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GLOBAL MACRO RESEARCH

# TOP *of* MIND

## 2024: 4 THEMES IN CHARTS

In our special year-end edition of Top of Mind, Charts and quotes from this year's pieces and our annual crossword you'll find. They all tell the story of a very eventful 2024, Characterized by four key themes we explored.

The year featured **elections, geopolitical tensions**, and war, As voters in over 70 nations decided whether to cast their leaders ashore. Notably, the US elected Former President Donald Trump to again lead, Raising policy uncertainty and trade tensions amid already rough seas.

2024 was also the year many G10 **central banks** began cutting rates, But different growth-inflation mixes led to divergence in start dates. The Fed's relatively late start raised questions of whether it waited too long, Though those who warned about recession have (so far) been proven wrong.

Amid all that, **Europe and China** once again attracted attention, With their struggling economies warranting investor apprehension. And the US election outcome only worsened these concerns, With the trade and geopolitical landscape potentially taking many turns.

Finally, **disruptive innovations** once again drove the markets and industry trends, As "miracle drug" GLP-1s and especially gen AI technology continued to ascend, Which fueled concerns over market concentration and capex spend.

We hope these themes and their corresponding charts delight you, And our crossword, which you can solve by reading this year's pieces, excites you. Thank you for your readership, and hope your holidays are bright and merry, We're looking forward to engaging with you again in January.

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Investors should consider this report as only a single factor in making their investment decision. For Reg AC certification, see the end of the text. Other important disclosures follow the Reg AC certification, or go to [www.gs.com/research/hedge.html](http://www.gs.com/research/hedge.html).

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Pgs. 6-13

2

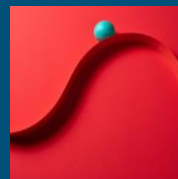
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Pgs. 20-32

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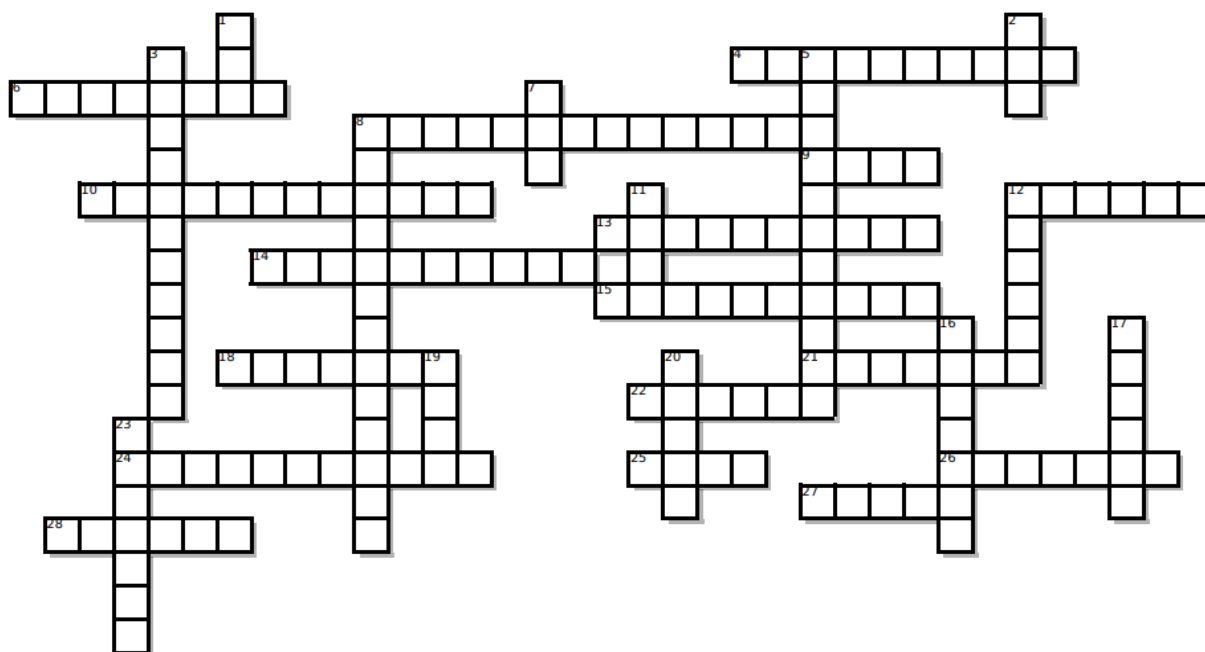
and especially gen AI technology continued to ascend,



Which fueled concerns over market concentration and capex spend.

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# Revisiting 2024 themes, crossword-style



## Across:

4. Kevin Hassett, Chair of the Council of Economic Advisers during Trump's first term, whom Trump has appointed to lead the National Economic Council in his second term, strongly supports \_\_\_\_\_ tariffs (Issue 132).
6. Former European Commission President José Manuel Barroso argues that underappreciated economic \_\_\_\_\_ between EU countries provide a strong incentive for the European Union to remain united (Issue 130).
8. The market \_\_\_\_\_ of the largest US stock relative to the 75th percentile stock suggests that the current level of market concentration is the highest since 1932 (Issue 133).
9. According to the \_\_\_\_\_ rule, a rise in the 3-month moving average of the US unemployment rate of at least 0.5pp above its 12-month low has, since 1970, always been accompanied by a recession (Issue 131).
10. Former FTC Commissioner Noah Phillips says that investors expecting less regulatory scrutiny of big tech firms in Trump's second administration will likely be \_\_\_\_\_ (Issue 133).
12. In September, GS Chief US Economist David Mericle argued that the US economy was not experiencing a layoff \_\_\_\_\_ that would be hard for policymakers to counteract (Issue 131).
13. The far-right gained a significant number of seats in the European \_\_\_\_\_ earlier this year, setting the stage for domestic political challenges in some countries (Issue 130).
14. Historically, the monetary policy cycles of major central banks have been marked more by convergence than \_\_\_\_\_ (Issue 128).
15. According to DHL CEO Tobias Meyer, \_\_\_\_\_ disruptions to trade have generally been a larger worry than physical disruptions (Issue 126).
18. According to Admiral James Stavridis, undersea cables present an enormous maritime risk given that the global internet runs on five \_\_\_\_\_ of these cables (Issue 126).
21. Mass General Hospital's Dr. Fatima Cody Stanford believes that while GLP-1 medications are a promising tool for achieving weight loss and health benefits for many, they won't solve the \_\_\_\_\_ crisis (Issue 127).
22. GS Head of Global Equity Research Jim Covello questions whether the enormous spending on AI technologies will ever earn an adequate \_\_\_\_\_ (Issue 129).
24. GS Chief European Economist Jari Stehn finds that even if President-elect Trump doesn't end up imposing steeper tariffs on Europe, the \_\_\_\_\_ around trade policy would likely prove damaging for European growth, as it did during the 2018-19 trade war (Issue 130).
25. According to MIT's Dr. Jonathan Gruber, if 40% of Americans with obesity took GLP-1s, the \_\_\_\_\_ at current prices would exceed the benefits of reduced obesity-related conditions by ~\$800bn/year—almost as much as the government spends on the entire Medicare program (Issue 127).
26. \_\_\_\_\_ were the sole bright spot in China's economy in 2024, but the threat of steeper US tariffs highlights the need for China to find a new engine of sustainable economic growth (Issue 134).

27. In September, Former President of the New York Fed Bill Dudley argued that just as the Fed was behind the \_\_\_\_\_ in raising rates in this cycle, it was behind the \_\_\_\_\_ in lowering rates to move closer to a neutral policy stance (Issue 131).
28. Potential maritime disruption in the Strait of \_\_\_\_\_ would likely send oil prices sharply higher given that nearly 20% of global oil supplies flow through the Strait (Issue 126).

## Down:

1. GS economists estimate that each 1pp increase in the US effective tariff rate increases US core \_\_\_\_\_ prices by slightly over 0.1% (Issue 132).
2. According to former Chief Economist and ECB Executive Board member Peter Praet, the major exception to generally unsuccessful experiences of ECB policy divergence occurred in \_\_\_\_\_ 2013 (Issue 128).
3. Veteran diplomat Richard Haass sees a global trend of "democratic \_\_\_\_\_" (Issue 125).
5. According to Peking University Guanghua School of Management's Michael Pettis, "China doesn't just need more absolute \_\_\_\_\_, it needs more \_\_\_\_\_ relative to production" (Issue 134).
7. GS equity strategists estimate that each 1pp change in the statutory domestic \_\_\_\_\_ rate would shift S&P 500 EPS by slightly less than 1% (Issue 132).
8. GS Chief US Equity Strategist David Kostin argues that investors need to worry about market \_\_\_\_\_ because history suggests high \_\_\_\_\_ is associated with lower returns over longer horizons (Issue 133).
11. Instances of the ECB leading the Fed in terms of the monetary policy cycle are relatively \_\_\_\_\_ (Issue 128).
12. A meaningful obstacle to further growth and adoption of GLP-1 medications has been a shortfall of \_\_\_\_\_ relative to demand for the products (Issue 127).
16. GS Senior Global Economist Joseph Briggs estimates as much as \_\_\_\_\_% cumulative gross upside to US labor productivity and GDP growth following the widespread adoption of generative AI tech (Issue 129).
17. Heading into 2024, voters in over \_\_\_\_\_ nations/territories—representing over half the world's population—were expected to go to the polls (Issue 125).
19. Some debate exists around whether China's recently announced local government \_\_\_\_\_ swap program will be effective in alleviating local financing pressures (Issue 134).
20. As of February 1, prediction markets were putting odds of President Biden being on the ballot come November slightly \_\_\_\_\_ the odds of President Trump (and they were proven right) (Issue 125).
23. MIT's Daron Acemoglu estimates that only a \_\_\_\_\_ of AI-exposed tasks will be cost-effective to automate within the next 10 years (Issue 129).

Puzzle made at [www.puzzle-maker.com](http://www.puzzle-maker.com).  
Solutions on pg. 42.

# In the words of our 2024 interviewees

**"I strongly support reciprocal tariffs, which could improve fairness within our trading relationships. When it comes to a universal tariff, the question is then how it would co-exist with reciprocal tariffs... but that would need to be worked out, and Congress would need to be involved."**

**– Kevin Hassett, Former Chairman of the Council of Economic Advisers and incoming Head of the National Economic Council**

*(Issue 132, October 21)*

"A more hawkish Fed could threaten Euro area growth by tightening global financial conditions, which is why I'm particularly worried about what could lie ahead for US economic policy post the election."

**– Peter Praet, Former Chief Economist and Executive Board member, ECB**

*(Issue 128, May 21)*

"Amid the dozens of elections taking place this year, the importance of the US election dwarfs every other. It's difficult to overstate just how much hinges on it."

**– Richard Haass, Former President, Council on Foreign Relations**

*(Issue 125, February 1)*

**"Regulatory disruptions have been a large and generally underappreciated feature of global trade."**

**– Tobias Meyer, CEO, DHL Group**

*(Issue 126, March 12)*

"Like other important economic concepts... the Sahn Rule is all about the demand story, and if we've learned anything over the past 4.5 years since the pandemic began, it's that the supply story is also incredibly important."

**– Claudia Sahm, Former Section Chief, Federal Reserve Board of Governors**

*(Issue 131, September 3)*

"If 40% of all Americans with obesity took these [GLP-1] drugs at current prices... [the bill] would total over \$1 trillion annually... That is almost as much as the government spends on the entire Medicare program... So, it's a staggering figure."

**– Jonathan Gruber, Professor of Economics and Chairman of the Economics Department, MIT**

*(Issue 127, April 12)*

**"If I were still at the Fed, I'd want to keep all of my policy options open. If you hear certain Fed speakers sounding hawkish, I would encourage observers not to overreact—this rhetoric may be in service of keeping optionality."**

**– Rob Kaplan, Former President, Dallas Federal Reserve**

*(Issue 131, September 3)*

**"Just as the Fed was behind the curve in raising interest rates in this cycle, the Fed is now behind the curve in lowering rates to move closer to a neutral policy stance."**

**– Bill Dudley, Former President, New York Federal Reserve**

*(Issue 131, September 3)*

"I am confident that policymakers will make the necessary changes to support growth... But... these adjustments won't be one and done; policymakers will gradually jack up stimulus, like replacing the tire of a car."

**– David Li, Professor, Tsinghua University**

*(Issue 134, December 11)*

**"Given the focus and architecture of generative AI technology today... truly transformative changes won't happen quickly and few—if any—will likely occur within the next 10 years."**

**– Daron Acemoglu, Institute Professor, MIT, Winner of the 2024 Nobel Prize in Economics**

*(Issue 129, June 25)*

"Despite worries about the rise of political nationalism and extremism in Europe, external factors... are likely to continue pushing the Union toward more—not less—integration over the medium term."

**– José Manuel Barroso, Former President of the European Commission and Prime Minister of Portugal**

*(Issue 130, August 1)*

"If the historical pattern persists, high concentration today portends much lower S&P 500 returns over the next decade than would have been the case in a less concentrated market."

**– David Kostin, Chief US Equity Strategist, Goldman Sachs**

*(Issue 133, November 25)*

**"AI technology is exceptionally expensive, and to justify those costs, the technology must be able to solve complex problems, which it isn't designed to do."**

**– Jim Covello, Head of Global Equity Research, Goldman Sachs**

*(Issue 129, June 25)*

"There is substantial reason to believe that the Trump Administration will remain fairly aggressive in the pursuit of antitrust prosecutions and blocking mergers in the tech sector and beyond."

**– Noah Phillips, Former FTC Commissioner, Co-Chair of the Antitrust Practice, Cravath**

*(Issue 133, November 25)*

**"China doesn't just need more absolute consumption. It needs more consumption relative to production... attempting to increase consumption by continuing to subsidize the supply side of the economy will only worsen the current imbalance in the economy."**

**– Michael Pettis, Professor, Peking University's Guanghua School of Management**

*(Issue 134, December 11)*

"The common feature of all but one [European election]—the UK election—is a growing concern that the hard-right populist parties... will do very well and pull the EU sharply right."

