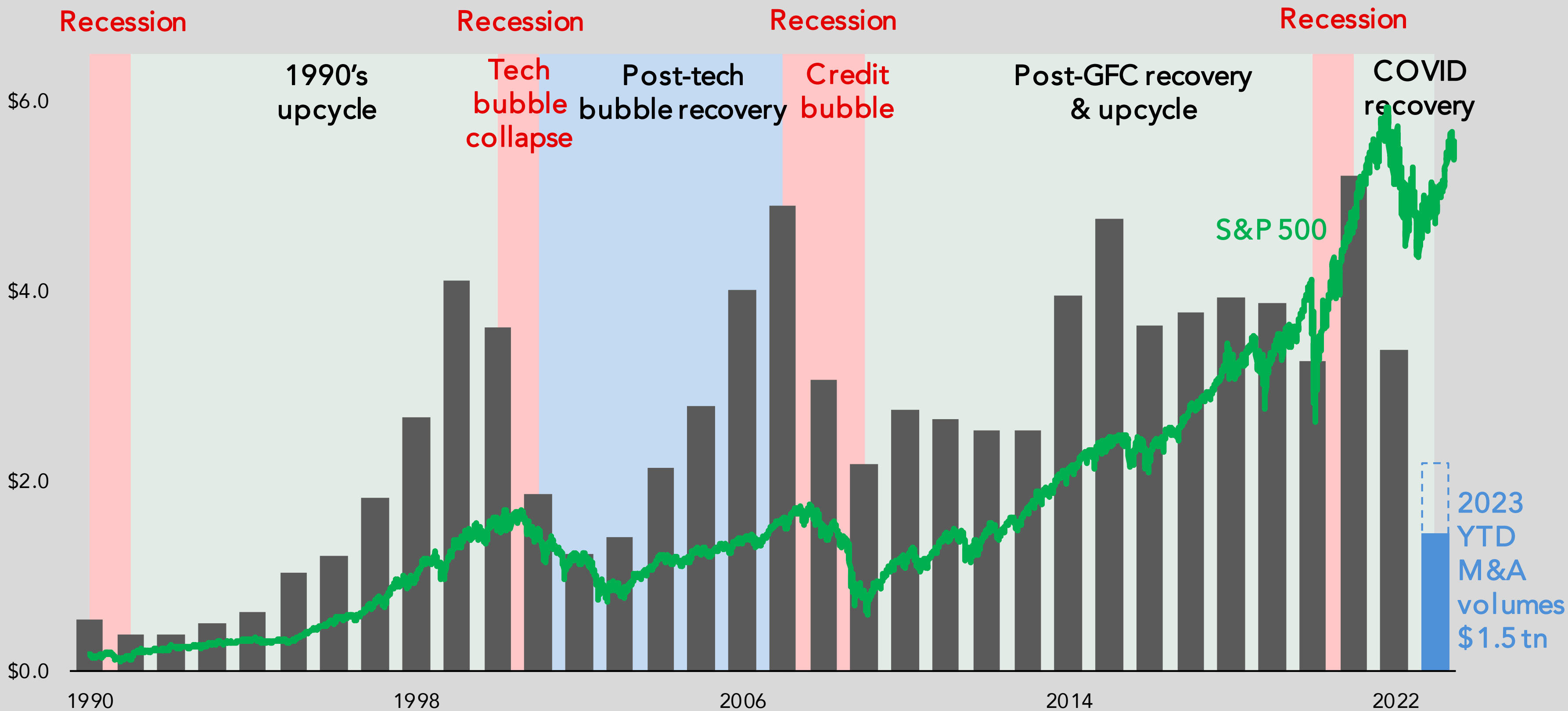


Source: (1-2) FactSet, Earnings Insight Report (September 1, 2023). Bloomberg. Data as of September 7, 2023.

M&A Cycle Disconnecting from Rising Equities

Correlations between economic and market cycles are common. The global M&A cycle, for example, has historically been correlated with global equity markets, though this has been less true post-COVID. Historically, M&A volumes increase alongside four variables in particular, all of which were adversely impacted by the COVID crisis: economic growth, equity markets, cost of debt financing and CEO confidence metrics.

Global M&A volumes & S&P 500



Source: (1) Bloomberg. Data as September 7, 2023. Institute for Mergers, Acquisitions & Alliances. 2023 data through August 31, 2023.

"Productivity is everywhere but in the numbers."

Robert Solow, American Economist & Nobel Prize Winner (1987)

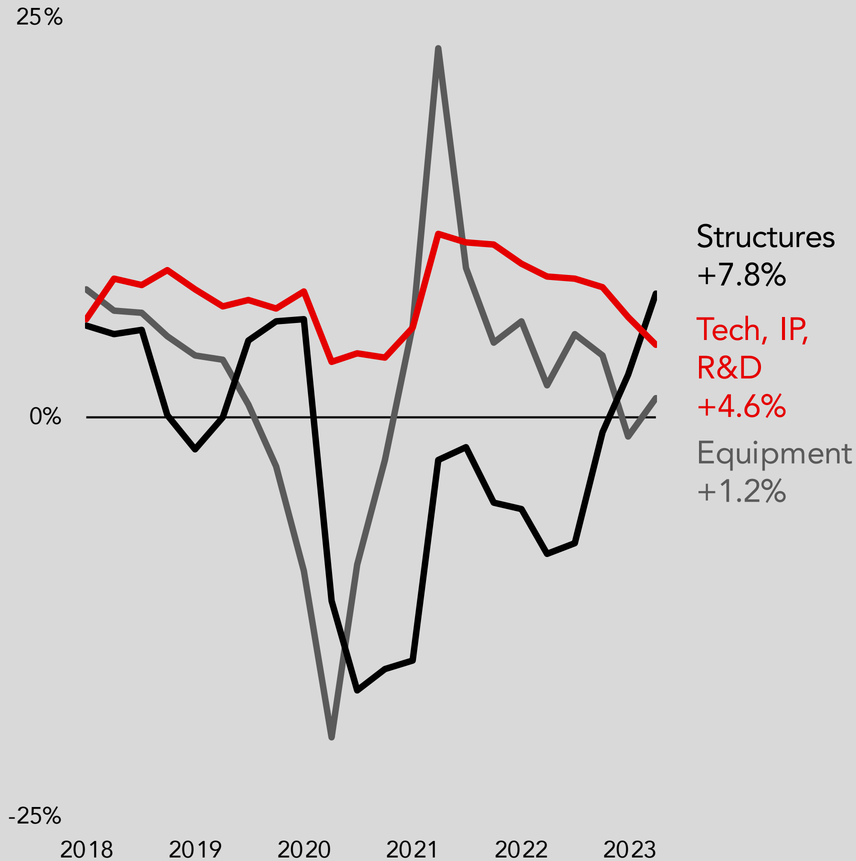
Forthcomming CapEx Supercycle

4

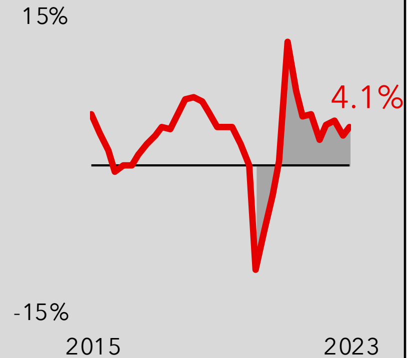
Technology Driving the Corporate Capex Cycle

Technology, IP and R&D related CapEx has been resilient throughout the COVID downturn.

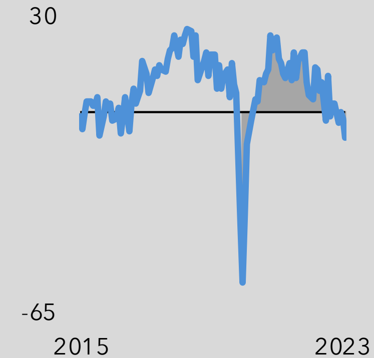
Fixed investment, y/y



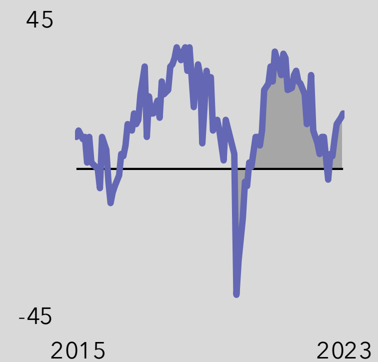
Business investment, % change y/y



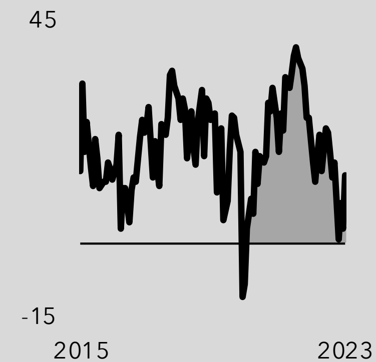
Dallas Fed manufacturing capex outlook index



Kansas City manuf. capex expectations



Empire State manuf. capex expectations



Source: (1-5) Bloomberg. FRED. Business investment in real gross private domestic, fixed, nonresidential investment. Data as of September 7, 2023. Nondefense capital goods new orders & shipments is ex–aircrafts. Empire State and KC Manufacturing survey is 6 months ahead expectations for capex.

Forthcoming CapEx Supercycle

During the pre-COVID period of "secular stagnation" across advanced economies, labor and total factor productivity declined and capital investment remained low. In the post COVID new macro supercycle, we expect CapEx spending to increase as corporations invest in productivity-enhancing technology, energy transition and restructuring of global supply chains.

Key drivers of CapEx supercycle

Productivity-enhancing technology spend (AI, digitization, R&D)
Corporate sector substitution of capital for labor (i.e., automation, robotics)
Restructuring global supply chains (onshoring, near-shoring, friend-shoring)
Renewables and energy transition
Public infrastructure spending
National security directed spending (cyber, semiconductors, rare Earth minerals)
Defense spending (weapons)

"Scale does not compensate for persistent macroeconomic imbalances, nor does it insulate the Chinese economy from financial crises, debt implosions, and other shocks those imbalances might render even more destabilizing."

Stephen Roach, Economist at Yale School of Management, formerly Chairman of Morgan Stanley Asia

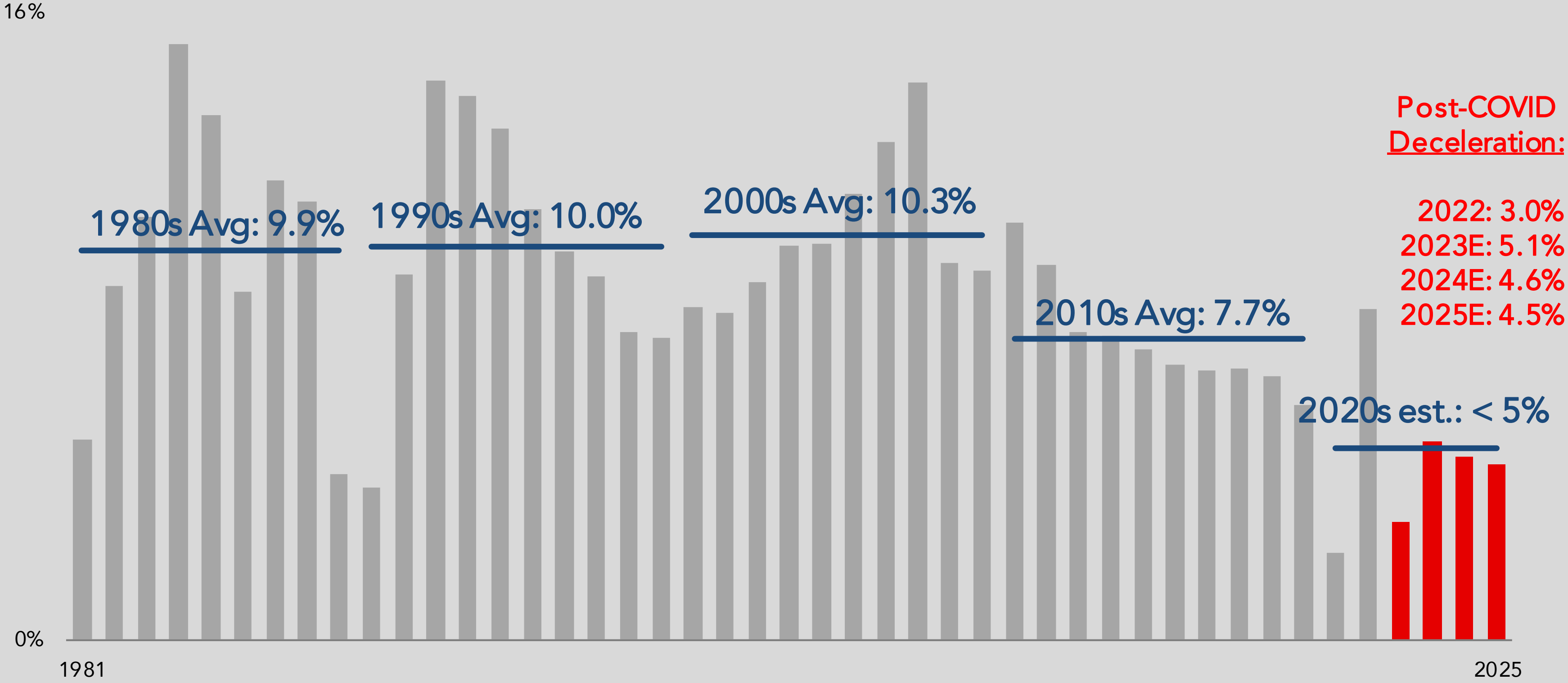
China's Structural Slowdown

5

New Normal for China Growth < 5%

After four decades of super-charged growth well above advanced economy rates, the new normal for post-COVID China growth in the decade ahead will likely fall below 5%. In fact, the IMF is forecasting China growth < 4% in coming years, less than half the rate of recent decades. The slowdown in China's economy has been broad based and driven by a plethora of structural and cyclical factors, both internal and external.

China Real GDP Growth

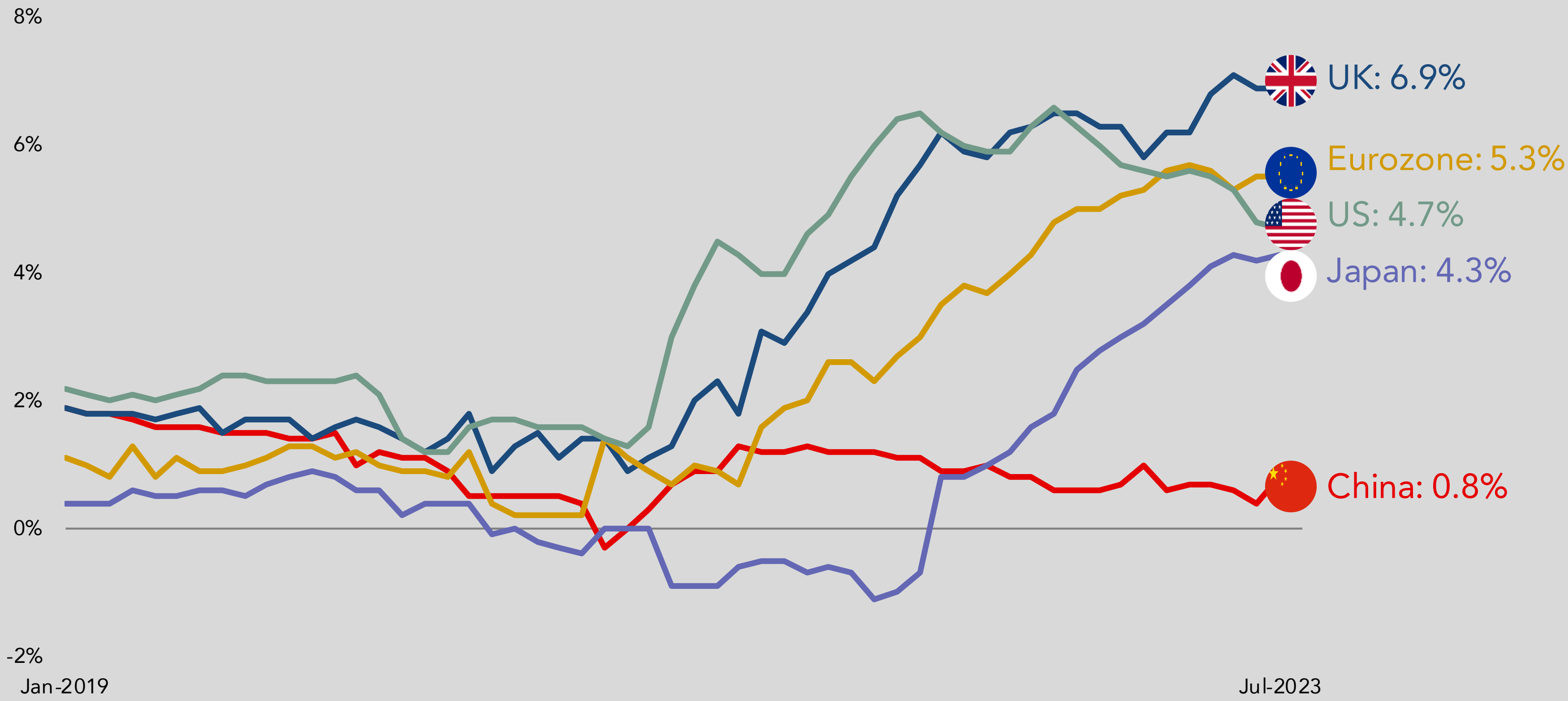


Source: (1) Oxford Economics. Data as of September 7, 2023.