**– Timothy Garton Ash, Professor of European Studies, University of Oxford**

*(Issue 125, February 1)*



**"If you ask people what the internet runs on, most will say satellites. But it actually runs on less than 500—not millions, not tens of thousands—undersea cables embedded in the deepest parts of the sea. These cables are a point of immense vulnerability."**

**– Admiral James Stavridis, Former Supreme Allied Commander, NATO**

*(Issue 126, March 12)*

"Europe's longer-term outlook is... concerning, as the region is facing several structural challenges that I am worried it lacks the political capacity to tackle."

**– Jean Pisani-Ferry, Senior Fellow, Bruegel and the Peterson Institute of International Economics**

*(Issue 130, August 1)*

1

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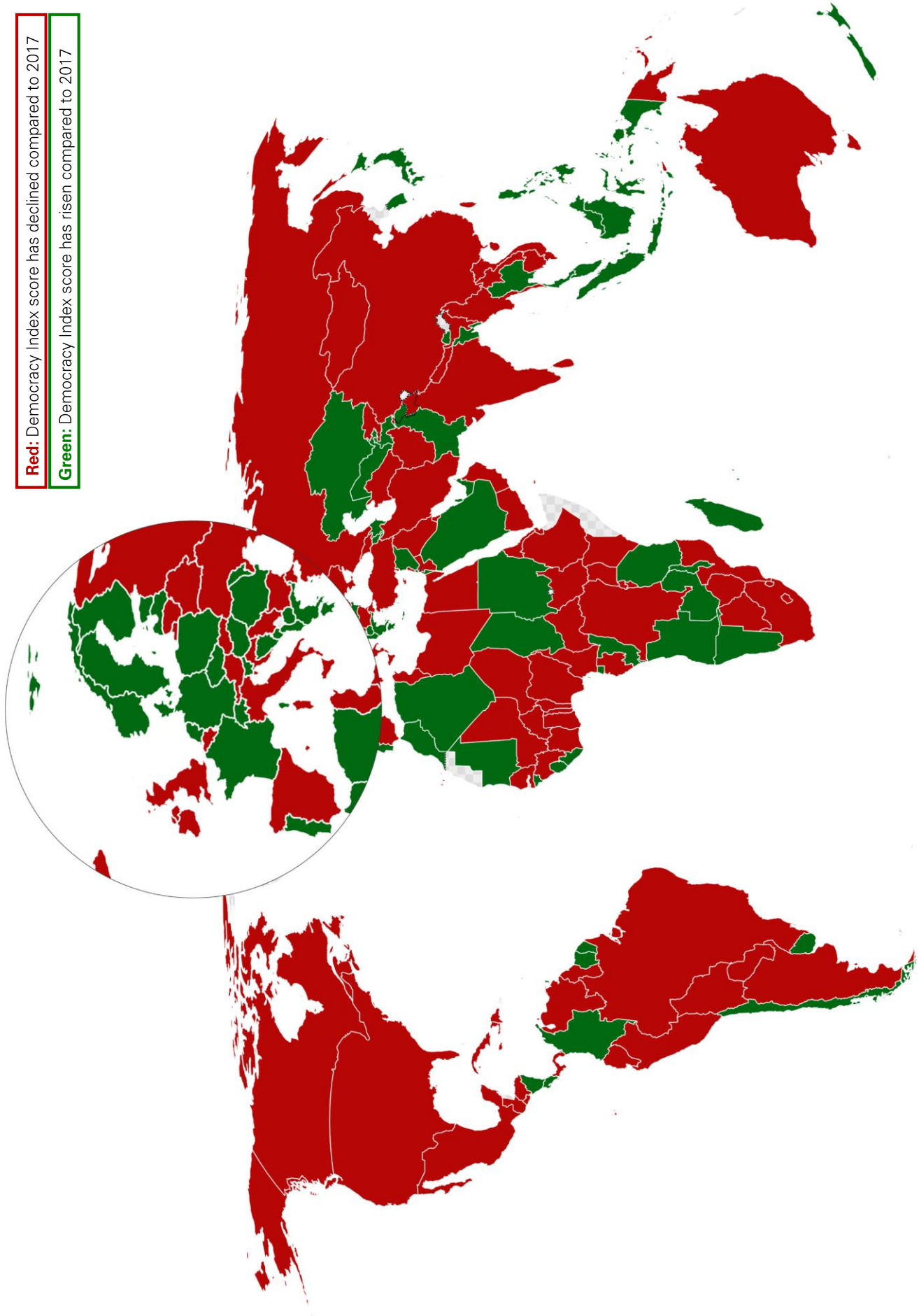


*Raising policy uncertainty and trade tensions amid already rough seas.*

Pgs. 6-13



# ...backslide...



Source: Economist Intelligence Unit Democracy Index 2022, compiled by Goldman Sachs G/I.R.  
Exhibit originally appeared in [Issue 125: 2024: the year of elections](#).

# ...voters in 70+ nations went to the polls

Voters in more than 70 nations and territories—representing over half the world population—went to the polls this year



Note: *Italicized elections have already taken place.*  
 Source: *The Economist, various news sources, Worldometer, Goldman Sachs GIR.*  
 Exhibit originally appeared in *Issue 125: 2024: the year of elections.*



# Trump was reelected in the US...

An overview of where Trump stands on key issues as detailed by his campaign platform, speeches, and interviews.

	Trump
Personal Tax	<ul style="list-style-type: none"> <li>Extend the 2017 tax cuts set to expire at the end of 2025 indefinitely (including preserving the lower tax rates, larger standard deduction, bigger child tax credit, higher estate tax exemption, and a tax break for closely held businesses)</li> <li>End income taxes on Social Security benefits</li> <li>Eliminate taxes on tips for millions of restaurant and hospitality workers</li> <li>Eliminate tax on overtime</li> <li>Make interest paid on auto loans tax deductible</li> <li>Eliminate US taxation of Americans living abroad</li> <li>Fully restore state and local tax deductibility</li> </ul>
Corp Tax	<ul style="list-style-type: none"> <li>Lower corporate tax rate to 15% from 21% for domestic manufacturers</li> <li>Repeal the green incentives in the Inflation Reduction Act (IRA)</li> </ul>
Trade	<ul style="list-style-type: none"> <li>Impose reciprocal tariffs on US imports equal to the rates trading partners impose on US exports</li> <li>10% to 20% universal baseline tariff on all imports</li> <li>60% tariff on all imports from China and revoke Permanent Normal Trade Relations (PNTR) for China</li> <li>Impose tariffs on certain autos from Mexico and possibly from other trading partners</li> </ul> <p><b>What he's said since the election:</b></p> <ul style="list-style-type: none"> <li><b>25% tariff on all imports from Canada and Mexico</b></li> <li><b>Additional 10% tariff on all imports from China</b></li> </ul>
Inflation	<ul style="list-style-type: none"> <li>Lower housing costs by cutting regulation and opening parts of federal lands for new home construction</li> <li>Lift hurdles to oil and gas development and power plant construction, as well as expand LNG exports/distribution, to boost energy supplies and help contain energy prices</li> </ul>
Labor	<ul style="list-style-type: none"> <li>Bring manufacturing jobs back to the US; ban companies that outsource jobs from doing business with the government</li> </ul> <p><b>What he's said since the election:</b></p> <ul style="list-style-type: none"> <li><b>Consider raising the federal minimum wage</b></li> </ul>
Immigration	<ul style="list-style-type: none"> <li>Reduce immigration</li> <li>Strengthen Immigration and Customs Enforcement (ICE)</li> <li>Increase penalties for illegal entry and overstaying visas</li> <li>Deport unauthorized immigrants currently in the US</li> </ul> <p><b>What he's said since the election:</b></p> <ul style="list-style-type: none"> <li><b>Allow Dreamers to remain in the country</b></li> <li><b>Eliminate birthright citizenship</b></li> </ul>
Healthcare	<ul style="list-style-type: none"> <li>Bring down prescription drug costs and healthcare costs overall</li> <li>Increase transparency, promote choice and competition, and expand access to new affordable healthcare and prescription drug options</li> <li>Protect Medicare, and ensure seniors receive the care they need without excessive costs</li> </ul>
Energy & the environment	<ul style="list-style-type: none"> <li>Repeal the IRA subsidies for green technologies</li> <li>Lift hurdles to oil and gas development as well as power plant construction</li> <li>Expand LNG exports</li> <li>Reverse restrictions on greenhouse gas emissions</li> </ul> <p><b>What he's said since the election:</b></p> <ul style="list-style-type: none"> <li><b>"Focus on drill, baby, drill"</b></li> </ul>
Housing	<ul style="list-style-type: none"> <li>Open limited portions of federal lands to allow for new home construction</li> <li>Promote homeownership through tax incentives and support for first-time buyers</li> </ul>
Fed	<ul style="list-style-type: none"> <li>Allow input from the president on Fed policy</li> </ul>
NATO/ Security	<ul style="list-style-type: none"> <li>Ensure other NATO members meet the requirement to spend at least 2% of GDP on defense</li> <li>End US aid to Ukraine; end the war in Ukraine through a negotiated settlement with Russia</li> <li>Get the conflict in the Middle East "settled"</li> </ul> <p><b>What he's said since the election:</b></p> <ul style="list-style-type: none"> <li><b>Consider pulling the US out of NATO if members don't "pay their bills"</b></li> </ul>

Note: Not an exhaustive list of all policies.

Source: [Trump-Vance campaign website](#), [campaign documents](#), NBC, NY Times, WSJ, various news sources, compiled by Goldman Sachs GIR.

Exhibit originally appeared in [Issue 132: Post-election economic policies](#).

# ...raising concerns about higher tariffs

## A guide to how tariffs affect inflation & GDP

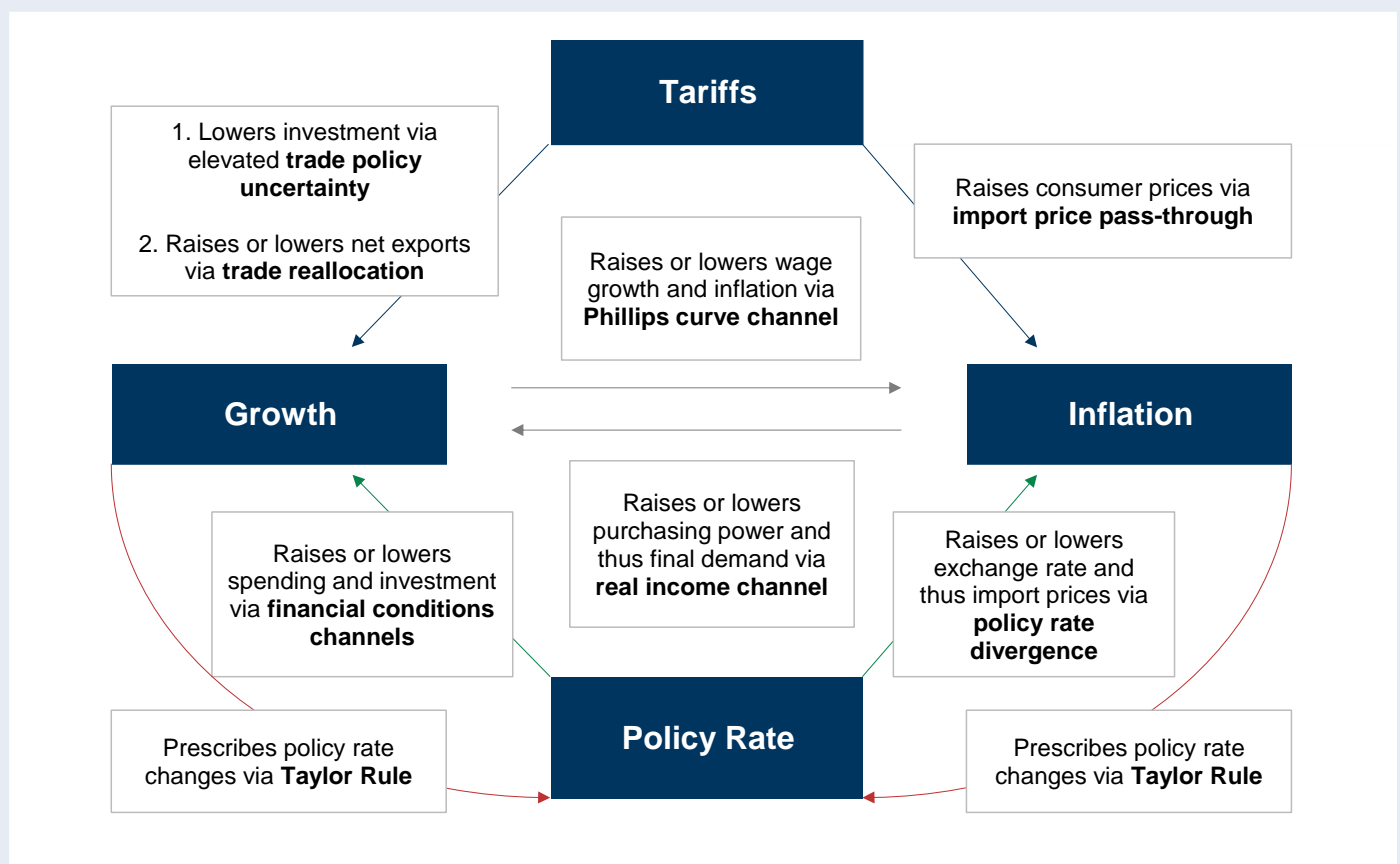
**Tariffs affect growth and inflation through a variety of direct and indirect channels. On the following page, we consider all these channels in our analysis of how higher US tariffs could impact the global economy.**

We see three main channels through which tariffs could impact **consumer prices**:

- (1) A direct boost from tariffs to consumer goods prices, as well as the indirect pass-through of higher intermediate goods prices;
- (2) An effect on import prices from likely Dollar appreciation induced by tariffs and their resulting impacts on interest rates;
- (3) A drag on wage growth from weaker growth via the Phillips curve channel.

We also see four channels through which tariffs could affect **GDP growth**:

- (1) A hit to real personal income from higher prices that lowers consumer demand, partly offset by any reuse of tariff revenue for tax cuts;
- (2) A hit to business investment in trade-exposed industries from increased trade policy uncertainty;
- (3) An impact on net trade, driven both by a shift in demand away from imports toward domestic goods as well as trade reallocation from exporters more exposed to tariffs to those less impacted;
- (4) A spillback from changes in financial conditions to GDP from tariff-induced interest rate changes.