Tepid Post COVID Bounce in China

China's two year zero-COVID lockdown policy has adversely impacted consumer balance sheets, income, employment status and confidence. With concurrent stress in the property sector and a weak external environment, China's post COVID rebound has been both delayed and tepid compared to other advanced economies.

Core CPI, y/y



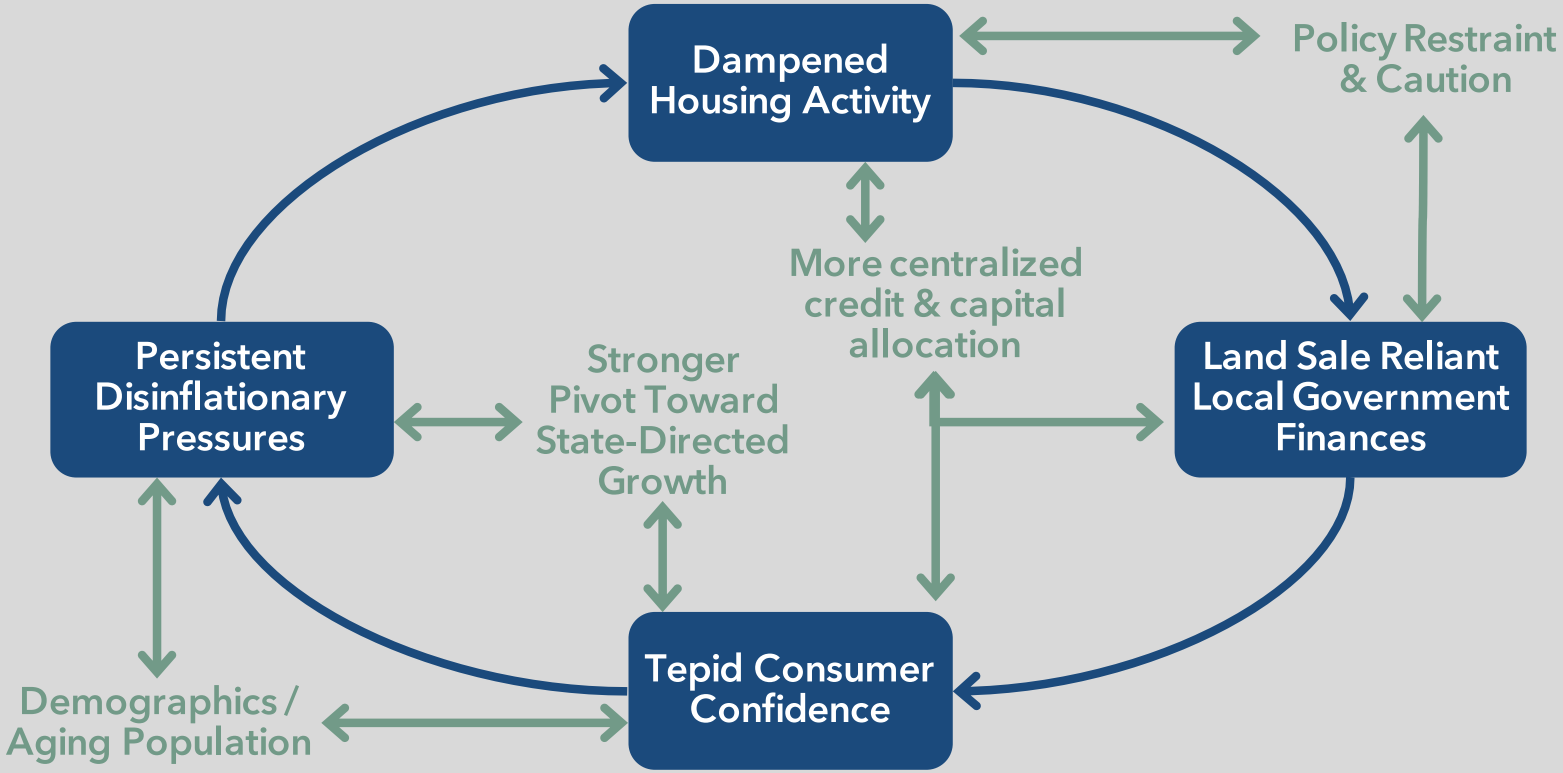
Source: (1) Bloomberg. Data as of September 7, 2023.

China’s Slowdown More Structural than Cyclical

	Key Challenge	Primary Driver: More Structural	Primary Driver: More Cyclical
1.	Tepid Post COVID Consumer	●	●
2.	Weak External Demand		●
3.	Policy Restraint & Caution	●	●
4.	Rebalancing the Economy	●	
5.	Over Levered Property Sector	●	
6.	Rising Debt Levels	●	
7.	Declining Credit Growth	●	
8.	Demographic Headwinds	●	
9.	Declining Productivity	●	●
10.	“Higher Friction” Geopolitics	●	

Negative Structural & Cyclical Feedback Loops

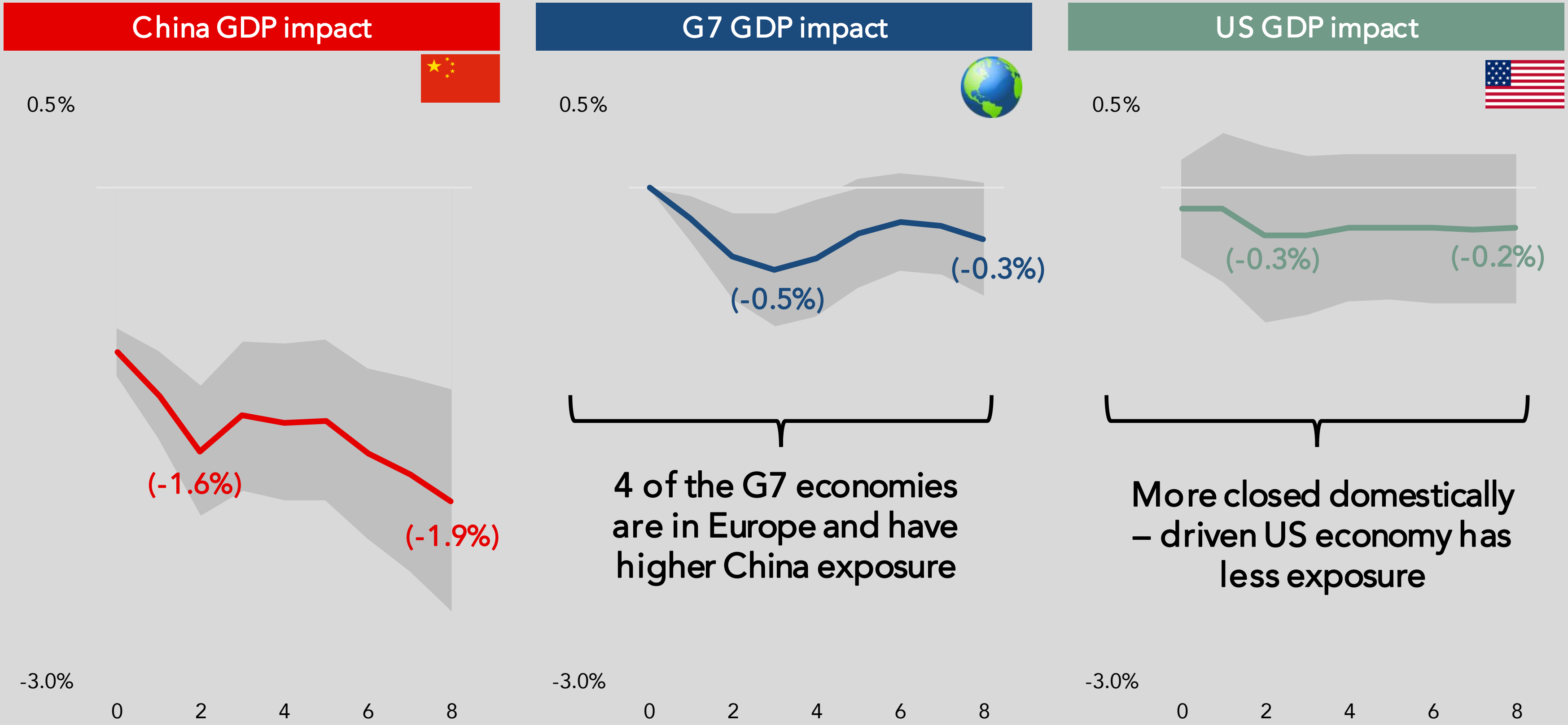
Complex structural headwinds have weighed heavily on China's post COVID cyclical rebound, creating a series of negative feedback loops between Government policy, the property sector and the Chinese consumer. Against this backdrop, Beijing is aiming to stabilize the economy without contributing to the hyper levered property sector imbalances of the past.



Economic Implications of a China Hard Landing

As the world's 2nd largest economy, the IMF has noted that China's slowdown would impact nearly every country globally. A 2019 Fed study emphasized that commodity-exporting economies would be hit hardest. By contrast, the domestically driven US economy would be less impacted, primarily through global risk aversion and tighter financial market conditions.

Percentage change in quarters following negative China GDP shock



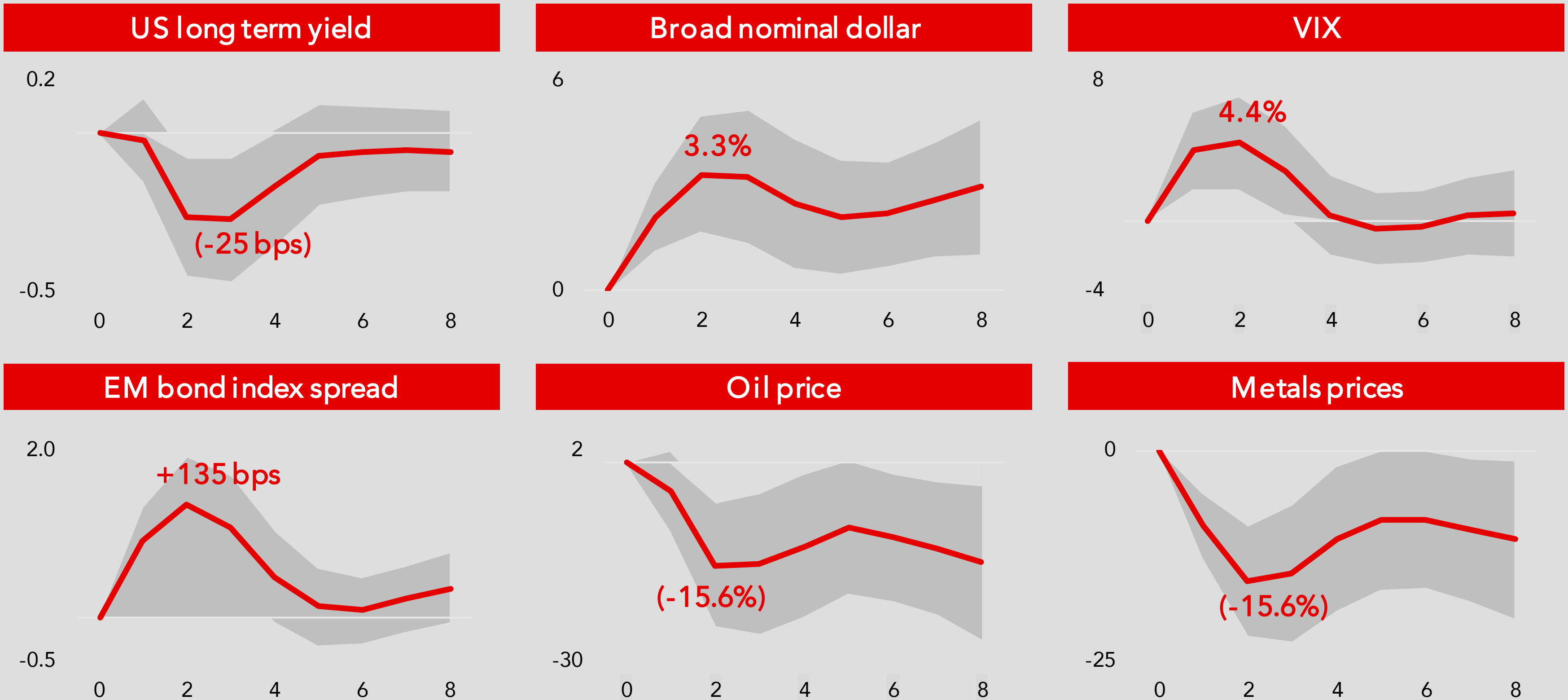
The grey shading represents the upper and lower bounds of the 90% confidence interval around the impulse response estimate.

Source: (1) Ahmed, Shaghil, Ricardo Correa, Daniel A. Dias, Nils Gornemann, Jasper Hoek, Anil Jain, Edith Liu, and Anna Wong (2019). Global Spillovers of a China Hard Landing. International Finance Discussion Papers 1260.

Market Implications of a China Hard Landing

The Federal Reserve published a study on the potential spillovers of a China "hard landing" scenario for the global economy and markets. Based on an historical analysis of China market turbulence (2013 credit crunch, 2015 RMB deval, etc.), the study models the impact of a 1 percentage point q/q negative shock to GDP growth.

Percentage change in quarters following negative China GDP shock



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"The name will remain BRICS, it's beautiful. The child is already registered. The child has become an adult; she doesn't want to change her name."