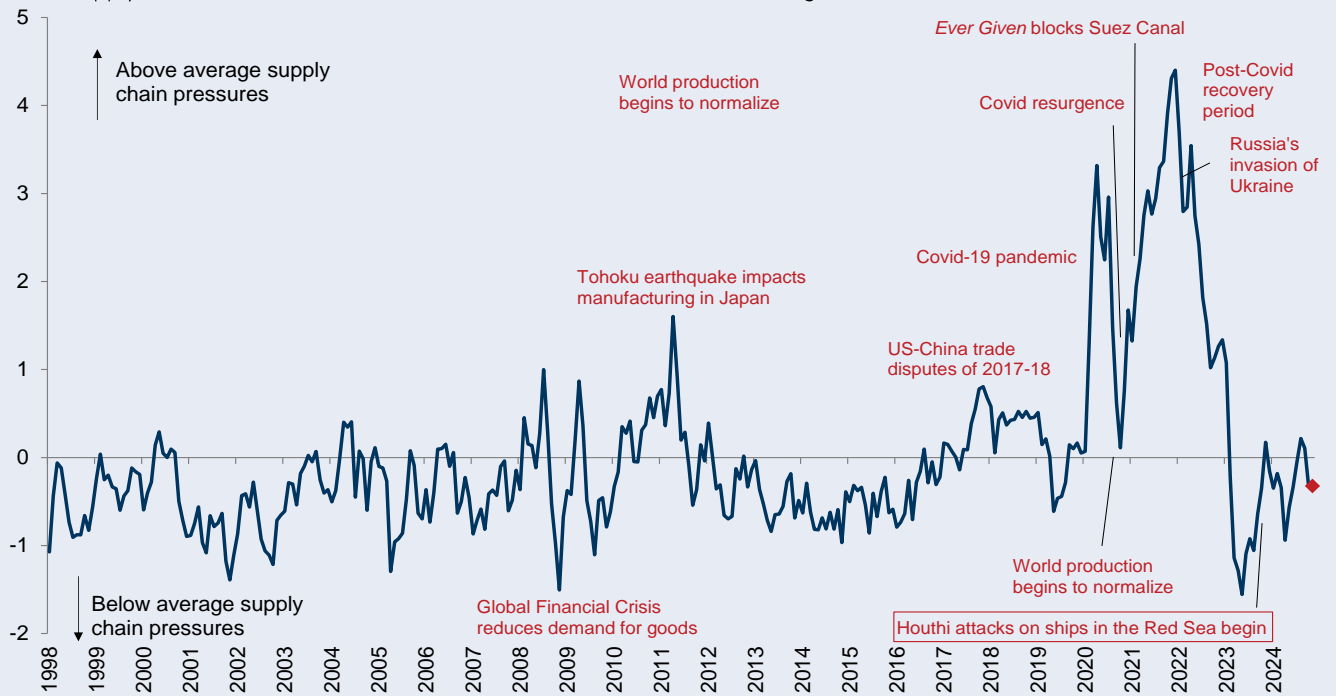


Special thanks to Global Economist Joseph Briggs for the analysis and exhibit.  
Exhibit originally appeared in [Issue 132: Post-election economic policies](#).

# For now, supply chains aren't stressed...

**While the Global Supply Chain Pressure Index, developed by the Federal Reserve Bank of New York, increased amid escalations in the Middle East conflict, it has since retraced and remains below zero, indicating that supply chains are functioning well and in line with below-average levels of pressure...**

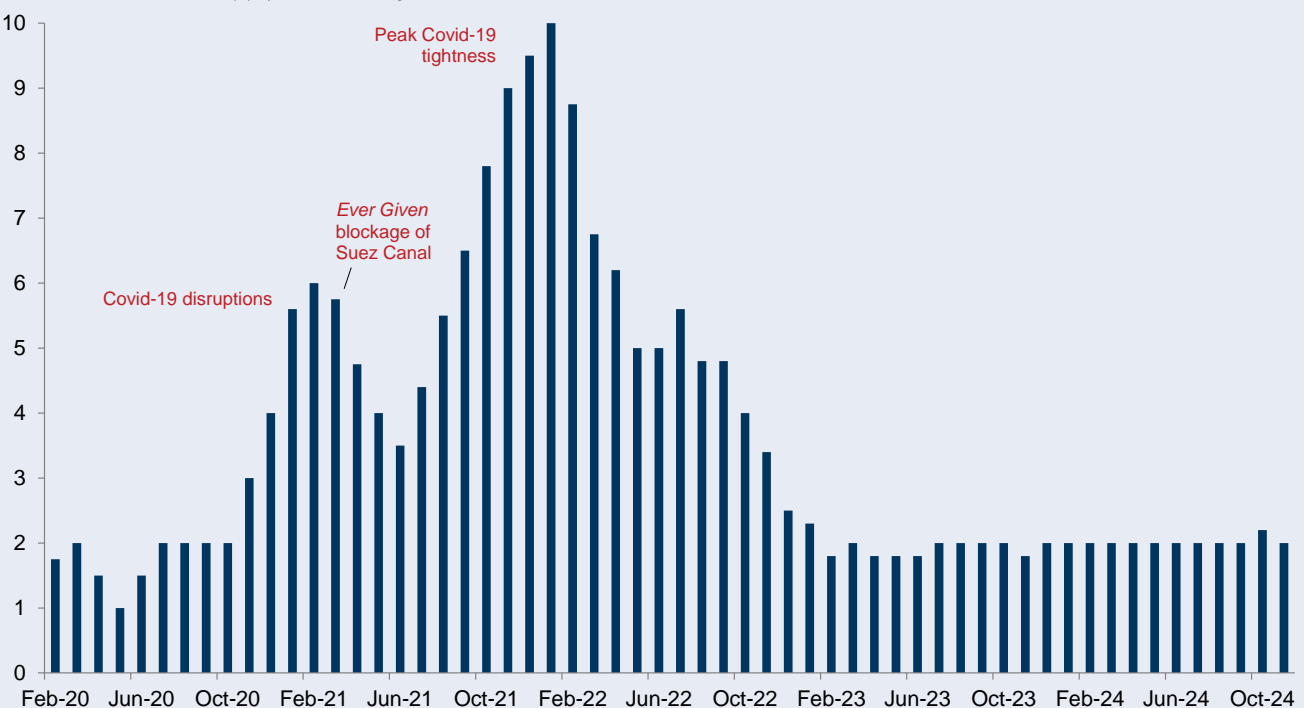
Global Supply Chain Pressure Index (GSCPI), standard deviations from average value



Note: The GSCPI aggregates transportation cost measures as well as manufacturing data from PMI surveys across seven major economies: Mainland China, Euro area, Japan, South Korea, Taiwan, UK, and US. The index is normalized to show standard deviations from historical averages. For more information see [here](#).  
 Source: Federal Reserve Bank of New York, Bureau of Labor Statistics, Harper Petersen Holding GmbH, Baltic Exchange, IHS Markit, Institute for Supply Management, Haver Analytics, Bloomberg, compiled by Goldman Sachs GIR.

**...and Goldman Sachs' US Supply Chain Congestion Scale—which assesses how supply chains are faring on a scale of “fully open” (0) to “fully bottlenecked” (10)—remains at 2, indicating that supply chains are fairly open**

Goldman Sachs US Supply Chain Congestion Scale



Note: The GS Supply Chain Congestion Scale aggregates a range of variables tied to overall congestion including ships at anchor, days to deliver, various dwell times, intermodal volume, and velocity statistics amongst others. Numbers reflect the average of weekly scores seen in each respective month.

Source: Goldman Sachs GIR.

Special thanks to GS US transportation analyst Paul Stoddard for chart.

Charts originally appeared in [Issue 126: Global transit & trade: in rough waters](#).

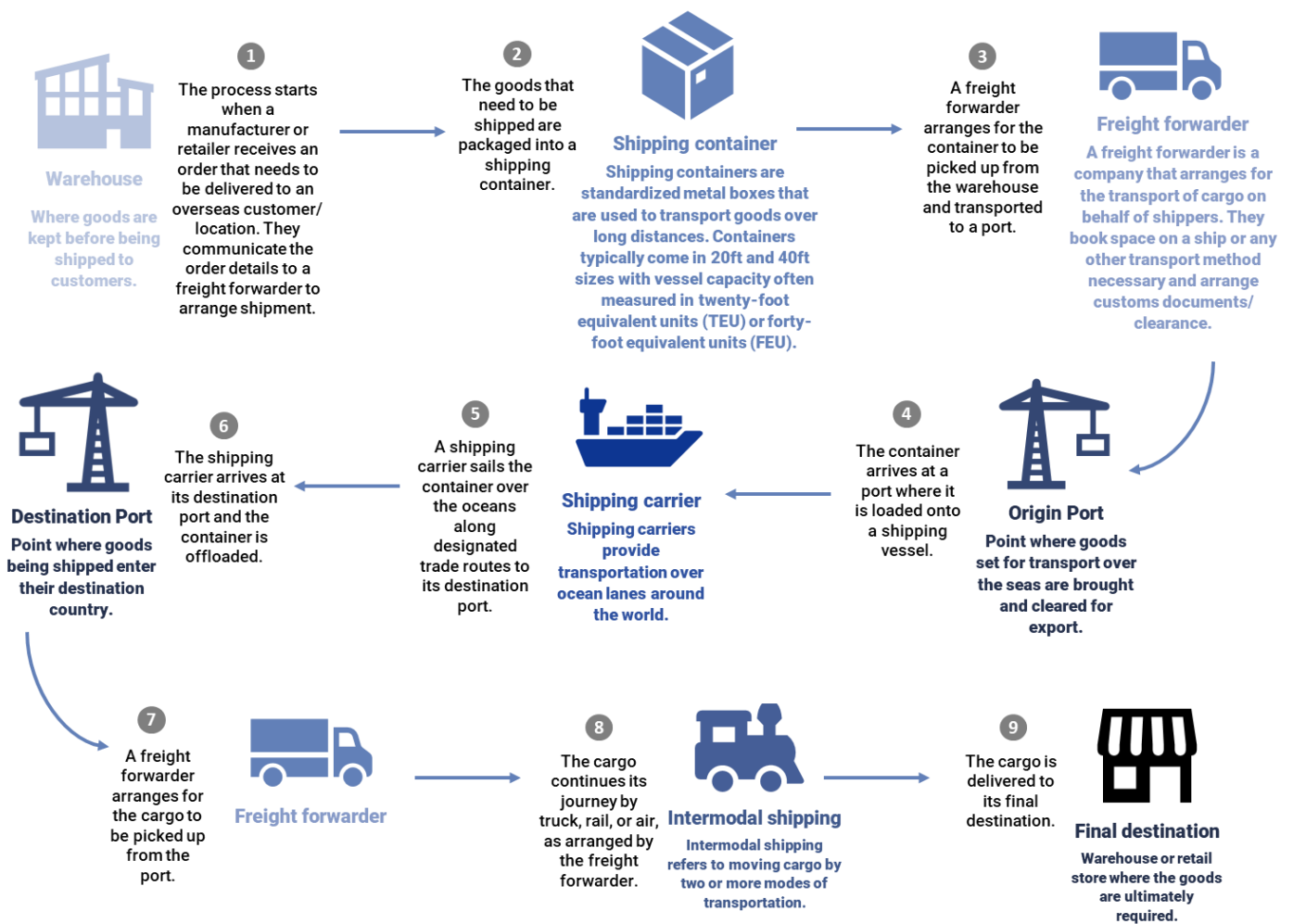
# ...but the high seas remain vulnerable

## An overview of maritime supply chains

Maritime supply chains are made up of an intricate network of systems involving logistics companies, freight forwarders, shipping carriers, port operators, and land-based transport systems.

A **logistics company** helps plan and control the movement and storage of goods across an entire supply chain. Freight forwarding is a specialized service within logistics that focuses specifically on coordinating/arranging the transport of goods, with **freight forwarders** acting as intermediaries between shippers (the manufacturer or retailer who needs the goods to be transported) and transportation providers, including shipping carriers, airlines, and land-based transport providers.

### What does a maritime supply chain look like? *(stylized example)*



### Shipping by the numbers



\*Vessels that are 100 gross tons and larger.

Source: Shippabo, ACS Logistics, Sinay, OECD, United Nations Conference on Trade and Development, Straits Research, Goldman Sachs GIR

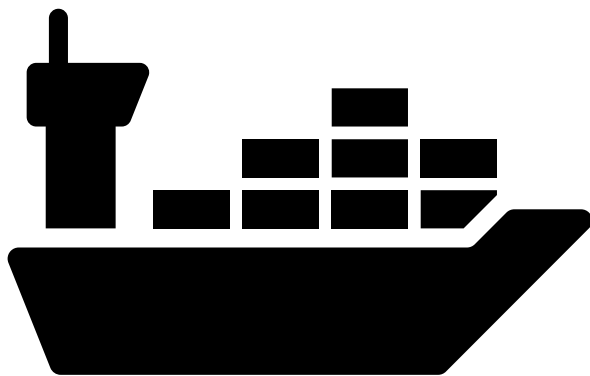
Exhibit originally appeared in [Issue 126: Global transit & trade: in rough waters](#).

# Undersea cables are a particular concern

## Undersea cables, at a glance

**Undersea cables**, also referred to as submarine cables, are cables laid at the ocean floor or under the seabed. These cables are the primary way by which data is transmitted across the world. The world's first undersea cable was laid in 1850 between France and England, with the purpose of transmitting telegraph signals.

### Fast facts about undersea cables



600+

Active and planned undersea cables (as of June 2024).

Modern cables use fiber-optic technology to transmit data.

~1.4mn

Kilometers of undersea cables globally in service (as of early 2024). Cables vary dramatically in length—the Asia-America Gateway cable is ~20,000km, while the Ireland-UK CeltixConnect cable is ~130km.

~500

Number of undersea cables that the global internet runs on.

>95%

Share of global data traffic that runs through undersea cables.

100+

Cable faults—any damage or disruption to a cable—that occur every year. Fishing vessels account for nearly half of all cable faults, while faults due to deliberate sabotage are rare.