Luis Inacio Lula da Silva, President of Brazil, on BRICS expansion

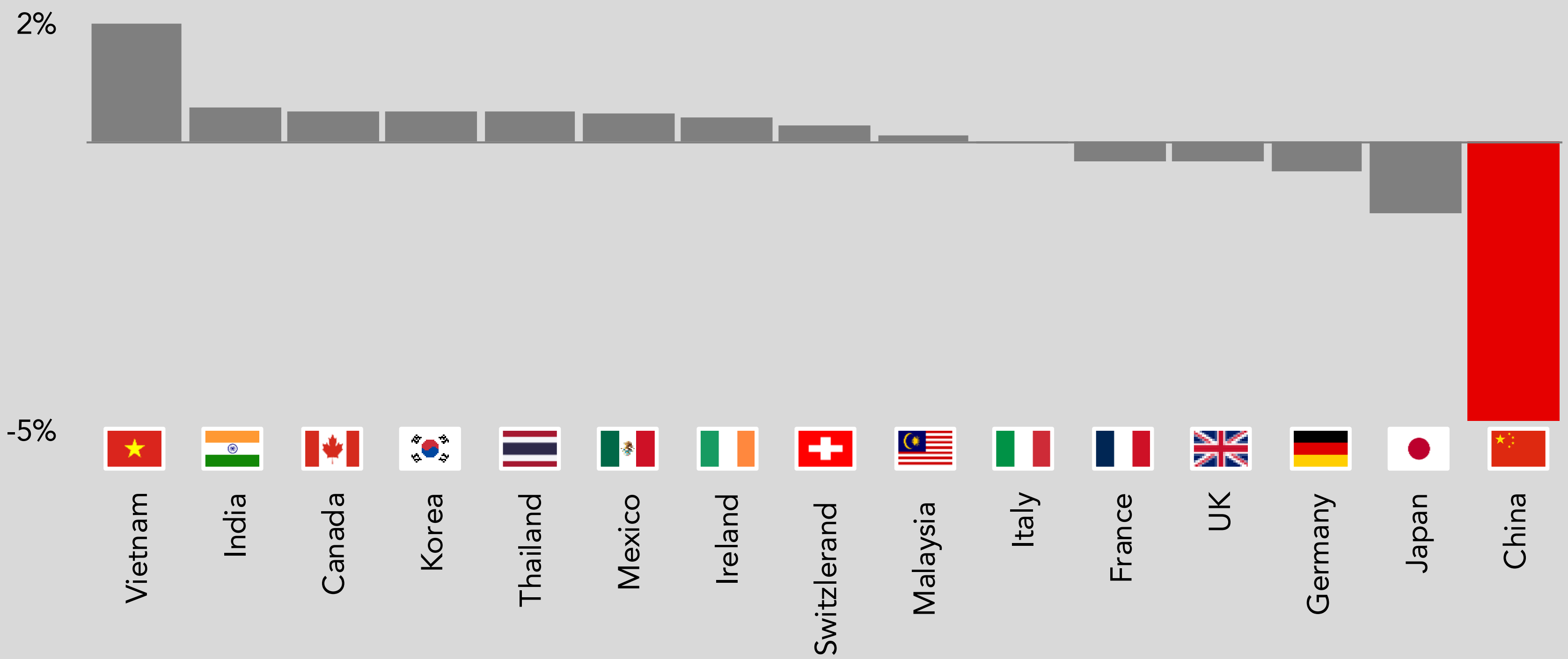
Tectonic Plates Shifting

6

Restructuring of Global Supply Chains

Following the US-China trade wars since 2017, China's share of US imports began a steady decline as US Government policy and the COVID crisis encouraged US companies to reallocate sourcing patterns across partner countries. While the total volume of Chinese imports into the US has increased over this period, China's market share has experienced a sharp 5% decline in just 5 years.

US import market share change (2017-2022)

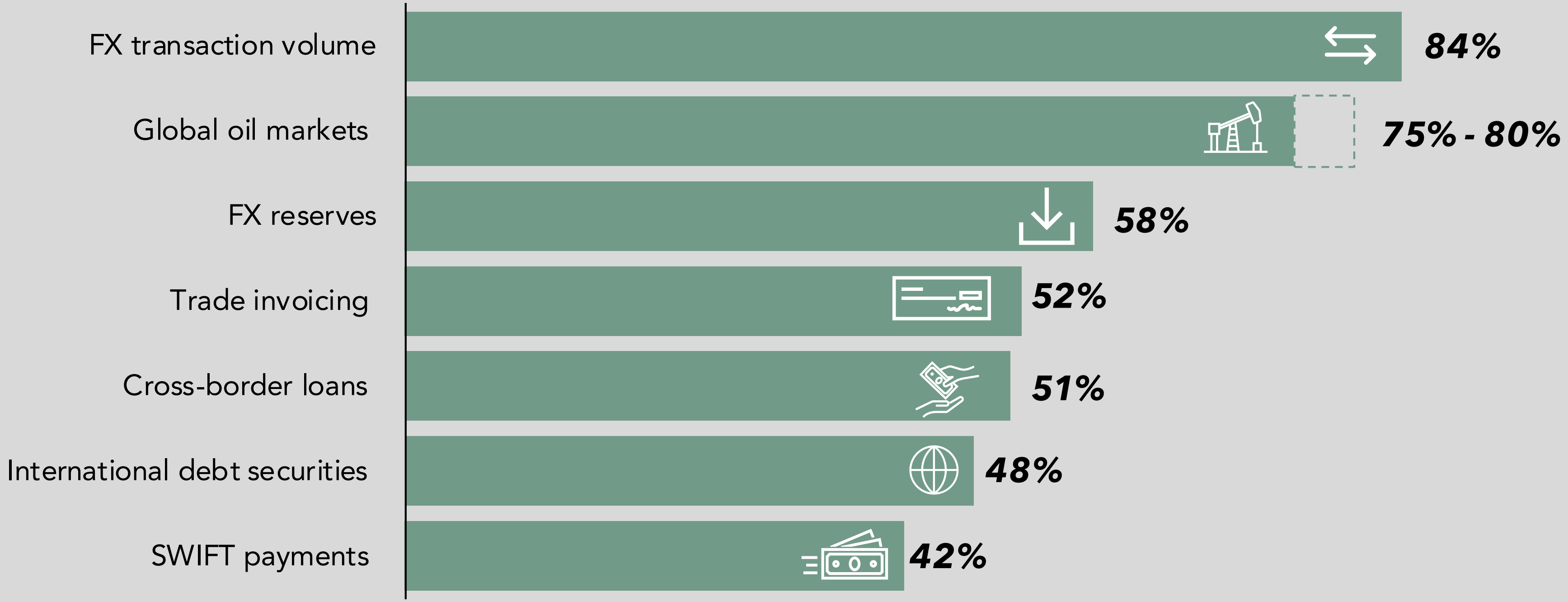


Source: (1) "Global Supply Chains: The Looming Great Reallocation" (Alfaro, Chor). Prepared for the Jackson Hole Symposium, Aug 24-26, 2023 organized by the Federal Reserve Bank of Kansas City. UNComtrade. Data as of August 29, 2023.

Dollar Dominance, More Multi-Currency Settlement

More than 50 years after President Nixon closed the door on Bretton Woods, the US dollar continues to play a dominant role in the global financial system. In the absence of sufficient alternatives, we expect the primary tenets of this system to continue. However, due to unsustainable imbalances and accelerating geopolitical shifts (US-Russia-China-Saudi), we expect a continued increase in multicurrency settlement across numerous global trading and financial markets in the years ahead. Wholesale replacement of dollar dominance by another currency? Highly unlikely. Increased financial fragmentation in the years ahead? Yes.

USD share of global markets



Source: (1) BIS, "The Global Foreign Exchange Market in a Higher-Volatility Environment" (December 2022). G Gopinath, "The international price system", NBER Working Papers, no 2164, 2015; IMF; Bloomberg; CPB World Trade Monitor; SWIFT; BIS debt securities statistics; BIS locational banking statistics; BIS Triennial Central Bank Survey. Foreign Affairs ("Great Powers Don't Default: The Dangers of Debt Ceiling Brinkmanship" by Matt Pottinger and Daleep Singh)

BRICS Invite 6 New Members

The expanded 11 member BRICS economic group, with an enlarged presence across the Global South, accounts for 29% of global GDP (37% on a PPP basis), and 46% of the world's population.

USA
$26.9tn GDP
336mn Pop.

EU
$17.8tn GDP
448mn Pop.

JAPAN
$4.4tn GDP
125mn Pop.

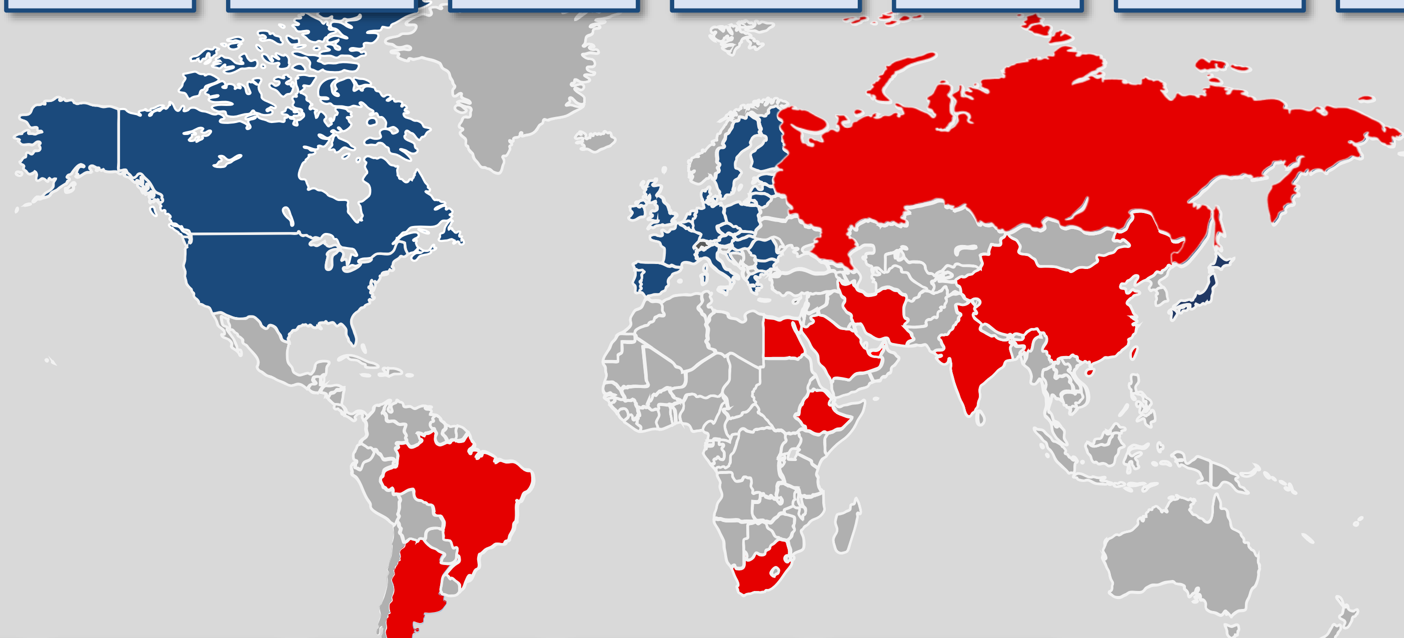
GERMANY
$4.3tn GDP
84mn Pop.

UK
$3.2tn GDP
68mn Pop.

FRANCE
$2.9tn GDP
66mn Pop.

ITALY
$2.2tn GDP
59mn Pop.

CANADA
$2.1tn GDP
40mn Pop.



G7

BRICS

CHINA
$19.4tn GDP
1.4bn Pop.

INDIA
$3.7tn GDP
1.4bn Pop.

BRAZIL
$2.1tn GDP
215mn Pop.

RUSSIA
$2.1tn GDP
143mn Pop.

SOUTH AFRICA
$399.0bn GDP
62mn Pop.

Current BRIC Members

SAUDI ARABIA
$1.1tn GDP
35mn Pop.

ARGENTINA
$641.1bn GDP
47mn Pop.

UAE
$499.0bn GDP
11mn Pop.

EGYPT
$387.1bn GDP
106mn Pop.

IRAN
$368.0bn GDP
87mn Pop.

ETHIOPIA
$156.1bn GDP
106mn Pop.

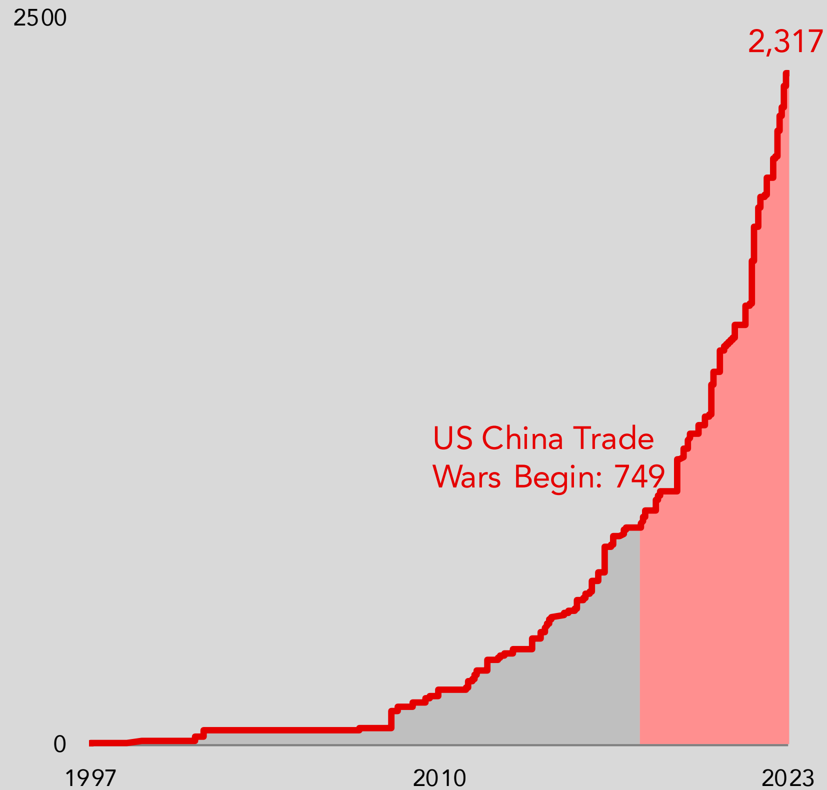
BRICS as of Jan 1, 2024

**By convention, although the EU is a member of the G7, only GDP of Germany, France and Italy is included in aggregate G7 GDP statistics.*
Source: (1) IMF. World Economic Outlook Database. 2023 estimates. GDP in USD based on GDP in national currency converted to USD using market exchange rates.

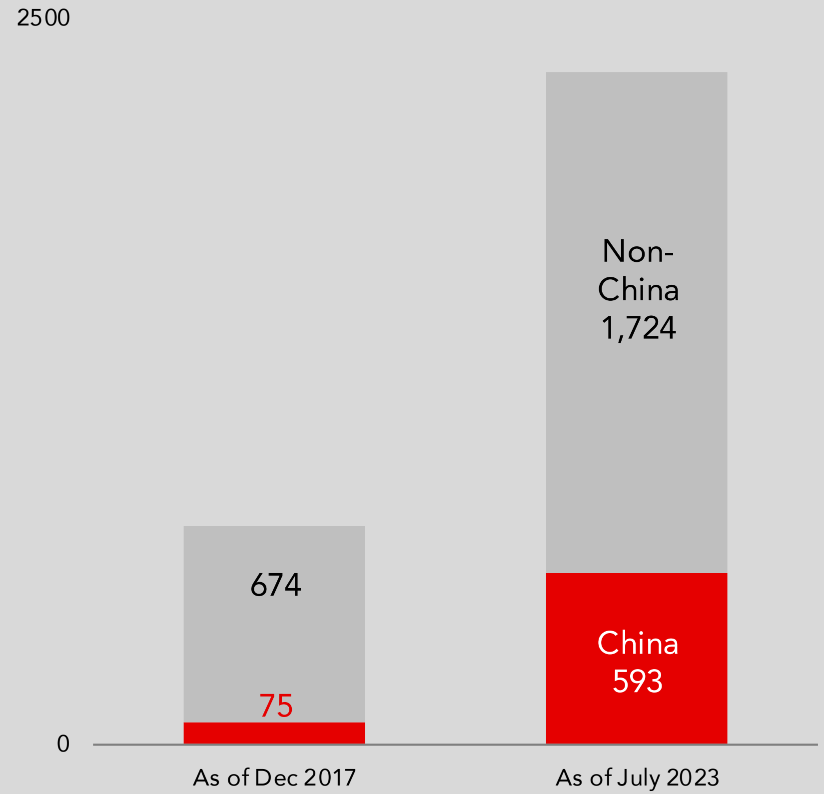
“Higher Friction” Geopolitics

Since inception in 1997, the US Commerce Department’s Entity List has grown to nearly 2,500 entities and sub-entities. Members of the Entity List are subject to specific licensing requirements which may limit their ability to transact with US entities. Since the trade wars began in 2018, and Russia invaded Ukraine in 2022, China and Russia based companies have dominated new additions to the list.