Source: TeleGeography, Kentik, Goldman Sachs GIR.

2

2024 was also the year many G10 **central banks** began cutting rates,



But different growth-inflation mixes led to divergence in start dates.

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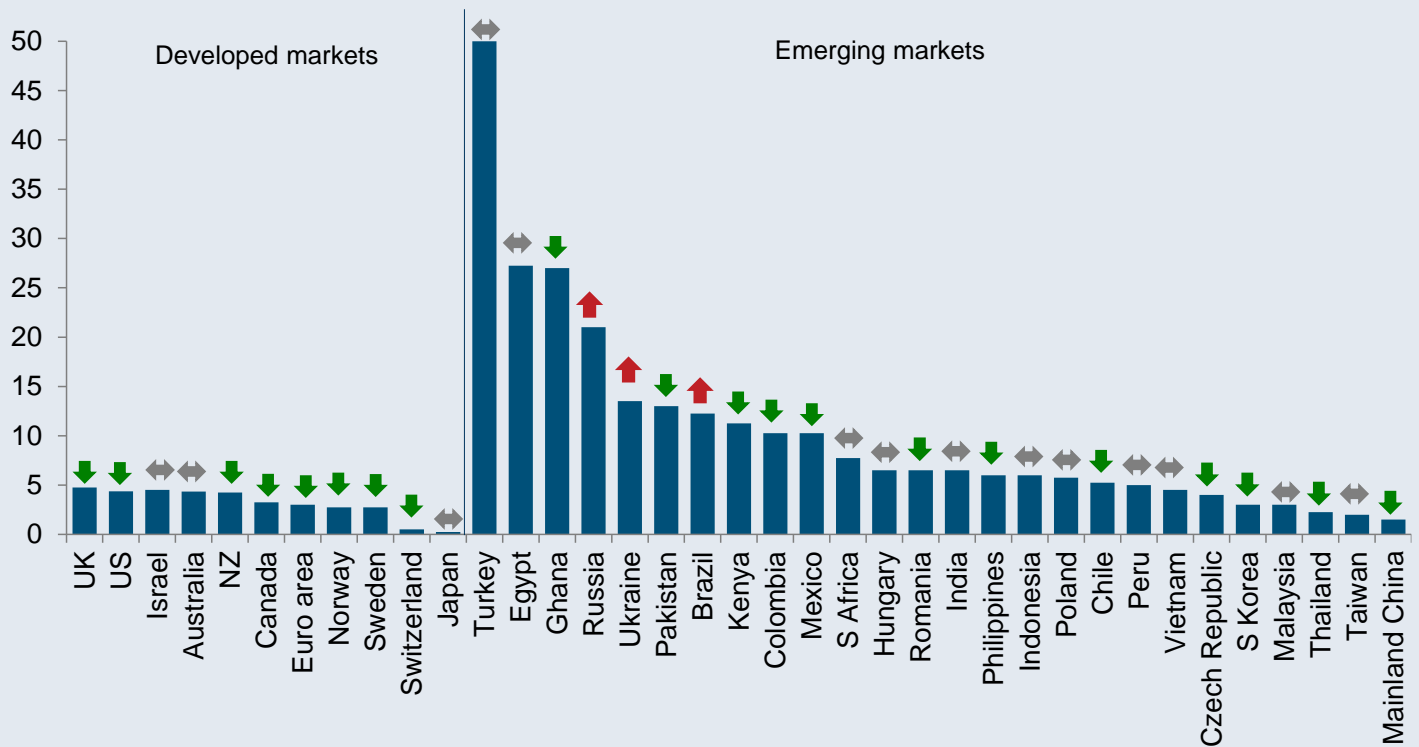


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# DM central banks finally started easing...

## Most DM central banks joined EM central banks in embarking on rate cutting cycles

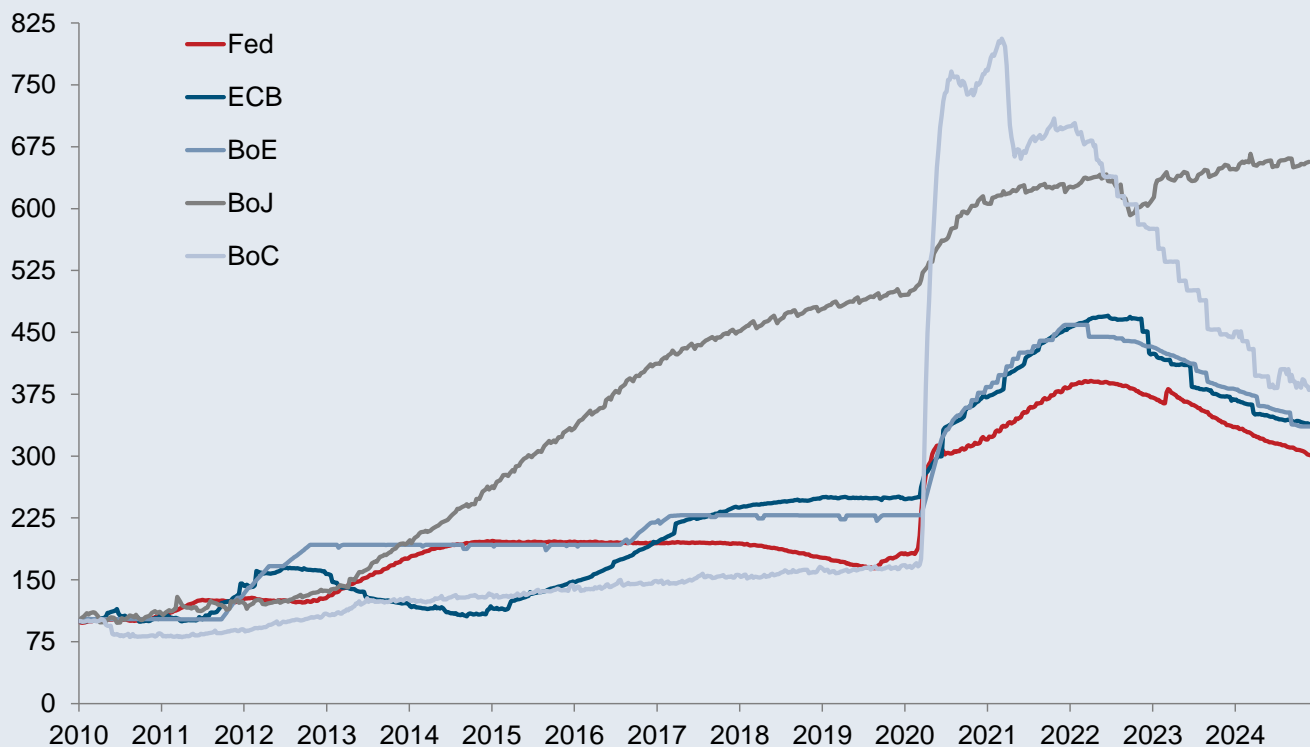
Policy rates, %; arrows mark the direction of the policy rate change since the last meeting of each central bank



Note: Red arrows represent a rate hike, green arrows represent a rate cut, grey arrows represent no change in policy since last meeting.  
Source: Haver Analytics, Goldman Sachs GIR.

## While most major G10 central banks have continued quantitative tightening (QT) and have shrunk their balance sheets, the Fed has slowed the pace of shrinkage, and we expect it to end QT in 2Q25

Central bank balance sheet assets, index, January 8, 2010=100

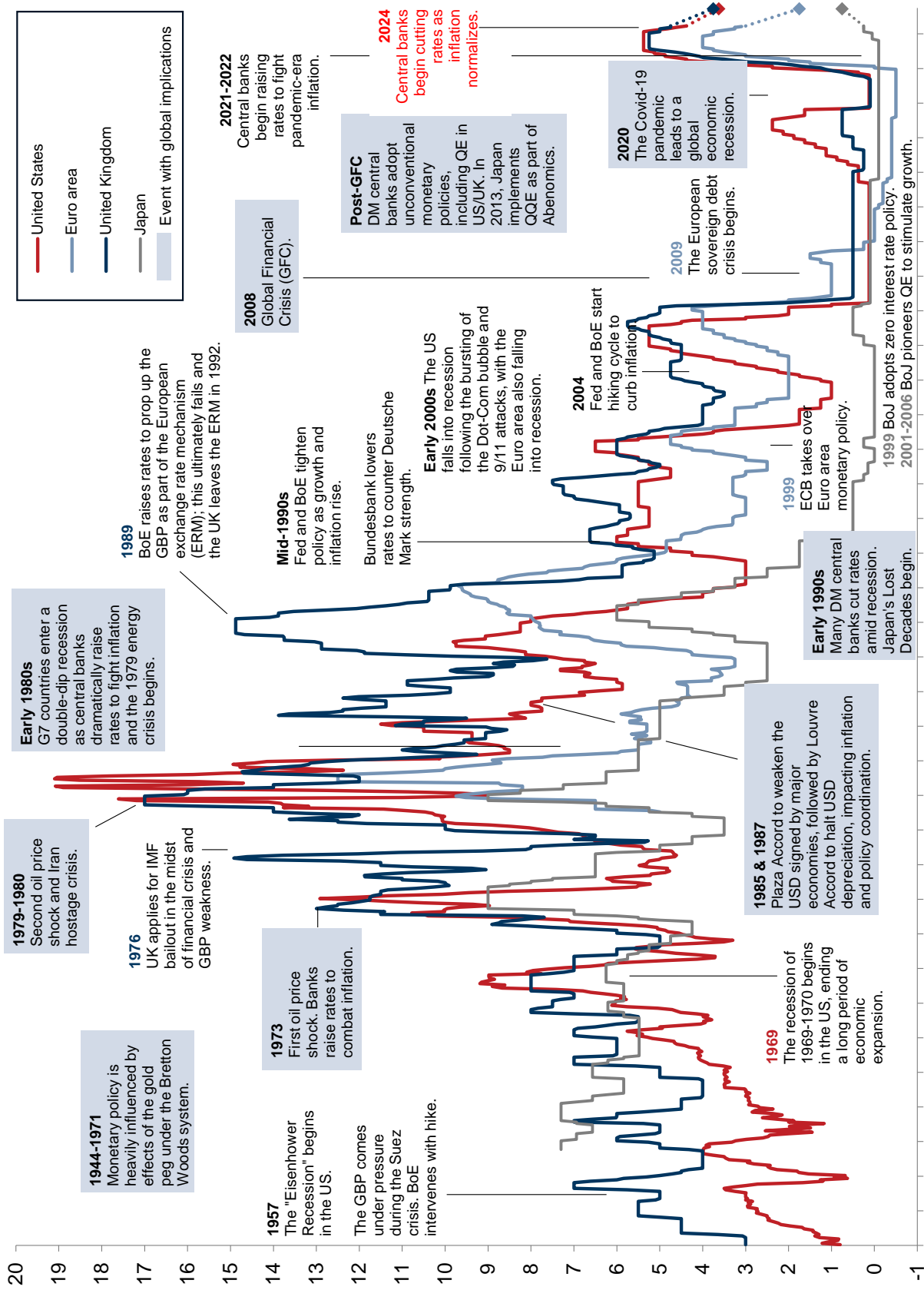


Note: BoE line represents UK central bank reserves supplied via the Asset Purchase Facility.  
Source: Haver Analytics, Goldman Sachs GIR.

Charts originally appeared in [Issue 128: Central bank divergence: room to run?](#)

# ...and policy rates have further to fall

## A long history of DM policy rates

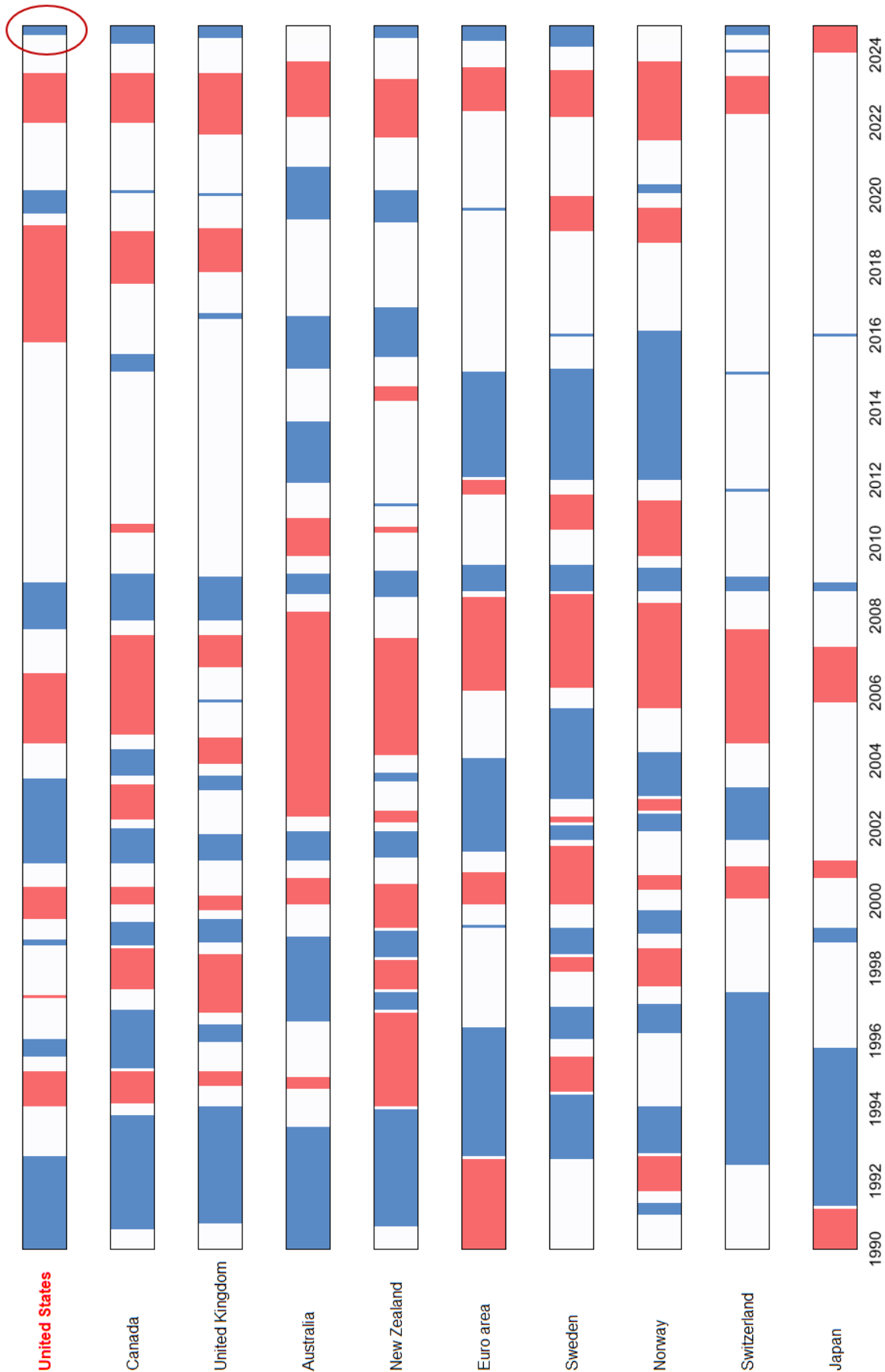


Note: Euro area policy rate data reflects a combination of the Bundesbank repo rate (Jul 1979-Dec 1998), Main Refinancing Rate (Jan 1999-Dec 2011), and Deposit Facility Rate (Jan 2012-Present). Source: Haver Analytics, NBER, Federal Reserve Bank of St. Louis, various news sources, Goldman Sachs GIR. Special thanks to GS GIR's Manuel Abecasis, James Moberly, Alex Stott, and Chelsea Song for original chart data and feedback. Chart originally appeared in [Issue 128: Central bank divergence: room to run?](#)