Cumulative additions to the Entity List (1997 – 2023)



Cumulative Entity List entries by country of origin



Source: (1-2) Commerce Department. Includes entities and sub-entities but removes duplicate entities. Entities added to the list multiple times are included from their first effective date. Excludes entities with no specified effective date. Data through July 2023. China figures include Hong Kong. Undated entries excluded.

"We are navigating by the stars under cloudy skies. In such circumstances, risk-management considerations are critical."

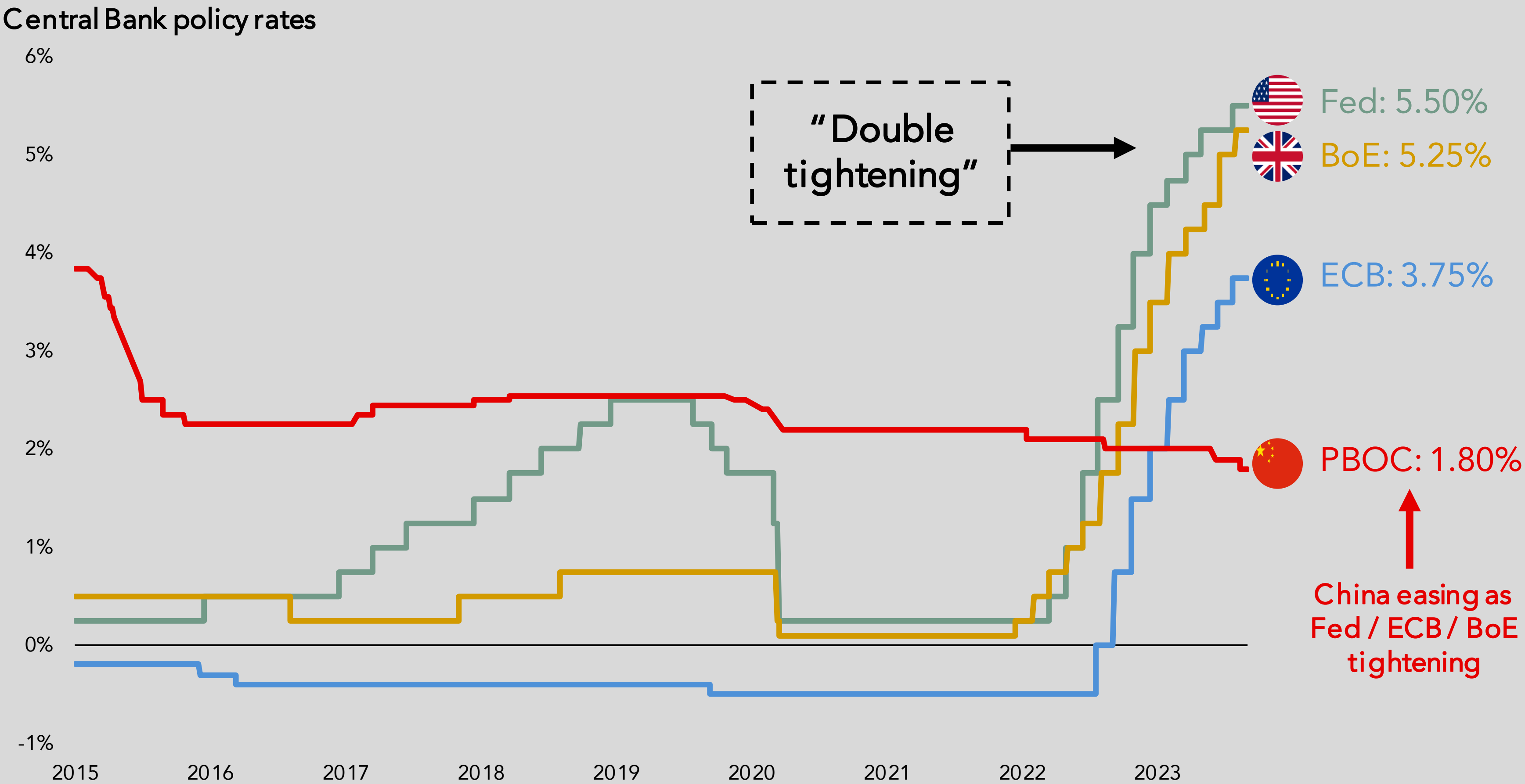
Fed Chair, Jay Powell, at the annual Jackson Hole Symposium (August 2023)

No Ordinary Fed Cycle

7

Accelerated Fed Tightening Cycle

The current Fed tightening cycle has been an unusual one by virtue of the speed and magnitude of its "double tightening" (525 bps of rate increases, $95 bn of QT per month). With core inflation still well above target at 4.7%, the Fed once again raised rates by 25bps in July (perhaps the last of the cycle).



Source: (1) Bloomberg. Data as of September 7, 2023. BoE is the bank rate. ECB is deposit rate. China is the 7-day reverse repo rate.

Unusual Fed Tightening Cycle

Seasonally, we are entering the most volatile time of year for markets at a time when historical precedents for how markets behave at the end of a Fed tightening cycle appear to be less relevant.

1. **Accelerated Tightening:** 525 bps in 18 months (typical cycle closer to 200 bps per annum)
2. **Double Tightening:** Concurrent taper of Fed Balance Sheet at $95 bn per month
3. **Synchronized Tightening:** More than 85 global central banks (90%+) tightening at same time in 2022
4. **COVID Imbalances:** More resilience in economy from $10 trillion of stimulus and $2 trillion of "excess" savings
5. **Longer Policy Lags:** the "lags to impact real economy" are taking longer this time (more stimulus, less rate sensitive economy)
6. **Bear Steepening:** Historically, UST rates rally once the Fed is done (excess Treasury supply, resilient economy)
7. **Higher for Longer:** Fed likely slower to cut rates than in prior cycles

"Blessed are the young, for they shall inherit the national debt."

Herbert Hoover, 31st President of the United States (1929-1933)

Debt & Deficits Matter

8

Nine Countries with AAA Ratings

Following Fitch's downgrade of US government debt from AAA to AA+ on August 1, there are now nine remaining countries with AAA ratings from Fitch. Notably, US debt and deficit metrics deviate considerably from the AAA sovereign peer group.

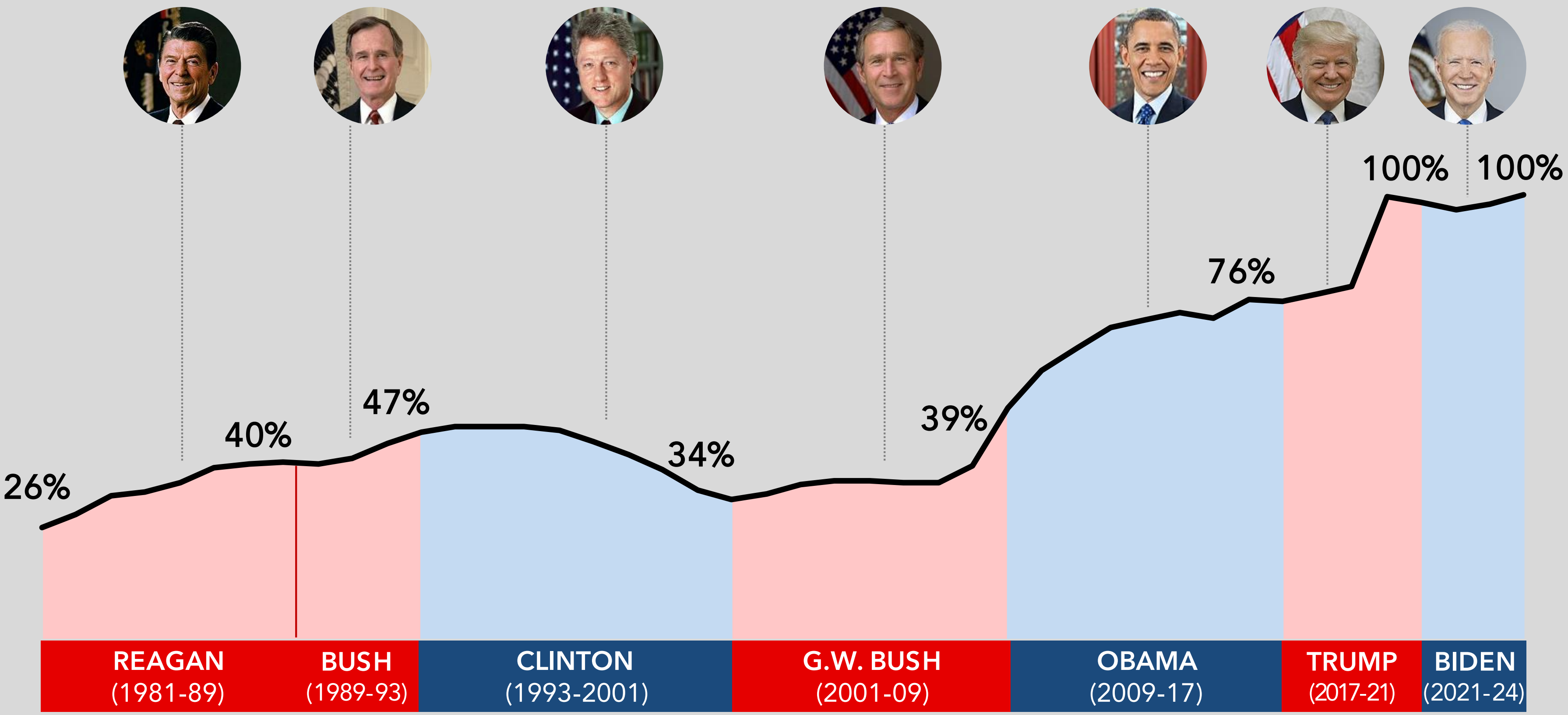
Country	Fitch Rating	GDP, USD bn	General Gov Debt to GDP	Annual Deficit (% of GDP)
Germany	AAA	$4,345 bn	65.9%	(-2.3%)
Australia	AAA	$1,716 bn	49.1%	(-1.2%)
Netherlands	AAA	$1,055 bn	50.5%	(-1.3%)
Switzerland	AAA	$853 bn	26.5%	+0.3%
Sweden	AAA	$608 bn	30.9%	(-0.1%)
Norway	AAA	$568 bn	38.9%	+20.8%
Singapore	AAA	$510 bn	39.6%	+6.2%
Denmark	AAA	$353 bn	29.9%	+1.4%
Luxembourg	AAA	$88 bn	26.1%	(-1.6%)
Median			**39.3%**	**(-0.1%)**
US	*AA+*	*$26,722 bn*	*112.9%*	*(-6.3%)*

Source: (1) Fitch Ratings. Debt to GDP and annual deficits are Fitch calculated general government debt and deficits. 2023 estimates.

Fitch Rationale: Debt Matters

US Government Debt has risen above 100% of GDP, more than double the 39% average of the nine countries still rated AAA by Fitch. While debt to GDP has risen most significantly in response to recessions (GFC, COVID), the increase has actually spanned decades and occurred across both Republican and Democratic administrations.

Federal debt held by the public, % of GDP

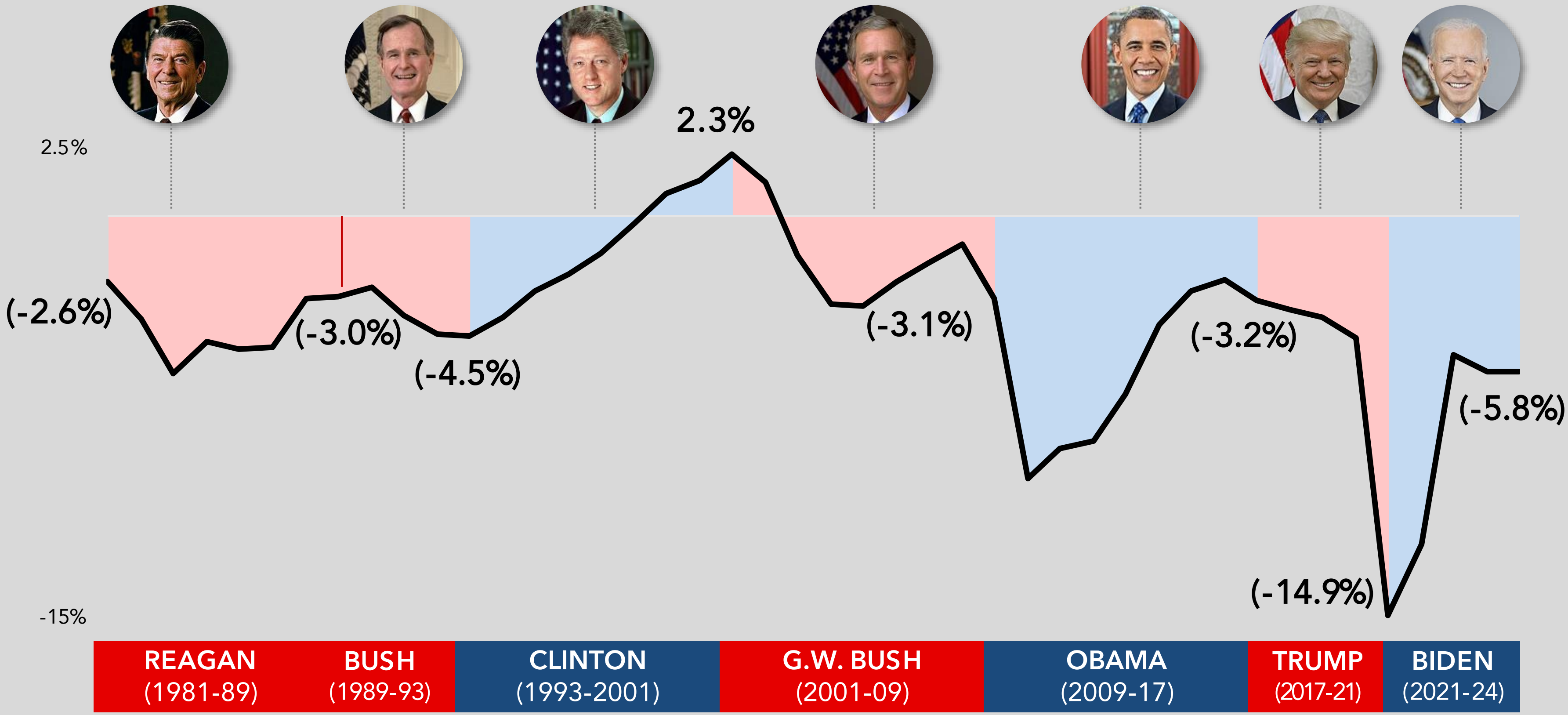


Source: (1) Congressional Budget Office. Long-Term Budget Projections (Jun 2023). Historical Data on federal Debt Held by the Public. 2024 Federal debt is CBO estimate.

Fitch Rationale: Deficits Matter

The Congressional Budget Office estimates 2023 deficits to be 5.8% of GDP. Fitch highlights cyclically weaker federal revenues, new spending initiatives and a higher interest rate burden as key factors in their August downgrade. With little to no substantive cuts to fiscal spending, and a higher interest rate burden, Fitch estimates the interest-to-revenue ratio could reach 10% by 2025 (vs. 2.8% for median 'AA' rated sovereigns and 1% for 'AAA').

Federal government deficit (or surplus), % of GDP



Source: (1) Congressional Budget Office. Long-Term Budget Projections (Jun 2023). Historical Data on federal Debt Held by the Public.

Fitch Rationale: Governance Matters

The US Debt Ceiling was created by Congress during World War I with the intent of making it easier for the country to manage its finances and issue debt during a time of war. Since 1941, when the Public Debt Act passed to set a single limit on US debt, the US debt ceiling has been raised nearly 90x.

Recurring US debt ceiling standoffs raised since 1940

1940 - 1959	Jun 1940
	Feb 1941
	Mar 1942
	Apr 1943
	Jun 1944
	Apr 1945
	Jun 1946
	Aug 1954
	Jul 1956
	Feb 1958
	Sep 1958
	Jun 1959
1960 – 1979	Jun 1960
	Jun 1961
	Jul 1962
	Mar 1963
	Jun 1963
	Jun 1963
	Jun 1963
	Jun 1963
	Aug 1963
	Nov 1963
	Jun 1964
	Jun 1965
	Mar 1967
	Jun 1967
	Jun 1968
	Apr 1969
	Jun 1970
	Mar 1971
	Mar 1972
	Oct 1972
	Jun 1974
	Feb 1975
	Nov 1975
	Mar 1976
	Jun 1976
	Sep 1976
	Apr 1977
	Oct 1977
	Aug 1978
	Apr 1979
	Sep 1979
1980 – 1999	Jun 1980
	Dec 1980
	Feb 1981
	Sep 1981
	Jun 1982
	Sep 1982
	May 1983
	Nov 1983
	May 1984
	Jun 1984
	Oct 1984
	Nov 1985
	Dec 1985
	Aug 1986
	Oct 1986
	May 1987
	Aug 1987
	Sep 1987
	Aug 1989
	Nov 1989
	Aug 1990
	Oct 1990
	Nov 1990
	Apr 1993
	Aug 1993
	Mar 1996
	Aug 1997
2000-2023	Jun 2002
	May 2003
	Nov 2004
	Mar 2006
	Sep 2007
	Jun 2008
	Oct 2008
	Feb 2009
	Dec 2009
	Feb 2010
	Jan 2012
	Feb 2013**
	May 2013
	Oct 2013**
	Feb 2014
	Mar 2015
	Oct 2015**
	Mar 2017
	Sep 2017**
	Mar 2019
	Aug 2019**
	Jul 2021
	Oct 2021
	Dec 2021
	Jun 2023**

*Note: ** Indicates debt ceiling suspended rather than raised*

Source: (1) Congressional Research Service.

Implications of Fitch Ratings Downgrade

1 **Politics:** Implications of the Fitch downgrade are likely to reverberate more politically than in markets or the economy (spending cuts, Gov shutdown risk)

2 **US Dollar:** Status as "the" global reserve currency still intact. Near term, we do not expect a substantive change in global central bank holdings of USTs.

3 **US Treasuries:** Most asset managers have rewritten their guidelines since the S&P downgrade in 2011, and now refer specifically to Treasuries and NOT their AAA ratings. We therefore do not anticipate any significant forced selling of USTs.

4 **Bank Capital:** Regulatory regimes have also been rewritten since 2011 to not reference AAA ratings. USTs will continue to have a 0% risk-weighting for bank capital and liquidity considerations.

5 **Derivatives Collateral:** Given that CFTC and CME guidelines only reference Treasuries, and not their ratings, we do not expect any material forced unwinds or margin calls in the trillions of global derivatives contracts using USTs as collateral.

"Maybe there is a beast…
Maybe it's only us."

William Golding, Nobel Prize-Winning British Author in Lord of the Flies (1954)

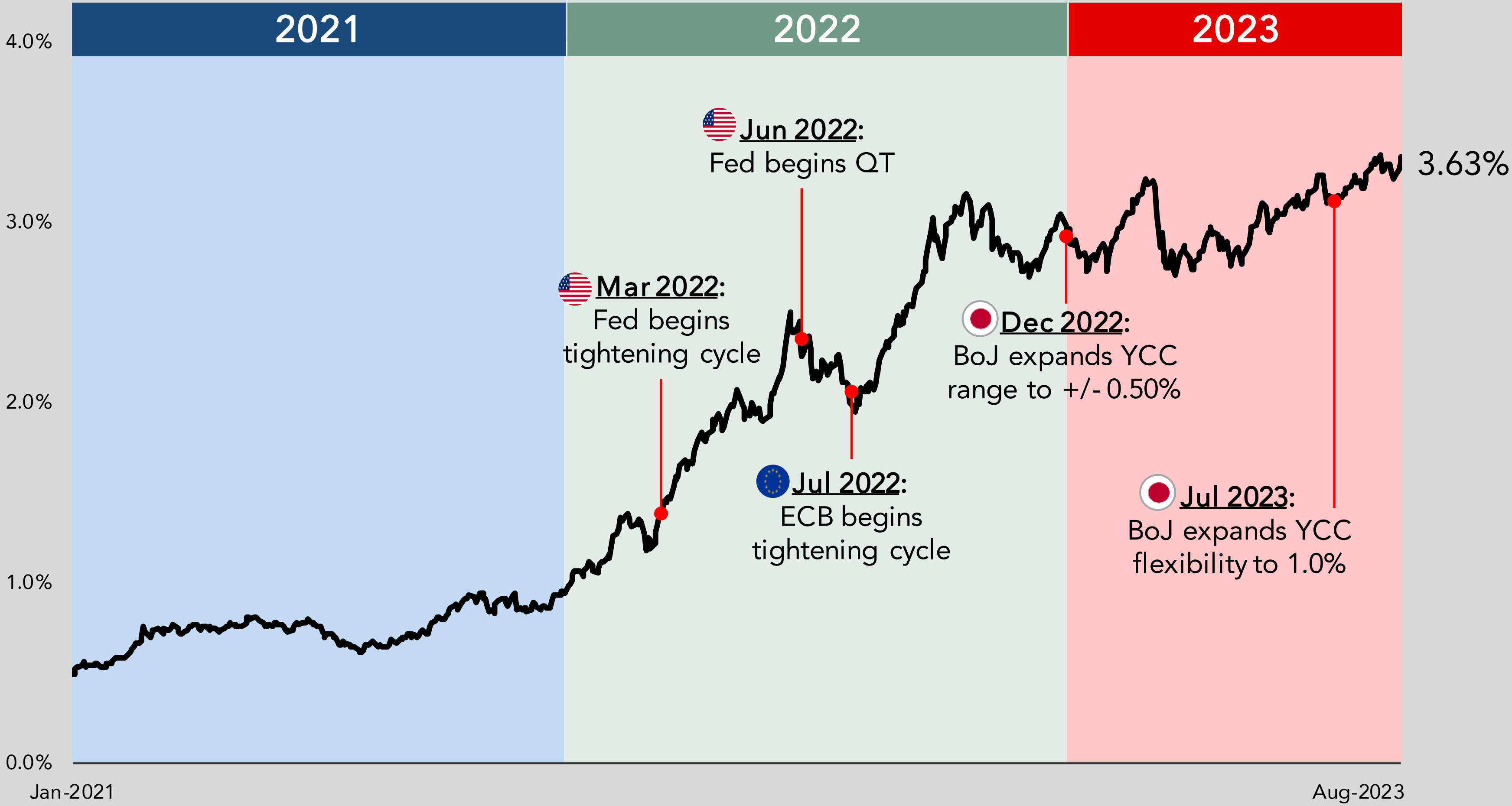
The Bear Steepening

9

Global Government Bond Yields at Multi-Year Highs

With rates rising globally, sovereign bonds have returned (-1.2%) YTD, making the asset class the worst performer across Bloomberg's major debt indices in 2023.

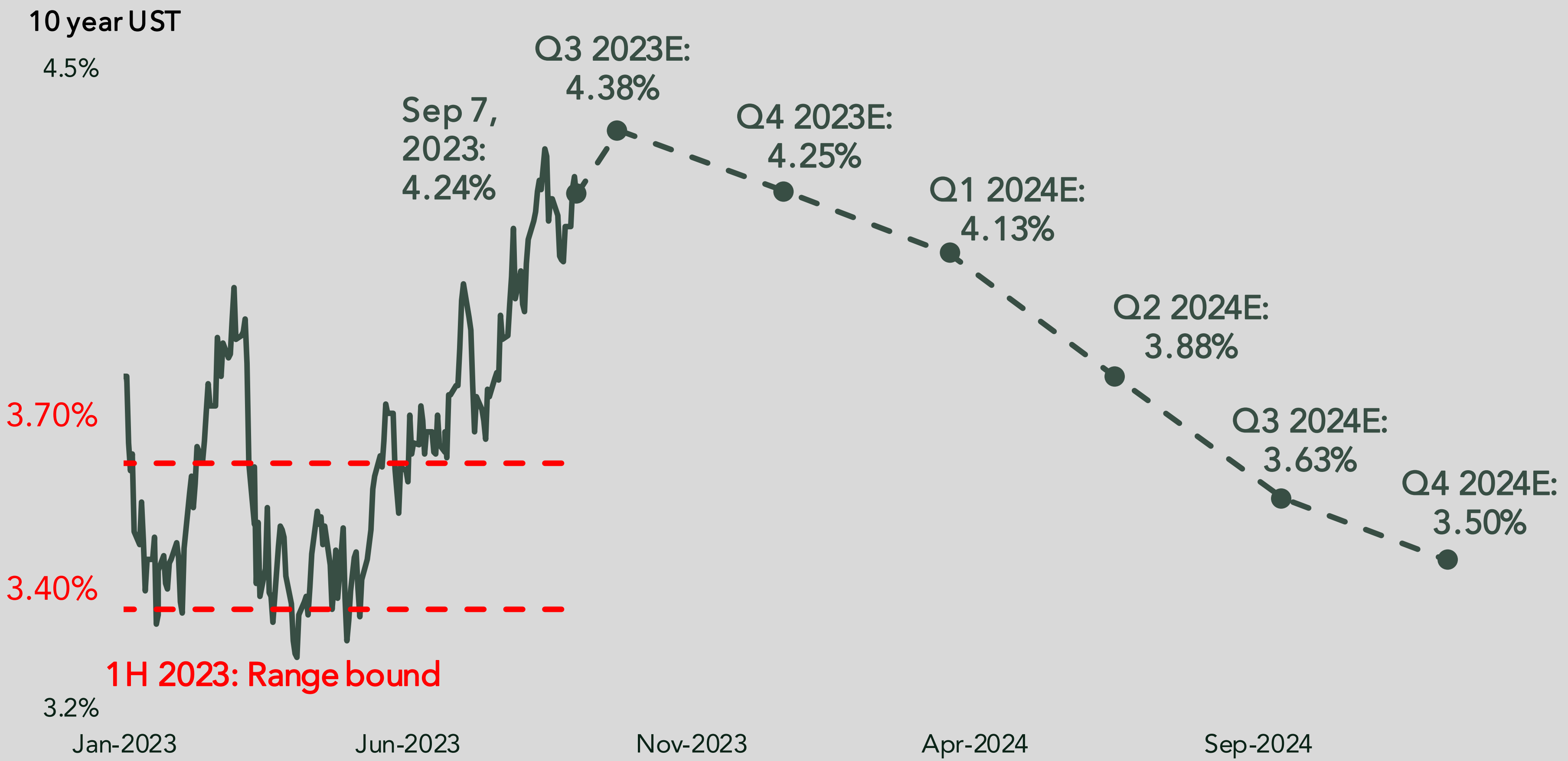
Global government bond index yield



Source: (1) Bloomberg. Data as of September 7, 2023.

MUFG 10 Year UST Yield Outlook

Historically, US Treasury yields typically rally when the Fed tightening cycle is complete. Not this time. MUFG's Head of Macro Strategy, George Goncalves, expects rates to move higher in Q3 before moving progressively lower over the next year.



Source: (1) Bloomberg. Data as of September 7, 2023. MUFG Rate Strategy (George Goncalves).

Converging Forces Drive Bear Steepening

10 year UST yields have risen ~50 bps since the July 26 FOMC meeting. This recent bear steepening of the US yield curve, with long end yields breaking above the 4% threshold and the 2s-10s inversion tightening from ~100 bps to ~75 bps, has been driven by a confluence of converging forces.

1. Quarterly Treasury supply increase from $733bn to > $1 trillion
2. Record net long positioning in Treasury futures in late June (became vulnerable to technical weakness as yields rose >4%)
3. Resilient US economic and labor market data (loose fiscal policy delaying impact of monetary policy)
4. Rising energy prices complicating inflation outlook
5. Hawkish "double" Fed tightening cycle (with QT possibly extending beyond rate cuts)
6. Less overseas demand (BoJ YCC policy pivot, China slowdown, US deficits)

"I think there is going to be a schism between the default rate of private borrowers and public borrowers."

Boaz Weinstein, Hedge Fund Manager & Founder of Saba Capital

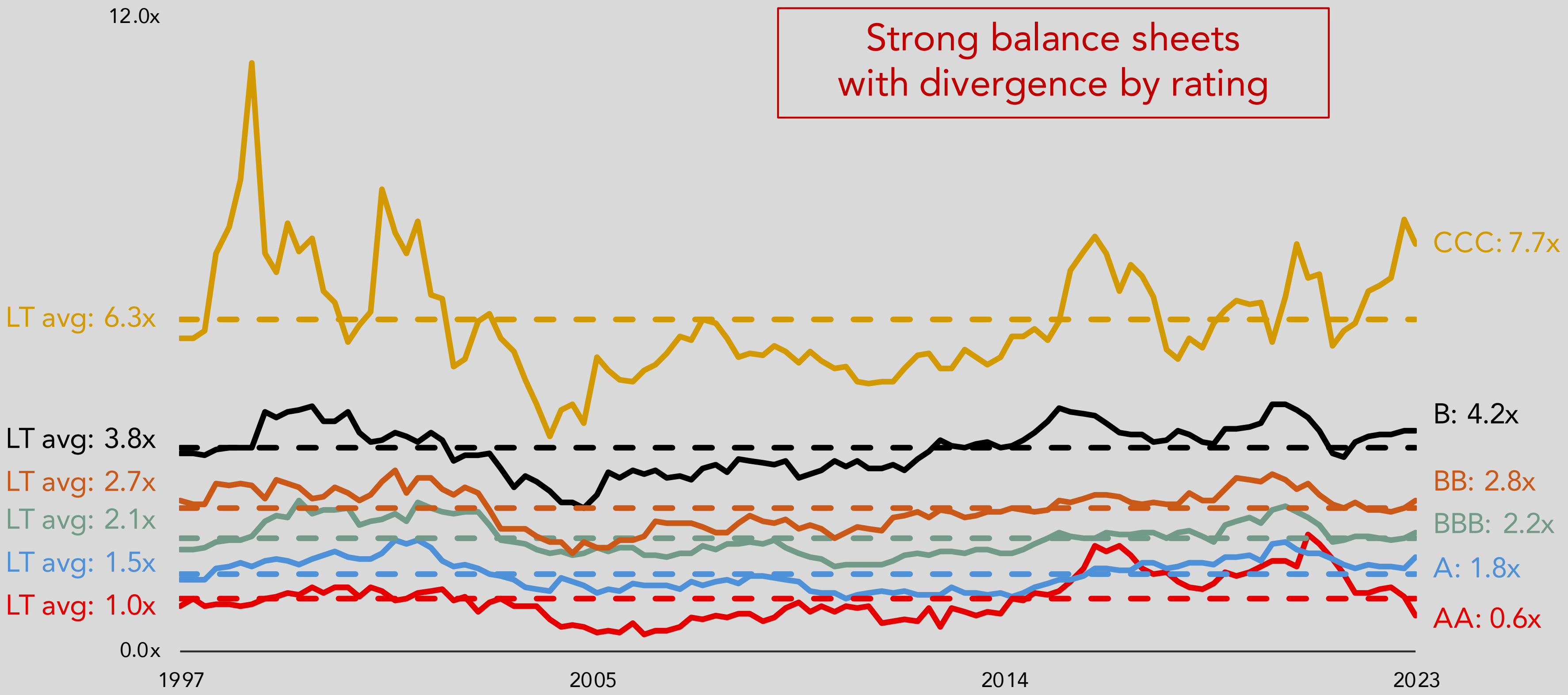
Mature Credit Cycle

10

Fundamentals Remain Strong

Corporate balance sheets in the multi-trillion USD bond markets have remained strong by historic standards, with variance by rating. Since Q2 2021, leverage has risen above LT averages for most ratings categories, though only modestly. At the low end, CCC leverage has diverged most sharply above LT averages, while in the strong AA rating category, leverage has sharply declined as cash balances increased by 67%.