# The Fed started a bit later...

A history of G10 monetary policy divergence/convergence: tightening cycle = red, easing cycle = blue, on hold = white

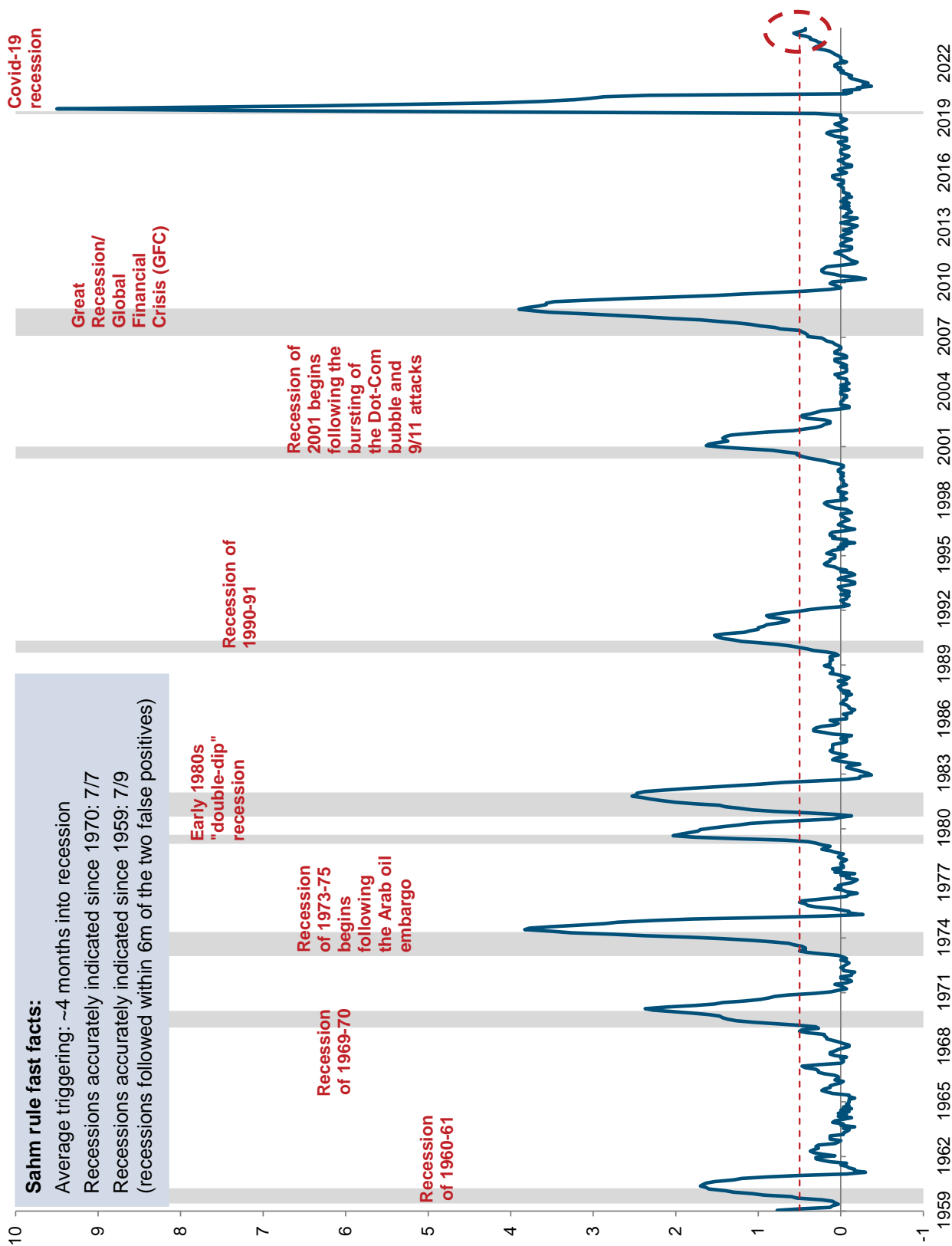


Note: Each colored segment represents a hiking or easing cycle, based on the first and last hike/cut. Pre-1999, the German policy rate is used for the Euro area.  
 Source: Haver Analytics, Goldman Sachs GIR.  
 Special thanks to GS GIR global economists for data and methodology.  
 Chart originally appeared in [Issue 128: Central bank divergence: room to run?](#)

# ...but not too late to avoid recession

**The Sahm rule has accurately indicated every US recession since 1970. It triggered for the first time since the Covid recession following the July US employment report, although it has since fallen back below the threshold**

Real-time Sahm rule recession indicator: 3-month moving average unemployment rate  $\geq 0.5pp$ ; grey shaded areas indicate NBER recessions



Source: Claudia Sahm, Federal Reserve Bank of St. Louis, Goldman Sachs GIR. Chart originally appeared in Issue 131: Is the Fed behind the curve?

3

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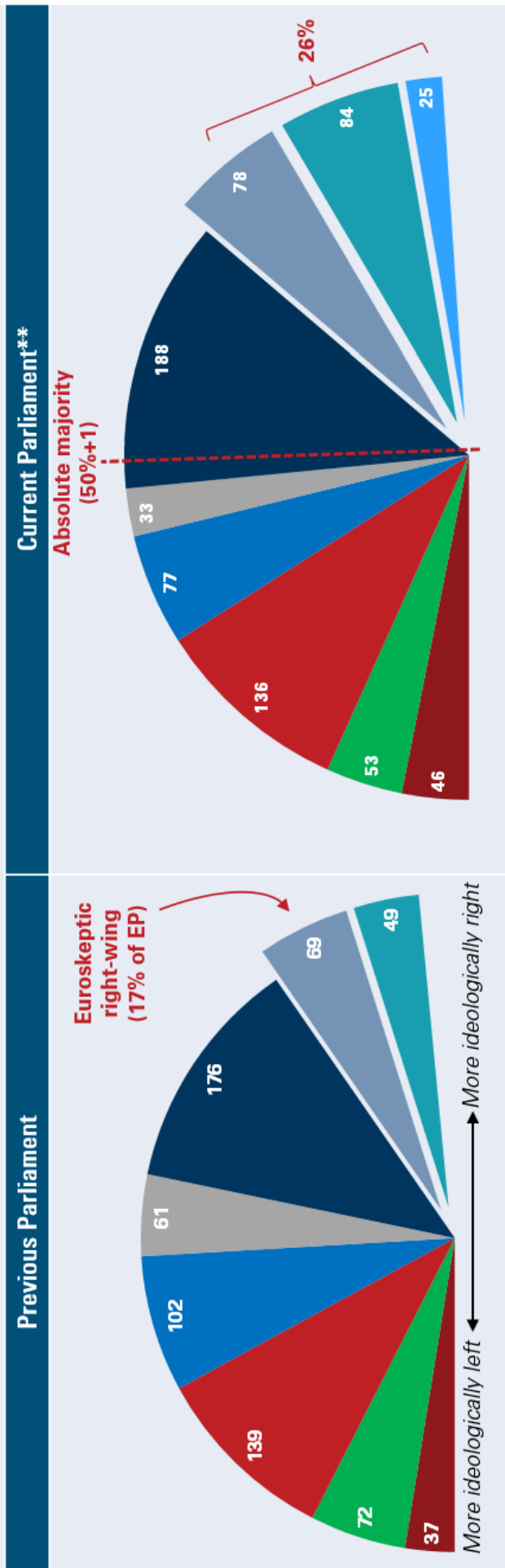


With the trade and geopolitical landscape potentially taking many turns.

Pgs. 20-32

# Big change in the European Parliament...

There are now **720 Members of European Parliament (MEPs)**, up from 705 MEPs in the previous Parliament\*. Once elected, MEPs form **parliamentary groups**—similar to traditional political parties—based on ideology rather than on nationality.



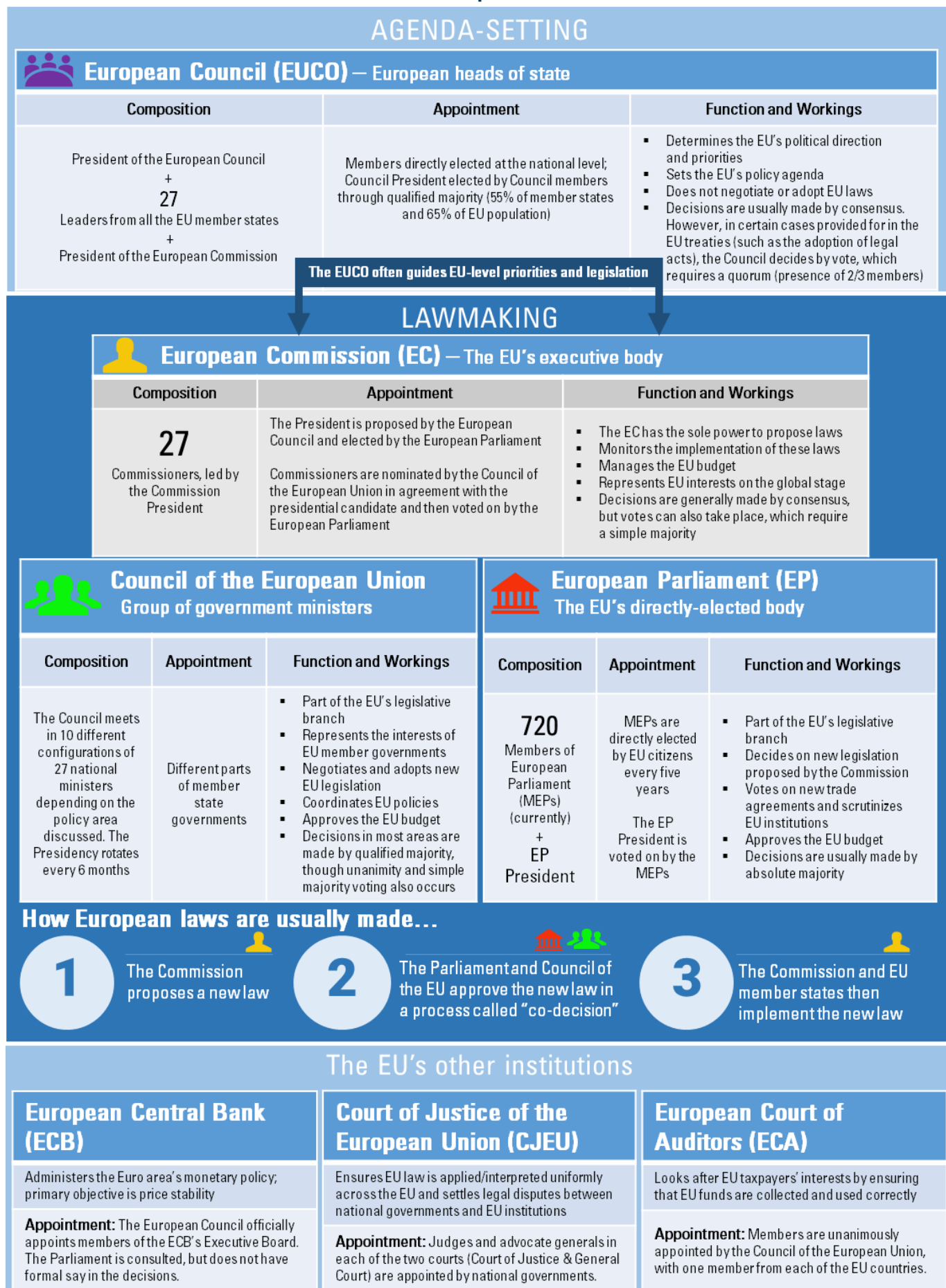
Share of Current EP	Share of Previous EP	Groups
<b>EPP</b> 26% (25%)	266 (25%)	<b>Renew Europe</b> 11% (14%) <b>European People's Party:</b> Center-right, pro-European, comprised of Christian Democrats, Conservatives, and Liberal-Conservatives. Members currently come from Germany's Christian Democratic Union, Spain's People's Party, Poland's Civic Platform, and others.
<b>S&amp;D</b> 19% (20%)	199 (20%)	<b>Greens/EFA</b> 7% (10%) <b>Group of the Progressive Alliance of Socialists and Democrats:</b> Center-left, mostly comprised of Social Democrats. Members currently come from Spain's Socialist Workers' Party, Italy's Democratic Party, the Social Democratic Party of Germany, and others.
<b>PIE</b> 12%	120 (10%)	<b>GUE/NGL</b> 6% (5%) <b>Patriots for Europe:</b> Right to far-right, sovereignist, Euroskeptical group formed ahead of the current (10 <sup>th</sup> ) European Parliament. The group includes mostly all the former members of the Identity and Democracy Party (which held 49, or 7%, of seats in the outgoing EP). Members come from France's National Rally, Hungary's Fidesz, Italy's League, and others.
<b>ECR</b> 11% (10%)	111 (10%)	<b>NI</b> 5% (9%) <b>European Conservatives and Reformists Group:</b> Right-wing, anti-federalist, and soft Euroskeptical. Members currently come from Brothers of Italy, Poland's Law and Justice, Romania's Alliance for the Union of Romanians, and others.
		<b>ESN</b> 3%

\*EU law allows for a maximum of 750 MEPs (not including the EP President). How many seats each EU Member State receives is decided before each election according to population and the need for a minimum level of representation. In Sept. 2023, MEPs approved the European Council's decision to raise the number of seats in the Parliament by 15 for the 2024-29 term. \*\*The legislative term officially began on July 16, the first day of the current EP's first plenary session. Source: European Parliament, various news sources, Goldman Sachs GIR.