USD net leverage by rating

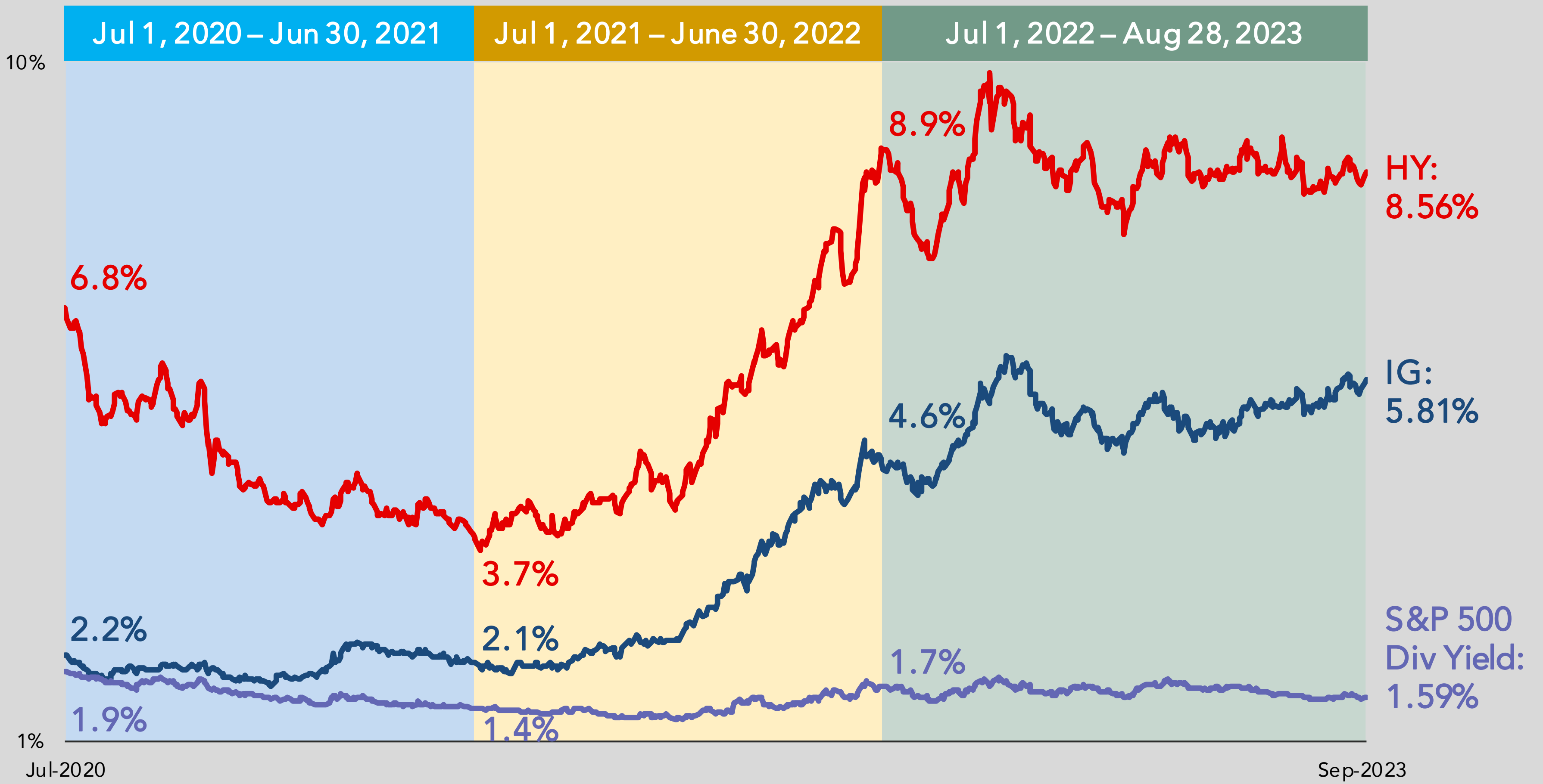


Source: (1) CreditSights, "US Strategy: IG leverage Report 1Q23."

Favorable Technical Tailwinds

From a yield perspective, the relative attractiveness of USD credit versus equities is at its highest level in more than 15 years. With yields consistently above 5% for the first time since the GFC, high quality corporate bonds offer investors significant cushion to weather volatility and recession risk.

USD IG & HY index yield to worst & S&P 500 dividend yield

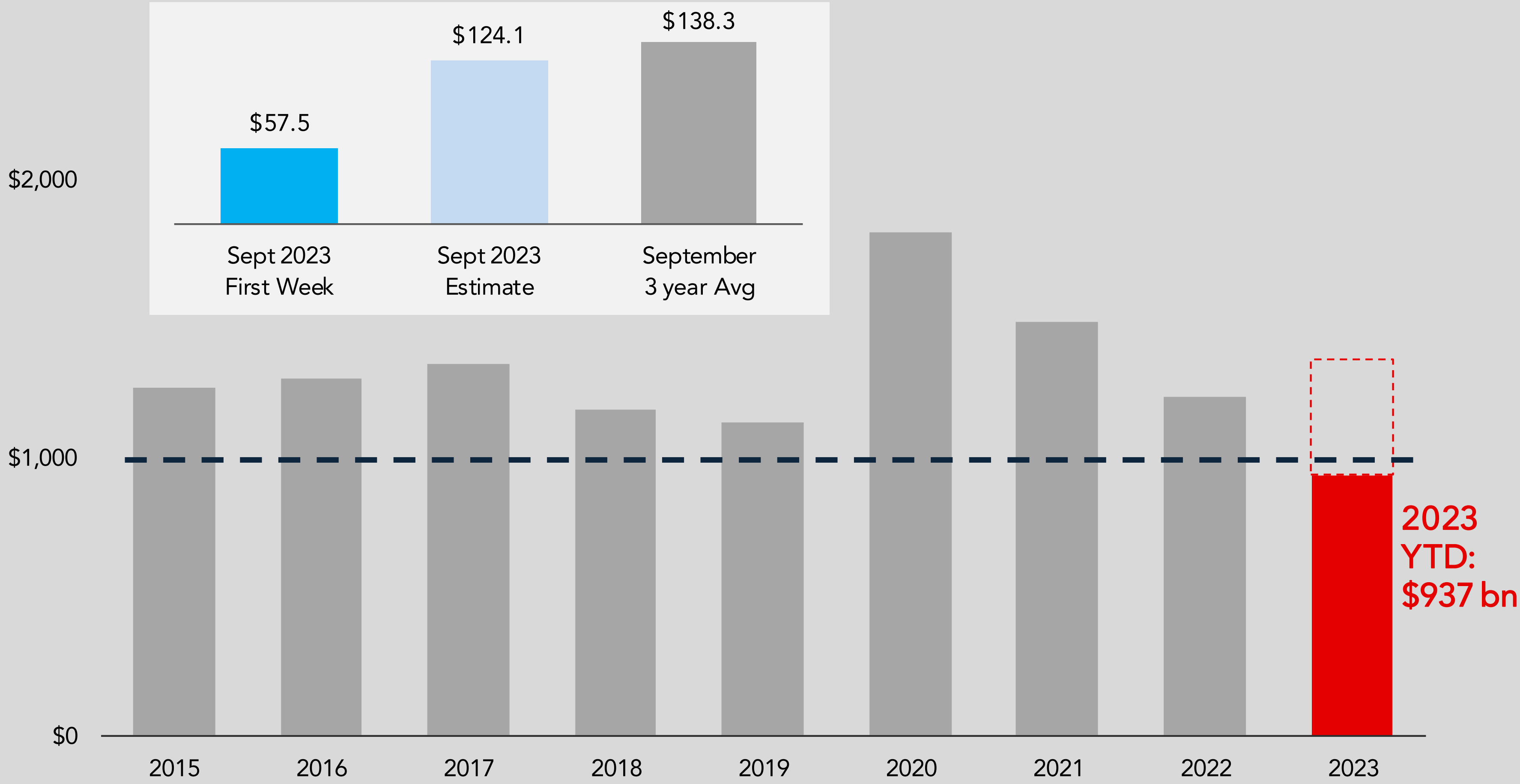


Source: (1) Bloomberg. Data as of September 7, 2023.

Robust New Issue Markets

Year-to-date, USD IG bond volume has crossed the $900 bn threshold, and is now on track to exceed 2022 volume as well as January forecasts for the full year.

USD IG new issue, bn

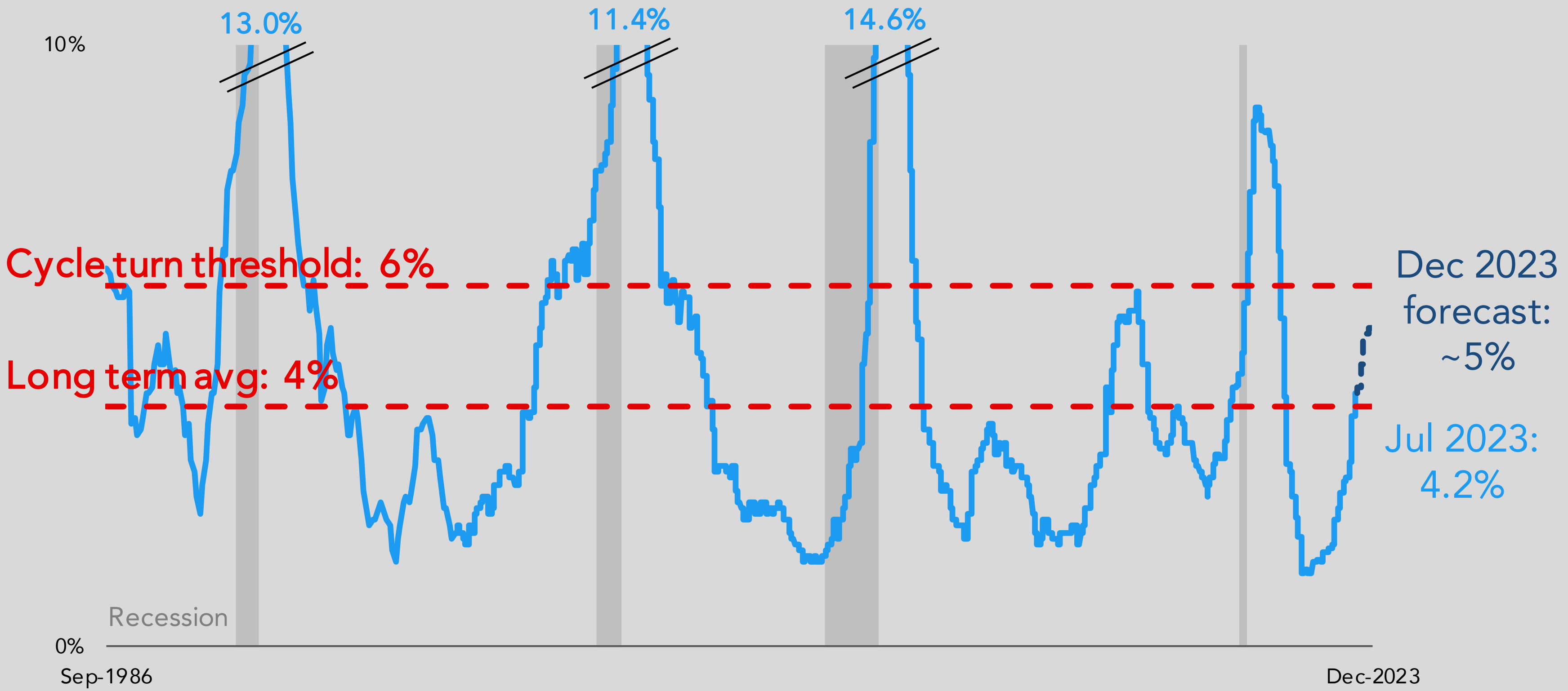


Source: (1-2) CFR. Data as of September 8, 2023.

Credit Default Cycle Has Begun to Turn

After reaching historically low levels in early 2022, default rates have begun to move higher. As default rates typically "lag" the economic cycle, default rates may not peak until late 2024 or early 2025. Consumer facing businesses, many of which are rated CCC, are notably vulnerable with close to 30% of the sector on negative outlook or Credit Watch negative.

US speculative grade default rate
(includes HY & lev loans)

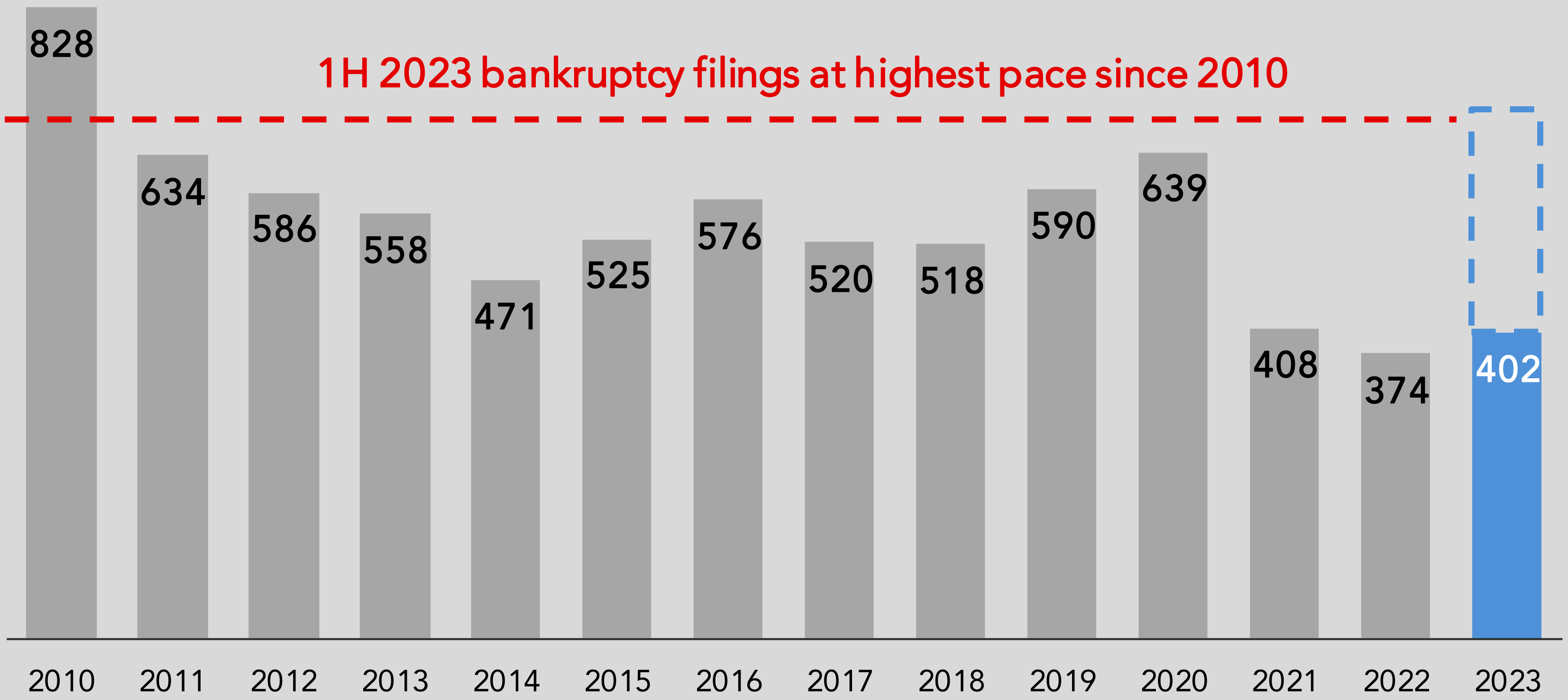


Source: (1) Moody's, "Default Trends – Global August 2023 Default Report." Default rate is trailing 12 months US speculative grade default rate.