Exhibit originally appeared in issue 130: How investable is Europe?

# ...which is an influential body...

## The role of the European Parliament



Source: European Union, Goldman Sachs GIR.

Exhibit originally appeared in Issue 130: [How investable is Europe?](#)

# ...set the stage for political turbulence

...but markets aren't reflecting this so far

**While Euro area sovereign bond yield spreads to German Bund yields—a reflection of risk premium—rose around the French snap election with French spreads rising further after the removal of its prime minister, they remain well below levels seen during past crisis periods**

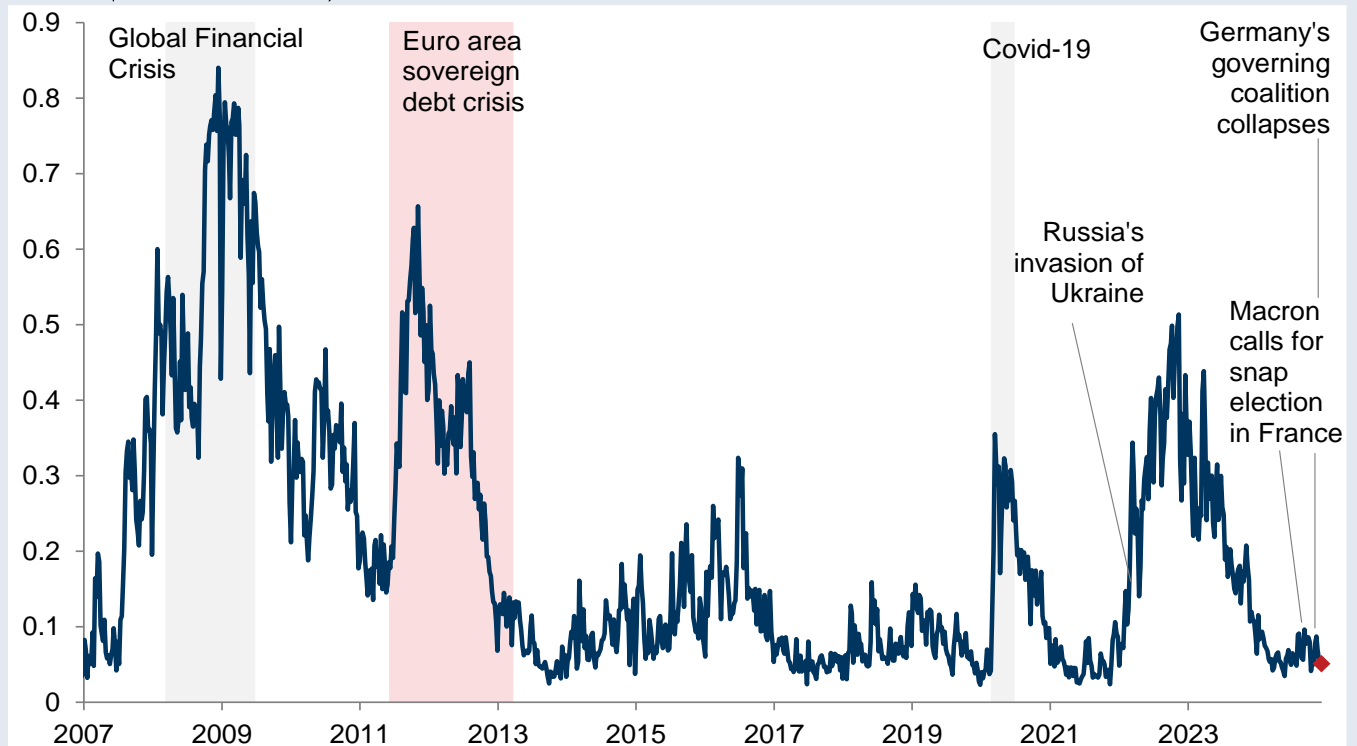
10y sovereign spreads to German Bund yield, bp



Source: Bloomberg, Goldman Sachs GIR.

**And the ECB's composite indicator of system stress also suggests that stress in Europe's financial markets remains relatively low**

ECB Composite Indicator of Systemic Stress (CISS), index



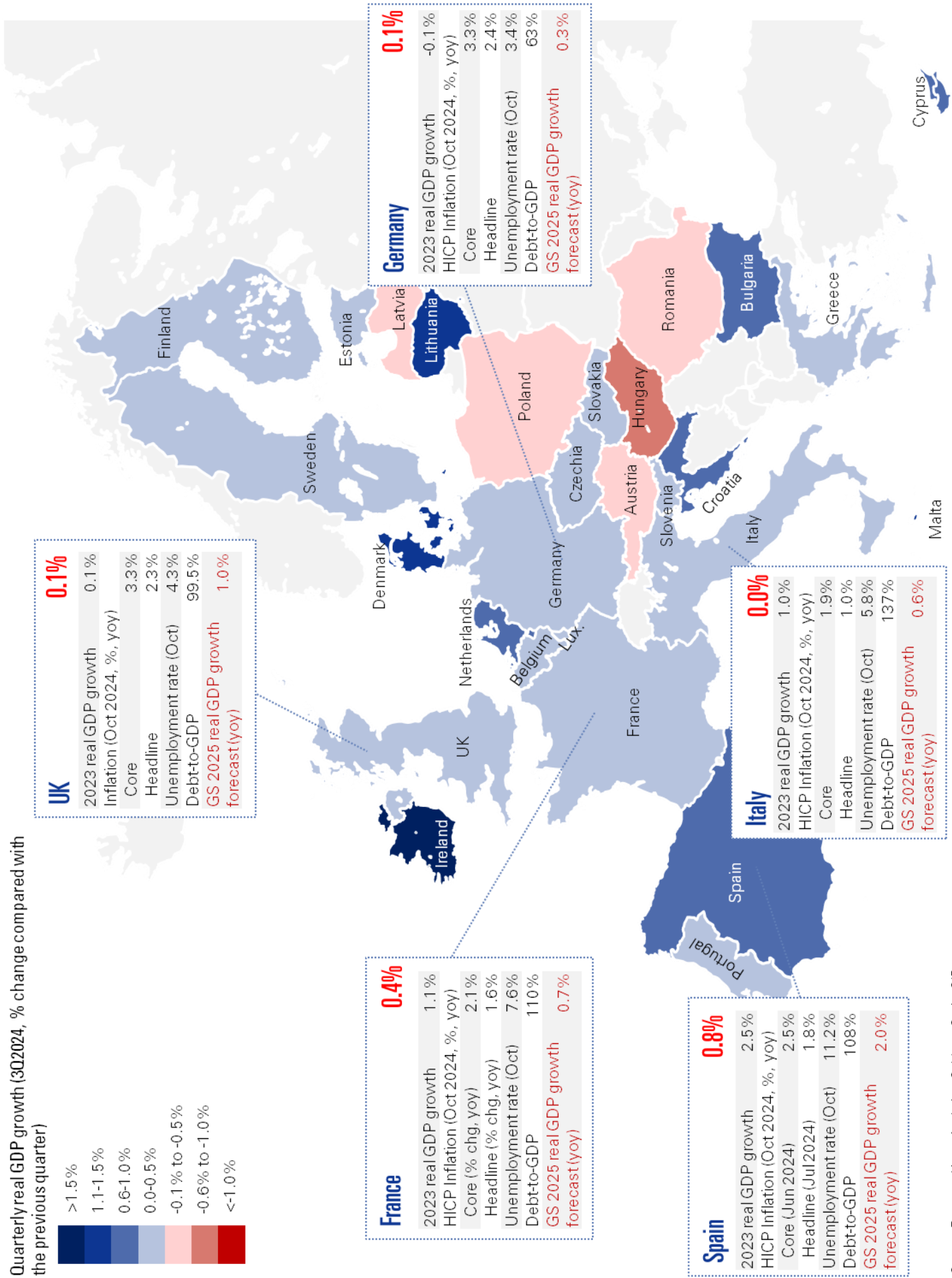
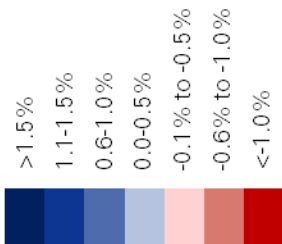
Note: The CISS includes 15 mainly market-based financial stress measures that are split into five categories: the financial intermediaries sector, money markets, equity markets, bond markets, and foreign exchange markets. For more information see [here](#).

Source: ECB, Goldman Sachs GIR.

Charts originally appeared in [Issue 130: How investable is Europe?](#)

# Europe's economic woes also remain

Quarterly real GDP growth (3Q2024, % change compared with the previous quarter)



Source: Eurostat, Haver Analytics, Goldman Sachs G/I.R.

Exhibit originally appeared in Issue 130: How investable is Europe?

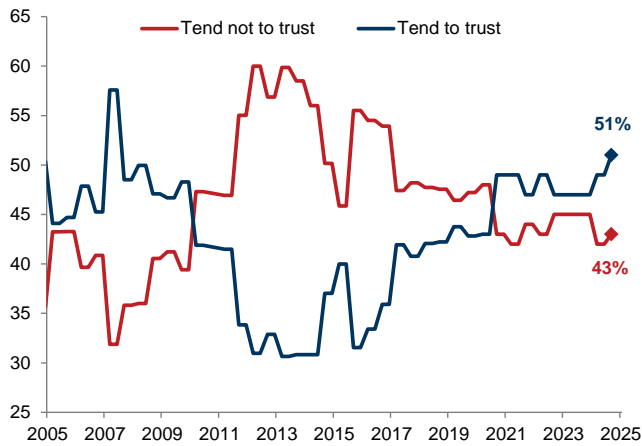




# EU voters seem to support it

Trust in the European Union (EU) has risen in the decade since the European sovereign debt crisis and now stands at its highest level since 2007...

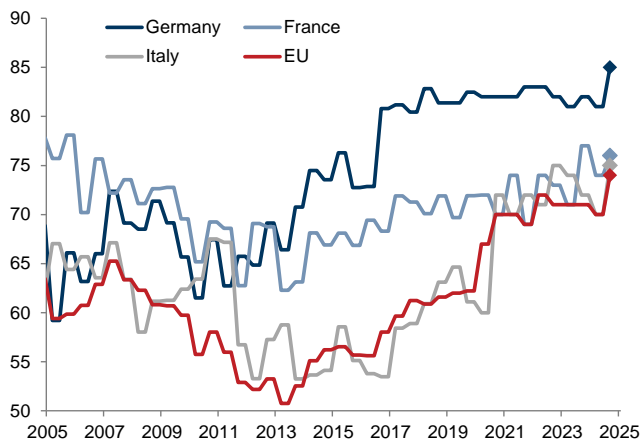
Trust in the EU, % of respondents



Note: Question asks respondents if they tend to trust or tend not to trust the European Union.

Support for the Euro has also grown substantially over the last decade, materially rising in the most recent survey

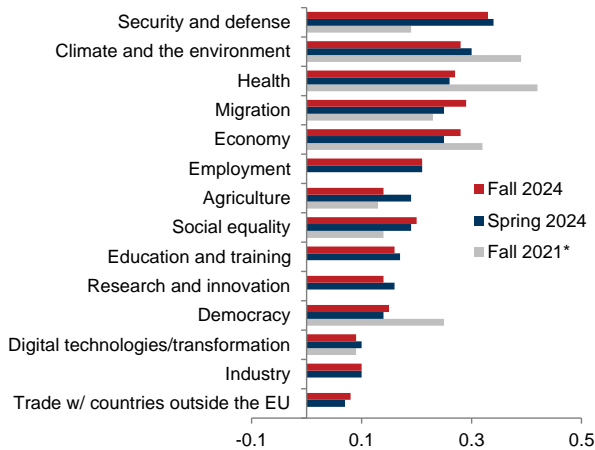
Support for Euro, % of respondents



Note: Question asks whether respondents are for or against a European economic and monetary union with one single currency, the Euro.

Defense and security are at the top of citizens' priority lists for the EU, rising in importance since before Russia's invasion of Ukraine

Top priorities for the EU, % of respondents



\*Not all categories were included in the Fall 2021 survey.

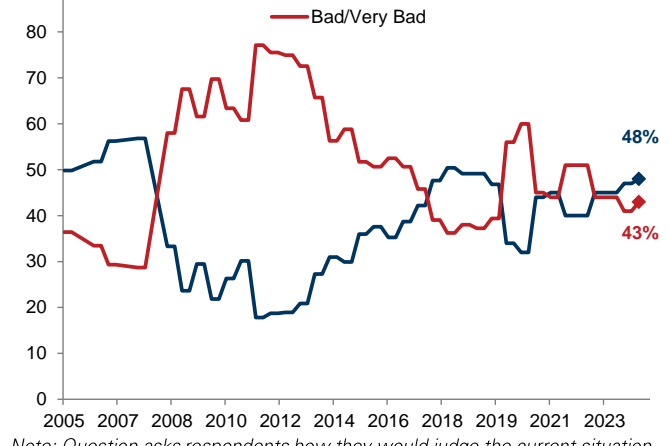
Note: Question asks which of the above areas should the EU take measures on in the medium term, i.e. in the next five years. Doesn't sum to 100 because respondents asked to pick multiple issues.

Source for all exhibits: European Commission (Autumn 2024 Eurobarometer), compiled by Goldman Sachs GIR.