US Bankruptcies Rising

Currently tighter than historical averages, corporate credit spreads are not reflective of pressures in the real economy (weakening demand, higher inflation, higher borrowing costs), as evidenced by a surge in US bankruptcies in 1H 2023 to the highest levels since 2010. Consumer companies have accounted for 25% of filings, followed by healthcare (15%) and financials (11%).

US bankruptcy filings by year

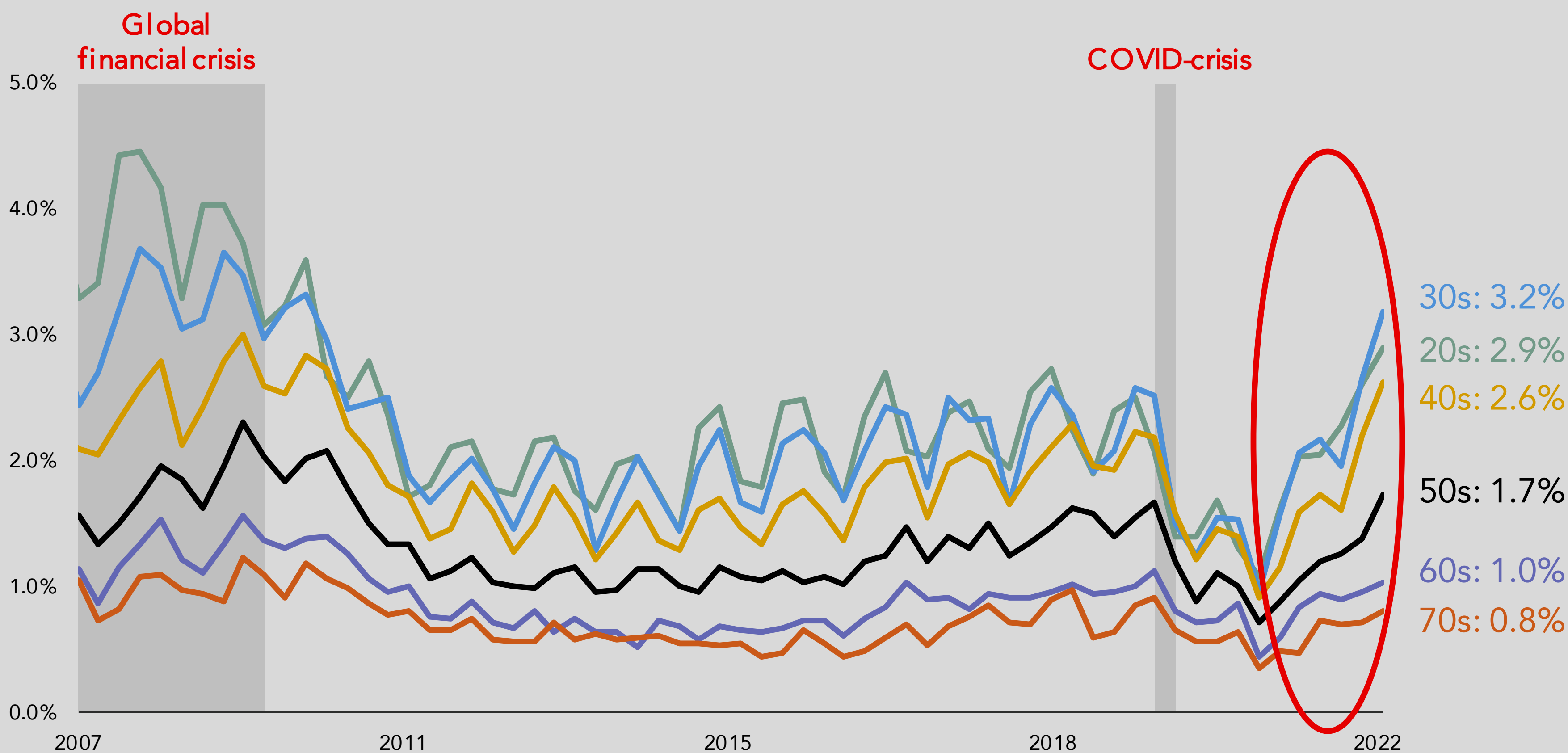


Source: (1) S&P Global Market Intelligence – covered US companies that announced bankruptcies between January 2010 and July 31, 2023.

Rising US Credit Card Defaults

Total debt balances grew by $394 billion in Q4 2022, the largest nominal quarterly increase in twenty years. Credit card balances increased $61 billion, the largest observed in the history of the data, going back to 1999, with younger borrowers surpassing their pre-pandemic delinquency rates.

Delinquency rate for credit card borrowers, by age



Source: (1) New York Fed Consumer Credit Panel / Equifax. Data through end of 2022.

"The more we condition the use of the dollar and our financial system on adherence to US foreign policy, the more risk of migration to other currencies and other financial systems in the medium term grows. Such outcomes would not be in the best interests of the United States."

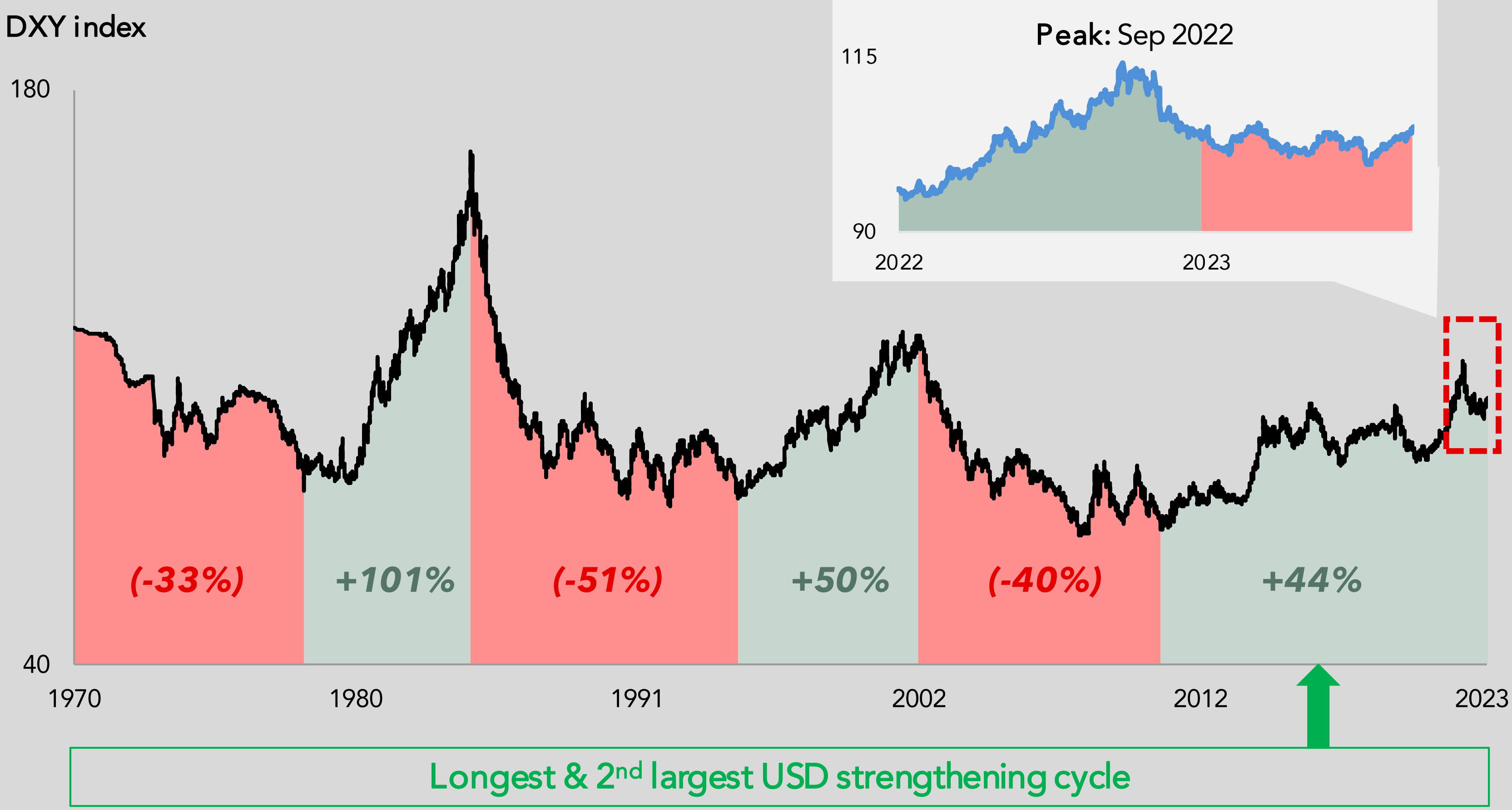
Jack Lew, US Treasury Secretary (2016)

Extended Dollar Cycle

11

Extended US Dollar Cycle

In the first week of September, the US Dollar recorded its 8th straight up week, the longest such run since 2005. US Dollar strength has continued to defy consensus forecasts for much of the year, as the current Dollar strengthening cycle is now the longest and second largest in the post Bretton Woods era. If the Fed maintains a "higher for longer" policy stance, and/or if the US economy continues to outperform global peers, US Dollar resilience may persist into 2024.



Source: (1-2) MUFG Foreign Exchange Outlook. (Derek Halpenny). Bloomberg. Data as of September 7, 2023.

2H Dollar Resilience, 2024 Dollar Weakness

September is an important month for financial markets with 9 of the G10 central banks holding policy meetings (all but the RBNZ), with the majority expected to keep policy rates on hold. MUFG's Global Head of Research, Derek Halpenny, has raised MUFG's US Dollar forecasts for Q3 and Q4, but maintains a weaker outlook for the Dollar in the 1H 2024. With the global economy outside the US also slowing, the pace of Dollar weakness at the turn is likely to be slow.

Reasons for USD depreciation

Interest rate differentials
(Fed rate cuts in 2024)

De-dollarization forces
(Slow & gradual pivot toward multi-currency settlement)

Relative macro
(US slowdown delayed but underway)

Relative equity market outperformance
(US equities more fully-valued; EM equities more undervalued)

Unwind of energy shock
(Energy deficit currencies poised to recover)

Cyclical nature of US dollar
(Consolidation after 2nd longest and largest US dollar appreciation)

BOJ policy pivot
(YCC policy pivot and unwind)

Relative value of the US dollar
(USD most overvalued among G10 FX)

"We are living in a new age of energy supply anxiety."

Daniel Yergin, Pulitzer Prize Winning Author & Energy expert

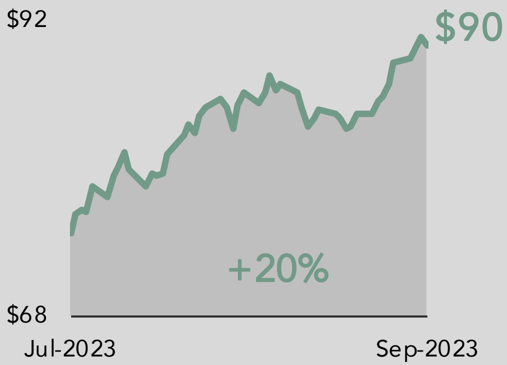
Resurgent Commodities Supercycle

12

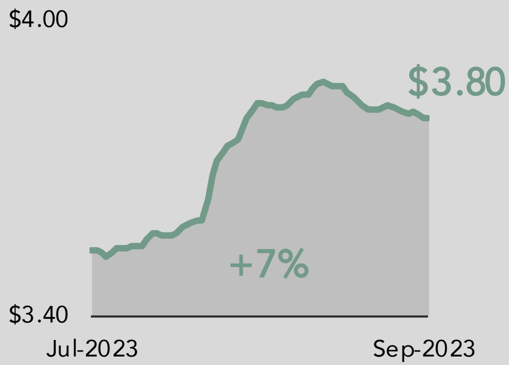
Rising Energy Prices Complicate Inflation Outlook

Following the hottest (Northern Hemisphere) summer on record, and an unexpected Saudi/ Russian extension of voluntary production/ export cuts for an additional three months through the end of 2023, energy prices have risen sharply in the 2H 2023.