Charts originally appeared in Issue 130: How investable is Europe?

...and relative to both the debt crisis and Covid-19 pandemic, EU citizens feel like the European economy is in a better place

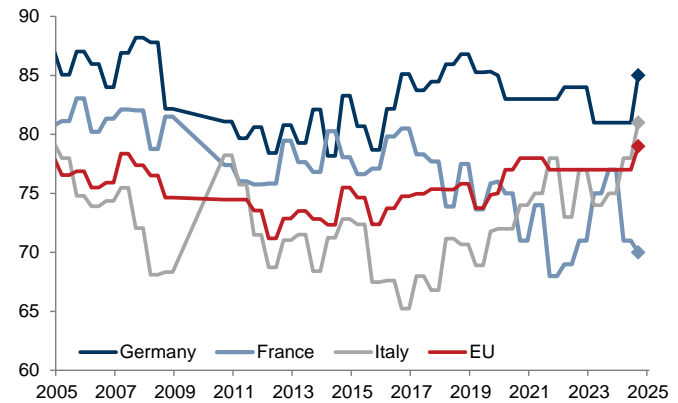
Perception of the European economy, % of respondents



Note: Question asks respondents how they would judge the current situation of the European economy.

And citizens generally increasingly support a common defense and security policy among all EU member states, though the support in France has declined recently

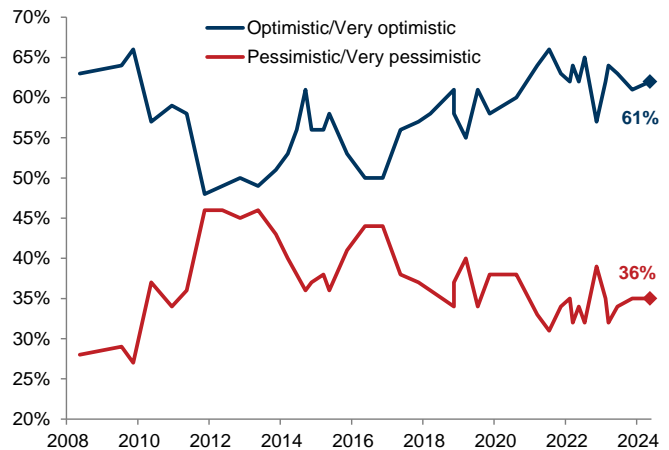
Support for common EU defense and security policy, % of respondents



Note: Question asks whether respondents are for or against a common defense and security policy among EU Member States.

Citizens generally feel optimistic about the future of the EU, with optimism gradually rising since the Euro area sovereign debt crisis

Optimism/pessimism about the future of the EU, % of respondents

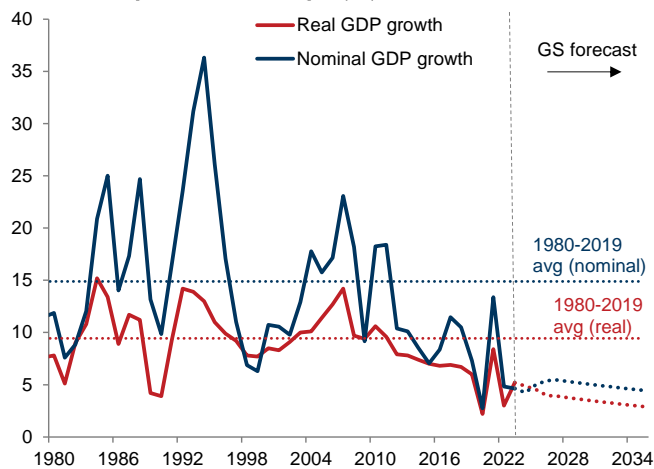


Note: Question asks respondents if they are very optimistic, fairly optimistic, fairly pessimistic, or very pessimistic about the future of the EU.

# China remains mired in cyclical...

China's growth has disappointed in recent years and remains well below its average pace in the four decades leading up to Covid...

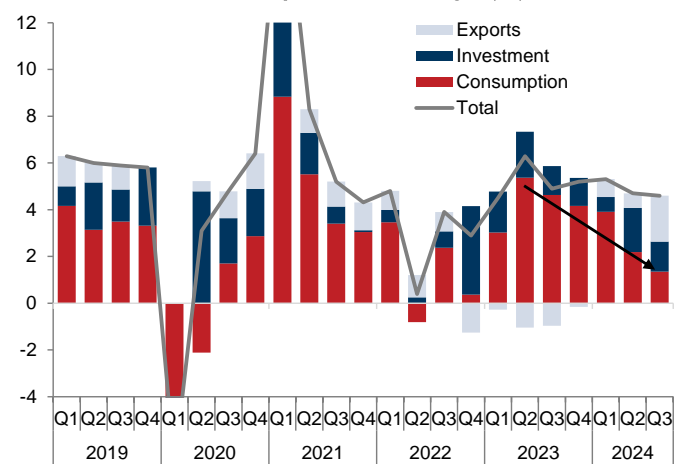
China GDP growth, % change, yoy



Source: NBS, Goldman Sachs GIR.

...and household consumption remains weak after slowing considerably this year...

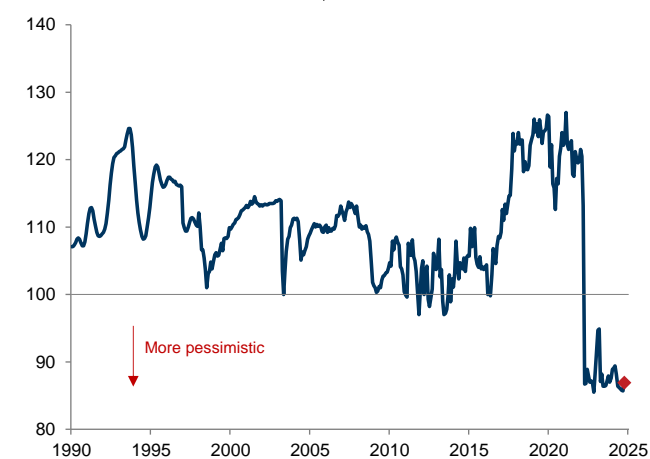
Contribution to real GDP growth, % change, yoy



Source: NBS, Goldman Sachs GIR.

...with China's consumer confidence falling to all-time lows in recent months...

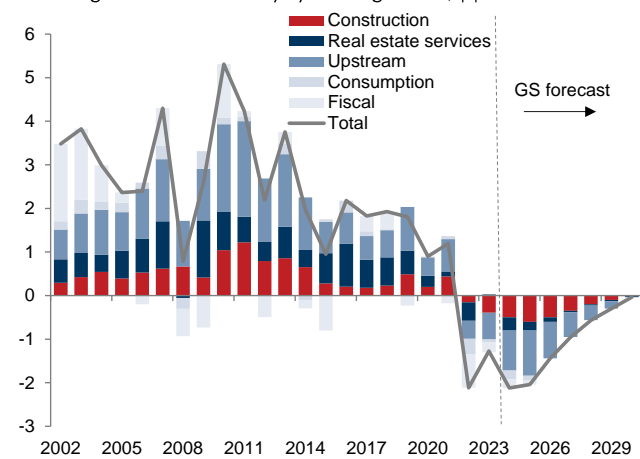
China consumer confidence, index



Source: Haver Analytics, Goldman Sachs GIR.

...as the property market remains a prolonged and significant drag on the economy

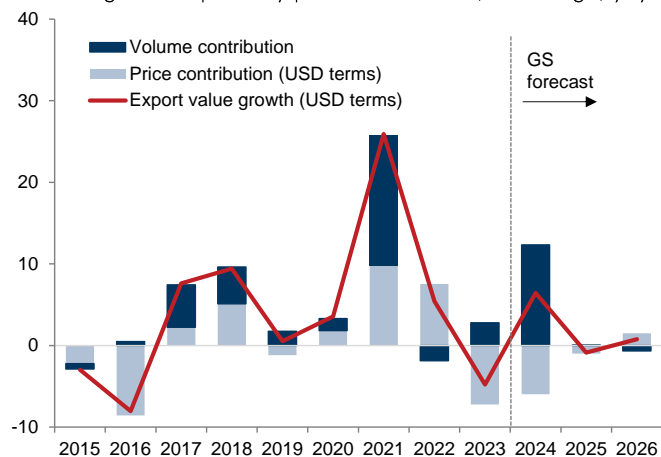
Housing contribution to yoy GDP growth, pp



Source: Haver Analytics, Goldman Sachs GIR.

While exports have been a bright spot in China's economy this year, export growth is likely to fall amid potential US tariff hikes under the second Trump Administration

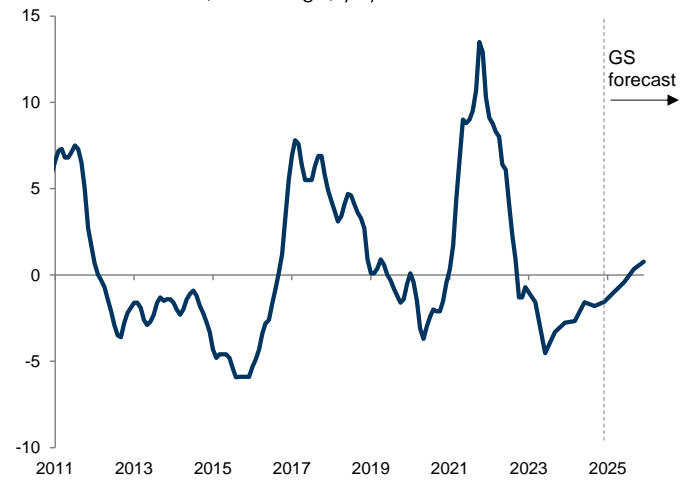
Nominal goods exports by price and volume, % change, yoy



Source: Haver Analytics, Goldman Sachs GIR.

China also continues to grapple with deflation, though we expect deflation to end in 3Q25 with zero full-year PPI inflation

China PPI inflation, % change, yoy

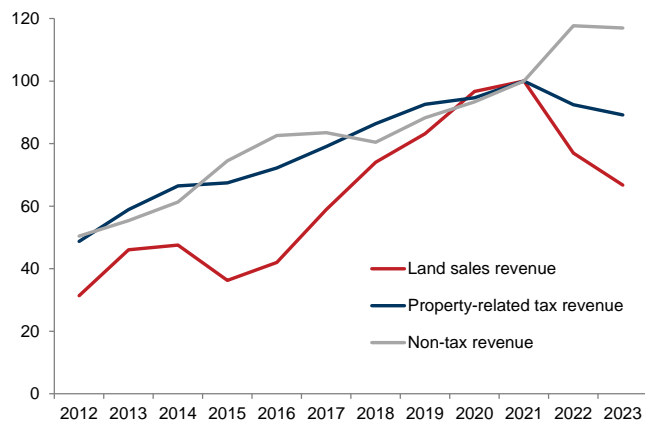


Source: CEIC, Goldman Sachs GIR.

# ...and structural challenges

Chinese local governments face significant fiscal challenges as tax and land sales revenues have declined amid the property downturn and persistent PPI deflation

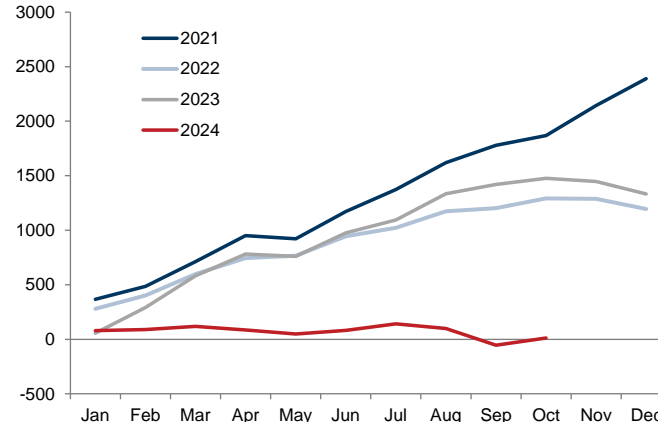
Local government fiscal revenues, index, 2021=100



Note: Non-tax revenue mainly covers fees/fine collection as well as revenues from local state-owned enterprises (SOEs) and state-owned assets. Source: Wind, Goldman Sachs GIR.

Local government finances have deteriorated further amid restricted local government financing vehicle (LGFV) borrowing under the central government's focus on deleveraging...

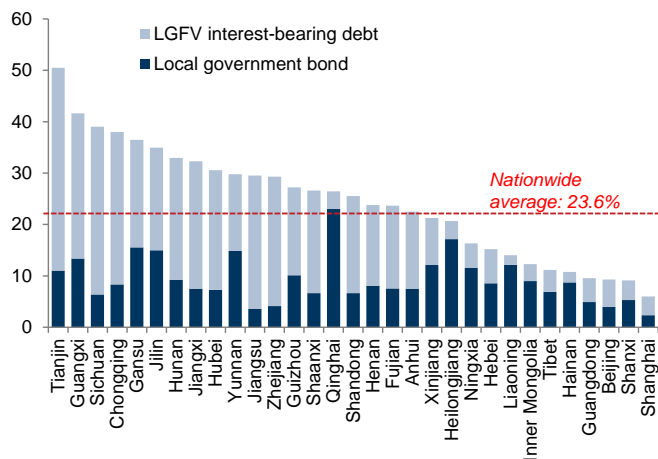
Cumulative net issuance of LGFV bonds, RMB billions



Source: Wind, Goldman Sachs GIR.

...and many Chinese provinces face significant interest payment pressures

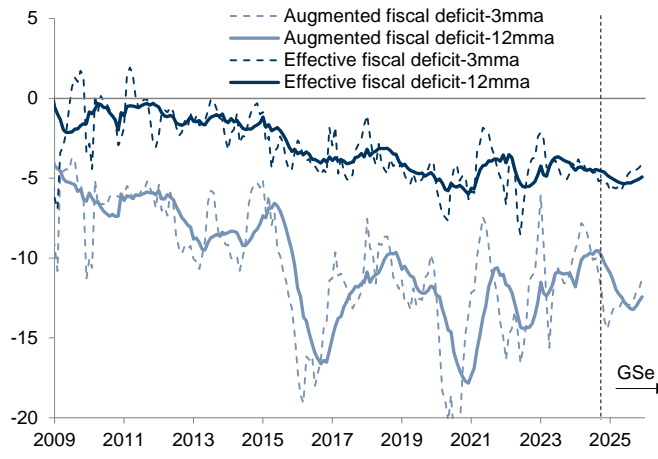
Interest payment of local government debt, % of local government revenue



Note: Data as of 2023. Source: Wind, Goldman Sachs GIR.