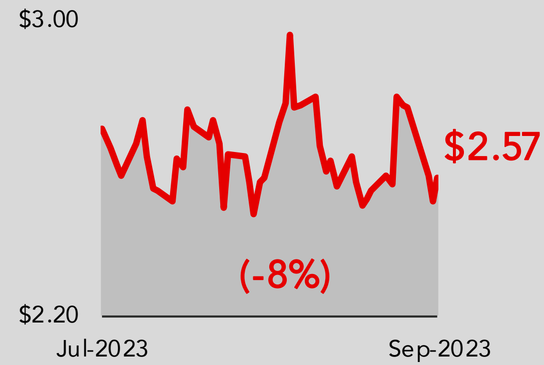
Brent



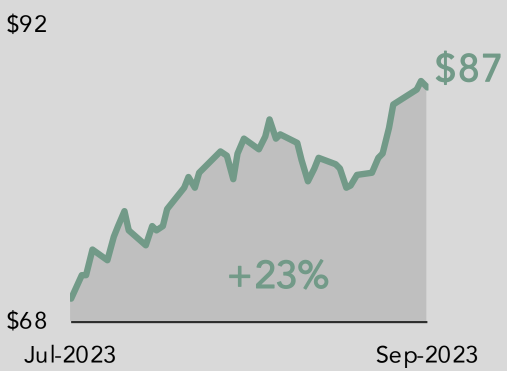
Gasoline



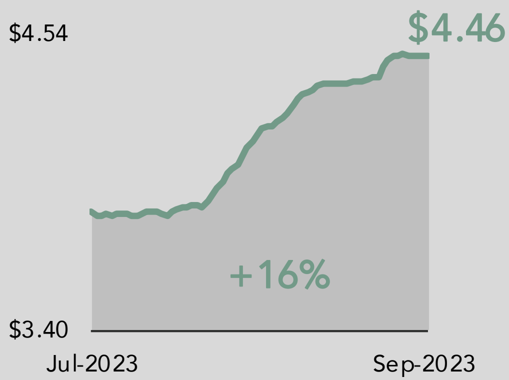
US Nat Gas



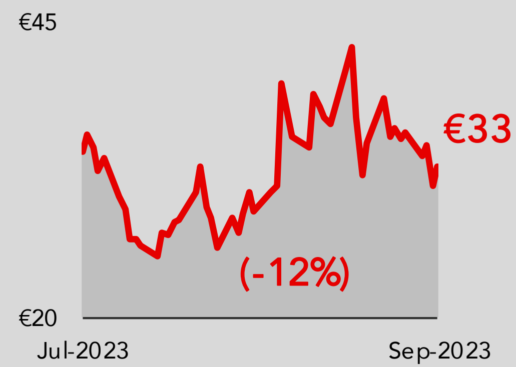
WTI



Diesel



European Nat Gas

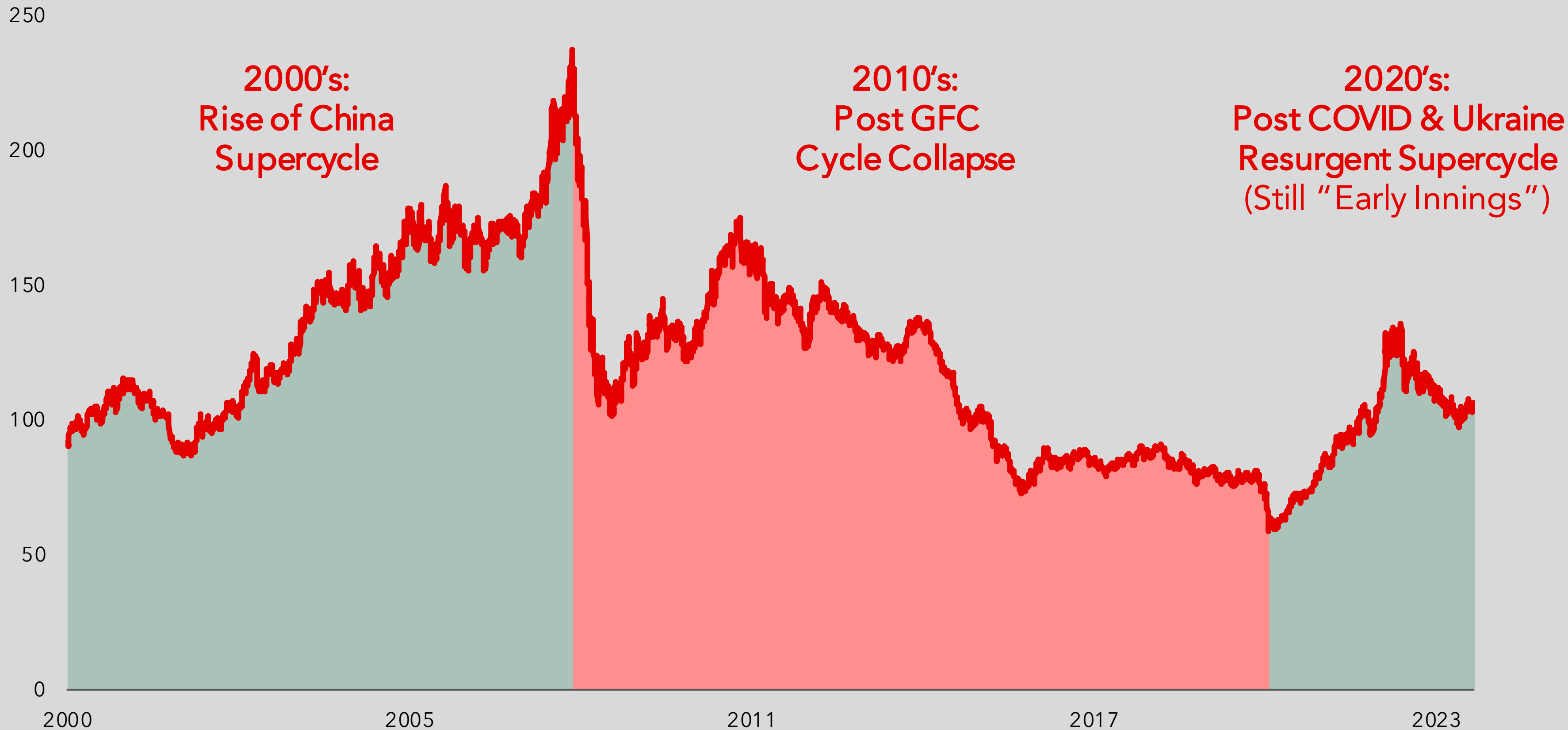


Source: (1-6) Bloomberg. Data as of September 7, 2023. Gasoline and diesel prices are retail prices from the American Automobile Association.

Resurgent Commodity Supercycle

Commodity supercycles are relatively rare events. According to MUFG's Head of Commodities Research, Ehsan Khoman, we are in the early stages of a new, supply constrained commodities supercycle that, despite near term demand side risk, is likely to last a decade.

Bloomberg commodities index



Source: Bloomberg. Data as of September 7, 2023.

Key Drivers of Bullish LT Oil Price Outlook

MUFG's Global Head of Commodities Research, Ehsan Khoman, notes that in today's structurally underinvested global oil markets, OPEC+ (Saudi/ Russia) are clearly demonstrating their inelastic pricing power; that is, their ability to extend supply cuts without adversely impacting demand. Recognizing near term downside risk in a cooling global economy, the long term oil price outlook remains structurally bullish (albeit below triple digit prices).

Key drivers of bullish oil price outlook

Structural Underinvestment	• Shareholder demands to preserve capital • Energy transition & regulatory constraints • Tight refining capacity
OPEC+ Supply Cuts	• Inelastic pricing power • Saudi / Russian extension of supply cuts
Low US Inventories	• Rapid drawdowns in commercial inventories • Lower Saudi shipments, hurricane season, record hot summer • Gov't SPR levels at lowest levels since 1984
Demand Resilience	• Global demand at record levels (102 m/b/d) • US resilience; shallow recession • China stimulus to stabilize economy
Mature US Dollar Cycle	• 2nd longest and largest on record • US slowdown delayed but underway • Fed rate cuts in 2024

Appendix:
Global Economic & Market Forecasts

Synchronized Global Slowdown in 2023

GDP growth forecasts, y/y

Region / country	2022	2023E	2024E
North America			
Mexico	3.0%	**2.7%**	1.0%
US	2.1%	**2.0%**	0.1%
Canada	3.4%	**1.0%**	(-0.2%)
Eurozone	3.4%	0.6%	1.0%
Ireland	9.6%	**2.5%**	4.1%
Spain	5.5%	**2.3%**	1.4%
Italy	3.8%	**0.8%**	0.6%
France	2.5%	**0.7%**	0.6%
Netherlands	4.4%	**0.6%**	1.5%
Finland	1.6%	**0.5%**	0.8%
Germany	1.9%	**(-0.3%)**	0.7%
Other Europe			
Turkey	5.6%	**2.6%**	1.4%
Russia	(-2.1%)	**2.4%**	1.2%
Denmark	2.7%	**1.4%**	1.9%
Norway	3.2%	**1.2%**	0.4%
UK	4.1%	**0.5%**	0.4%
Poland	5.4%	**0.5%**	2.1%
Switzerland	2.1%	**0.3%**	1.3%
Czech Republic	2.4%	**(-0.3%)**	0.9%
Sweden	2.9%	**(-0.8%)**	0.6%

Region / country	2022	2023E	2024E
APAC	3.2%	4.0%	3.8%
China	3.0%	**5.1%**	4.6%
India	6.7%	**6.1%**	6.3%
Indonesia	5.3%	**5.1%**	4.7%
Australia	3.7%	**1.6%**	1.5%
Japan	1.0%	**1.6%**	0.6%
South Korea	2.6%	**0.8%**	1.3%
Singapore	3.7%	**0.4%**	2.3%
New Zealand	2.3%	**0.2%**	2.0%
LatAm	3.9%	1.7%	1.3%
Brazil	3.0%	**1.9%**	0.8%
Colombia	7.3%	**0.9%**	0.1%
Chile	2.5%	**(-0.4%)**	1.4%
Argentina	5.0%	**(-2.0%)**	0.8%
MENA	5.5%	2.0%	3.0%
Sub-Saharan Africa	3.8%	**3.0%**	3.2%
Oman	4.3%	**2.5%**	2.3%
Qatar	4.9%	**2.6%**	2.6%
Kuwait	7.0%	**1.6%**	2.1%
UAE	7.9%	**2.2%**	4.4%
Egypt	4.3%	**2.2%**	2.4%
Saudi Arabia	8.7%	**1.1%**	3.9%
South Africa	1.9%	**0.2%**	1.0%

Source: (1) Oxford Economics. Data as of September 5, 2023.

MUFG Global Rates Forecasts

	Spot (Sep 8)	Q3 2023		Q4 2023		Q1 2024		Q2 2024		Q3 2024	
		MUFG	Consensus	MUFG	Consensus	MUFG	Consensus	MUFG	Consensus	MUFG	Consensus
Fed Funds	5.50%	5.50%	5.50%	5.50%	5.50%	5.00%	5.30%	4.50%	4.90%	4.00%	4.45%
2 yr UST	4.95%	5.13%	4.83%	4.63%	4.54%	4.13%	4.21%	3.75%	3.93%	3.50%	3.71%
5 yr UST	4.36%	4.50%	4.22%	4.25%	4.02%	4.13%	3.86%	3.88%	3.72%	3.63%	3.62%
10 yr UST	4.23%	**4.38%**	**4.03%**	**4.25%**	**3.87%**	**4.13%**	**3.74%**	**3.88%**	**3.66%**	**3.63%**	**3.60%**
30 yr UST	4.32%	4.50%	4.19%	4.25%	4.05%	4.13%	3.96%	3.88%	3.89%	3.63%	3.88%

Source: (1) MUFG Global Macro Research (George Goncalves). Bloomberg. Data as of September 7, 2023. Fed funds is upper bound.

MUFG Global FX Forecasts

Currency pair	Spot (Sep 8)	Q3 2023	Q4 2023	Q1 2024	Q2 2024
EUR / USD	**1.07**	**1.07**	**1.08**	**1.10**	**1.12**
GBP / USD	**1.25**	**1.25**	**1.25**	**1.26**	**1.27**
USD / JPY	**148**	**145**	**145**	**138**	**136**
USD / CNY	7.34	7.20	7.10	6.90	6.80
AUD / USD	0.64	0.64	0.64	0.65	0.67
NZD / USD	0.59	0.58	0.59	0.60	0.61
USD / CAD	1.36	1.37	1.35	1.33	1.32
USD / NOK	10.66	10.84	10.56	10.18	9.82
USD / SEK	11.09	11.12	10.83	10.46	10.18
USD / CHF	0.89	0.89	0.88	0.88	0.87
USD / MXN	17.56	16.75	17.10	17.30	17.60
USD / BRL	4.98	4.90	5.20	5.22	5.25

Source: (1) MUFG FX September Monthly (Derek Halpenny). Bloomberg.

MUFG Commodities Forecasts

	Spot (Sep 8)	Q3 2023		Q4 2023		Q1 2024		Q2 2024	
		MUFG	Consensus	MUFG	Consensus	MUFG	Consensus	MUFG	Consensus
WTI	**$87.81**	$76	$78	$79	$80	$78	$79	$77	$80
Brent	**$90.94**	$80	$83	$84	$84	$83	$84	$81	$83
US Nat Gas	**$2.63**	$2.90	$2.74	$3.10	$3.13	$3.40	$3.50	$3.60	$3.25
Euro Nat Gas	**€34.43**	€88	N/A	€74	N/A	€52	N/A	€78	N/A

Source: (1) MUFG Commodities Research (Ehsan Khoman). Bloomberg. Data as of September 7, 2023.

About the Authors

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Role

Tom Joyce is a Managing Director and Capital Markets Strategist within MUFG's global capital markets and investment banking business. Based in New York, Tom heads a team that creates customized analytical content for multi-national S&P 500 companies. His team provides in depth analysis on the impact of economic, political, public policy and regulatory dynamics on the US credit, foreign exchange, rates and commodities markets.

Experience

Tom has over 25 years of Investment Banking experience in New York, London, Hong Kong, and San Francisco. Over the last 15 years, Tom created and built the Capital Markets Strategy role, advising corporate C-Suite executives (Boards, CEOs, CFOs, and Treasurers) on the pervasive macro forces driving markets. Tom also presents at dozens of corporate events each year including Board meetings, CEO ExCo sessions, CFO and Treasury off-sites, corporate leadership events and conferences.

Education

Tom's educational background includes a year of study at Oxford University from 1991 - 1992, a Bachelor of Arts in Political Science from Holy Cross College in 1993, and a MBA from Kellogg Business School, Northwestern University in 2000.

Personal

Tom resides in New Canaan, CT with his wife and four sons, where he serves on the Board of Trustees of the New Canaan Library as well as the Holy Cross College President's Council.

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Role

Hailey Orr is a Managing Director in MUFG's Capital Markets Strategy group within the global capital markets and investment banking business. The team provides market based content for corporate clients to assist in strategic decision making. Focus areas include the impact of economic, political, public policy and regulatory dynamics on the US credit, foreign exchange, rates and commodities markets.

Experience

Hailey has a decade of Wall Street experience, including three years as a Consumer Sector Specialist in Equity Sales and seven years as a Capital Markets Strategist. Hailey is also a member of MUFG's Inclusion & Diversity Council and has devoted years to participating in and developing Wall Street recruiting programs.

Education

Hailey graduated with honors from the University of Michigan's Ross School of Business with a BBA and a minor in International Studies.

Personal

In March 2020, Crain's New York Business Magazine named Hailey one of the "Rising Stars in Banking and Finance".

Stephanie Kendal

Vice President
Capital Markets Strategist
New York, NY

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Role

Stephanie Kendal is a Vice President in MUFG's Capital Markets Strategy group within the global capital markets and investment banking business. The team provides market based content for corporate clients to assist in strategic decision making. Focus areas include the impact of economic, political, public policy and regulatory dynamics on the US credit, foreign exchange, rates and commodities markets.

Experience

Stephanie has spent over five years as a Capital Markets Strategist. She is an active member of the University of Michigan recruiting team and is focused on the diversity recruiting effort at MUFG. Stephanie is also a part of MUFG's DEI, Culture & Philanthropy (DCP) Council.

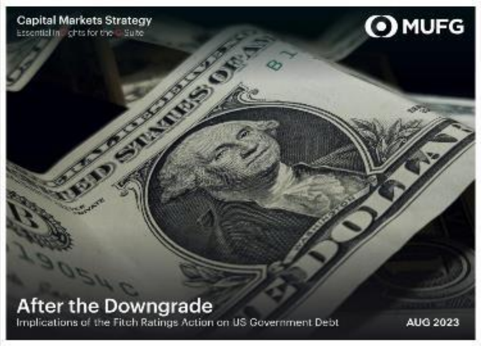
Education

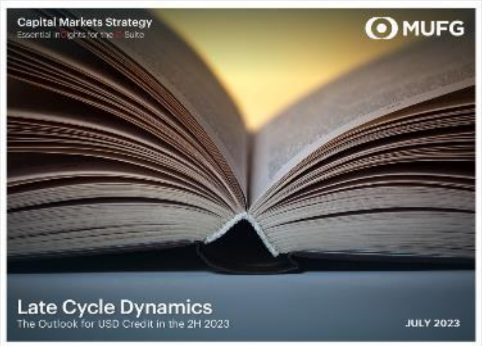
Stephanie graduated with honors from the University of Michigan's Ross School of Business with a BBA .

Personal

Stephanie is actively involved in NYC's iMentor program, mentoring high school students with their journey to college graduation.

MUFG's Capital Markets Strategy Team





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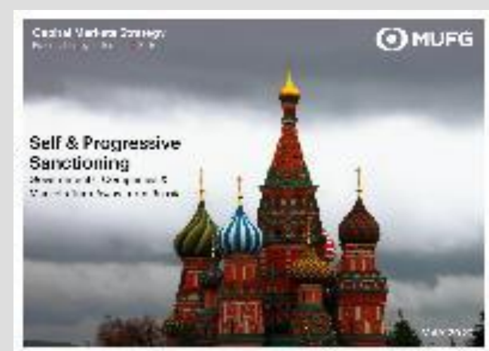

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