China has seen material fiscal tightening this year that has weighed on growth, though we expect that to reverse in coming quarters owing to the significant step-up in easing measures

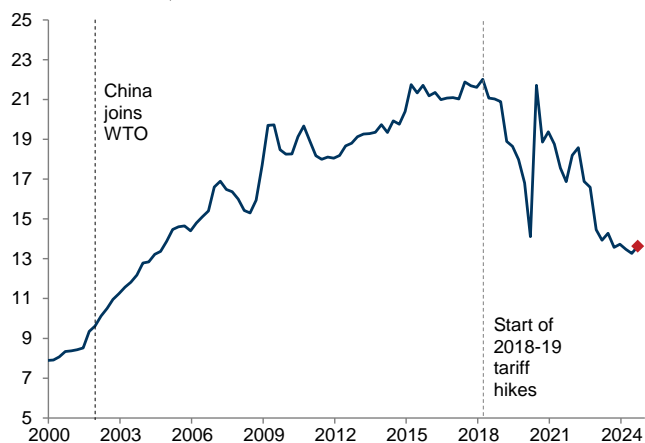
China fiscal deficit, % of GDP



Source: Wind, Goldman Sachs GIR.

Global supply chain de-risking has also weighed on China, with China's share of US imports declining in recent years

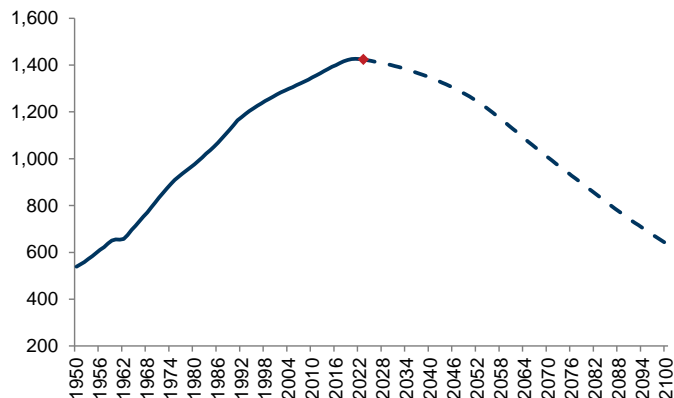
US share of imports from China, %



Source: Haver Analytics, Goldman Sachs GIR.

China also faces an unfavorable demographic outlook, with its population projected to decline sharply in the decades ahead

China population, millions of people

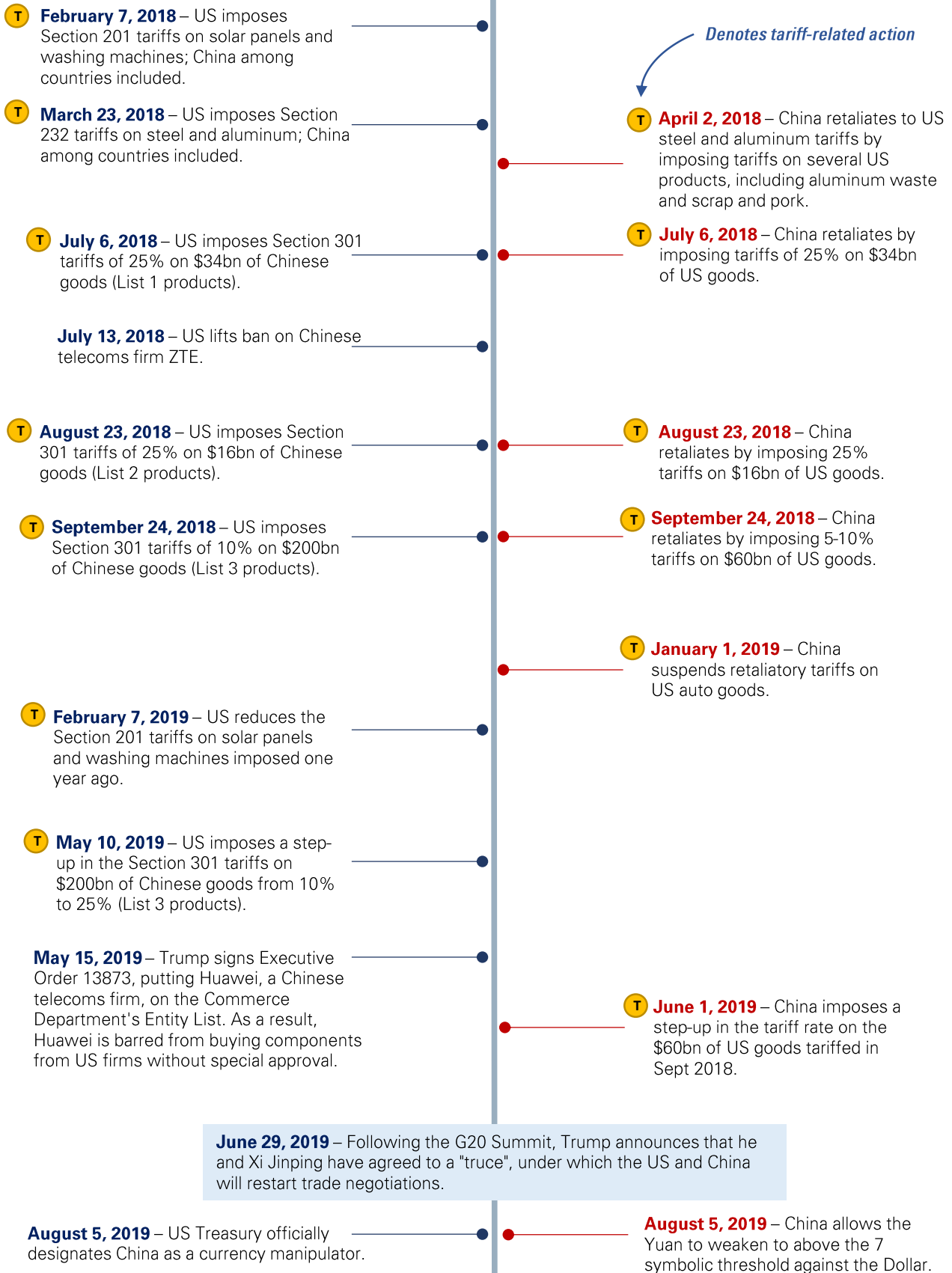


Note: Dashed line shows UN medium-variant projections. See [here](#) for details. Source: United Nations, compiled by Goldman Sachs GIR.

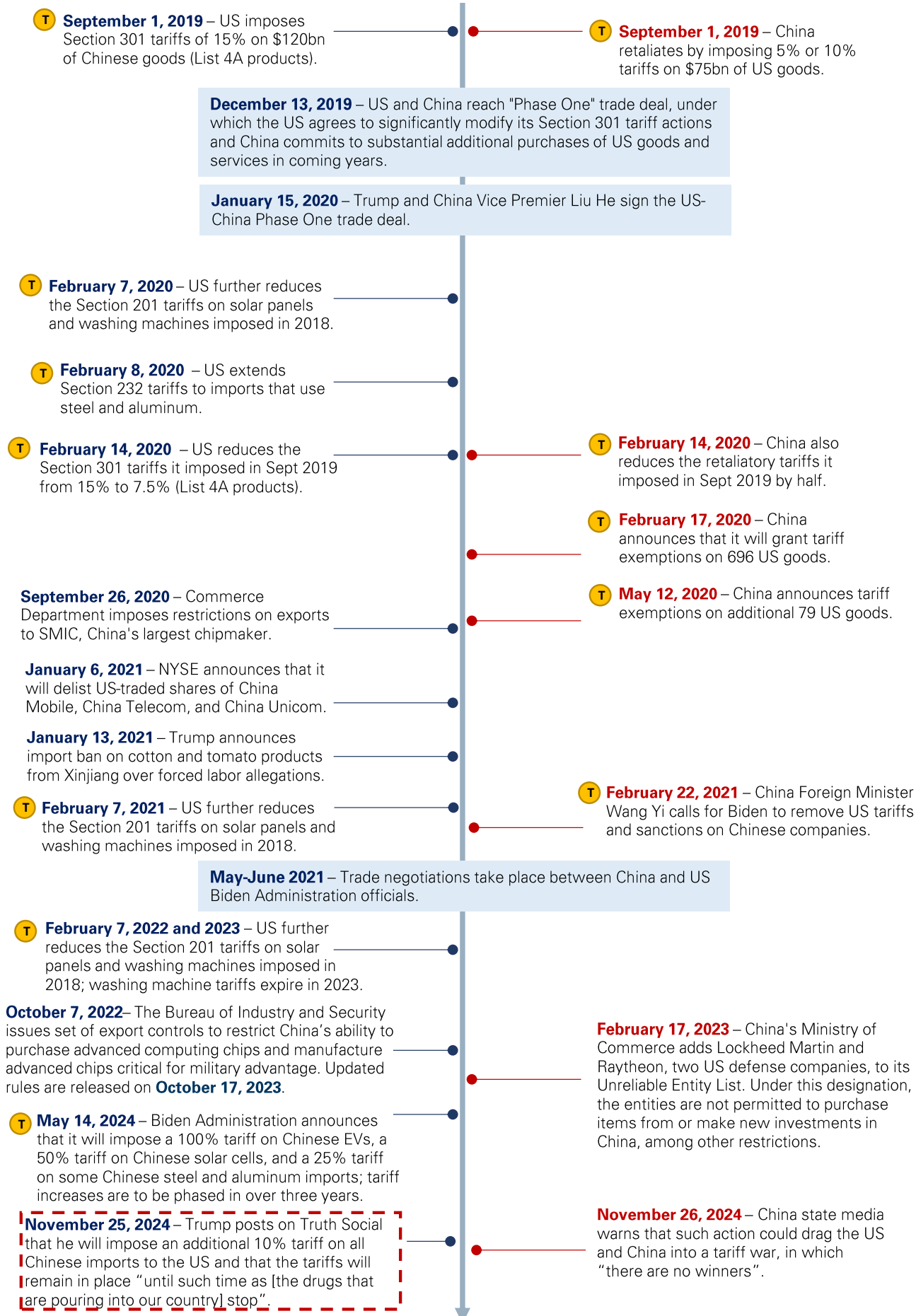
Special thanks to China Economics team for charts. Charts originally appeared in [Issue 134: Will China's policy stimulus be enough?](#)

# And a new trade war...

## A history of the US-China trade war



# ...is possibly on the horizon...



Note: List of actions is not exhaustive.

Source: USTR, Peterson Institute for International Economics, US Bureau of Industry and Security, various news sources, Goldman Sachs GIR.

Exhibit originally appeared in [Issue 134: Will China's policy stimulus be enough?](#)

# ...as Trump reenters office

## Trump quotes on China

“

“I’ve read hundreds of books about China over the decades. I know the Chinese. I’ve made a lot of money with the Chinese. I understand the Chinese mind.”

- *The Art of the Deal, 1987*

“The most important difference in America’s new approach on trade concerns our relationship with China. In 2001, China was admitted to the World Trade Organization. Our leaders then argued that this decision would compel China to liberalize its economy and strengthen protections to provide things that were unacceptable to us, and for private property and for the rule of law. Two decades later, this theory has been tested and proven completely wrong. Not only has China declined to adopt promised reforms, it has embraced an economic model dependent on massive market barriers, heavy state subsidies, currency manipulation, product dumping, forced technology transfers, and the theft of intellectual property and also trade secrets on a grand scale.”

- *UN General Assembly remarks, September 2019*

“China’s pattern of misconduct is well known. For decades, they have ripped off the United States like no one has ever done before. Hundreds of billions of dollars a year were lost dealing with China, especially over the years during the prior administration. China raided our factories, offshored our jobs, gutted our industries, stole our intellectual property, and violated their commitments under the World Trade Organization. To make matters worse, they are considered a developing nation getting all sorts of benefits that others, including the United States, are not entitled to.”

- *Remarks on the Administration’s actions against China, May 2020*

“President Trump will also REVOKE China’s Most Favored Nation trade status. It is long past time China stops getting preferential treatment as they undermine American national security interests around the world.”

- *Trump-Vance Campaign Platform, June 2023*

“Think of President Xi. Central casting. Brilliant guy. You know, when I say he’s brilliant, everyone says, ‘oh, that’s terrible’. Well, he runs 1.4 billion people with an iron fist. Smart, brilliant, everything perfect. There’s nobody in Hollywood like this guy. ”

- *Remarks at a Fox News town hall, July 2023*

“I think there is no greater critic of China than me. But I respected China and I respected President Xi and I had a great relationship with them. They took advantage of us. And why shouldn’t they? I mean, if we were stupid enough to let them do it, they made hundreds of billions of dollars a year, \$507 billion, most years over that and now it’s more, and I had them down to a much smaller. And I put massive tariffs on them. Nobody got any money from China, but I got hundreds of billions of dollars from China. I think that we will have a good relationship. I’d rather have a good relationship with China.”

- *Interview with Fox News Host Mark Levin, August 2024*

“Oh, very easy. I had a very strong relationship with him. He was actually a really good, I don’t want to say friend—I don’t want to act foolish, ‘he was my friend’—but I got along with him great. He stayed at Mar-a-Lago with me, so we got to know each other great. He’s a very fierce person.”

- *Response to a Wall Street Journal interview question on how he would persuade Xi to stand down from a blockade of Taiwan, October 2024*

**“I have had many talks with China about the massive amounts of drugs, in particular Fentanyl, being sent into the United States – But to no avail. Representatives of China told me that they would institute their maximum penalty, that of death, for any drug dealers caught doing this but, unfortunately, they never followed through, and drugs are pouring into our Country, mostly through Mexico, at levels never seen before. Until such time as they stop, we will be charging China an additional 10% Tariff, above any additional Tariffs, on all of their many products coming into the United States of America.”**

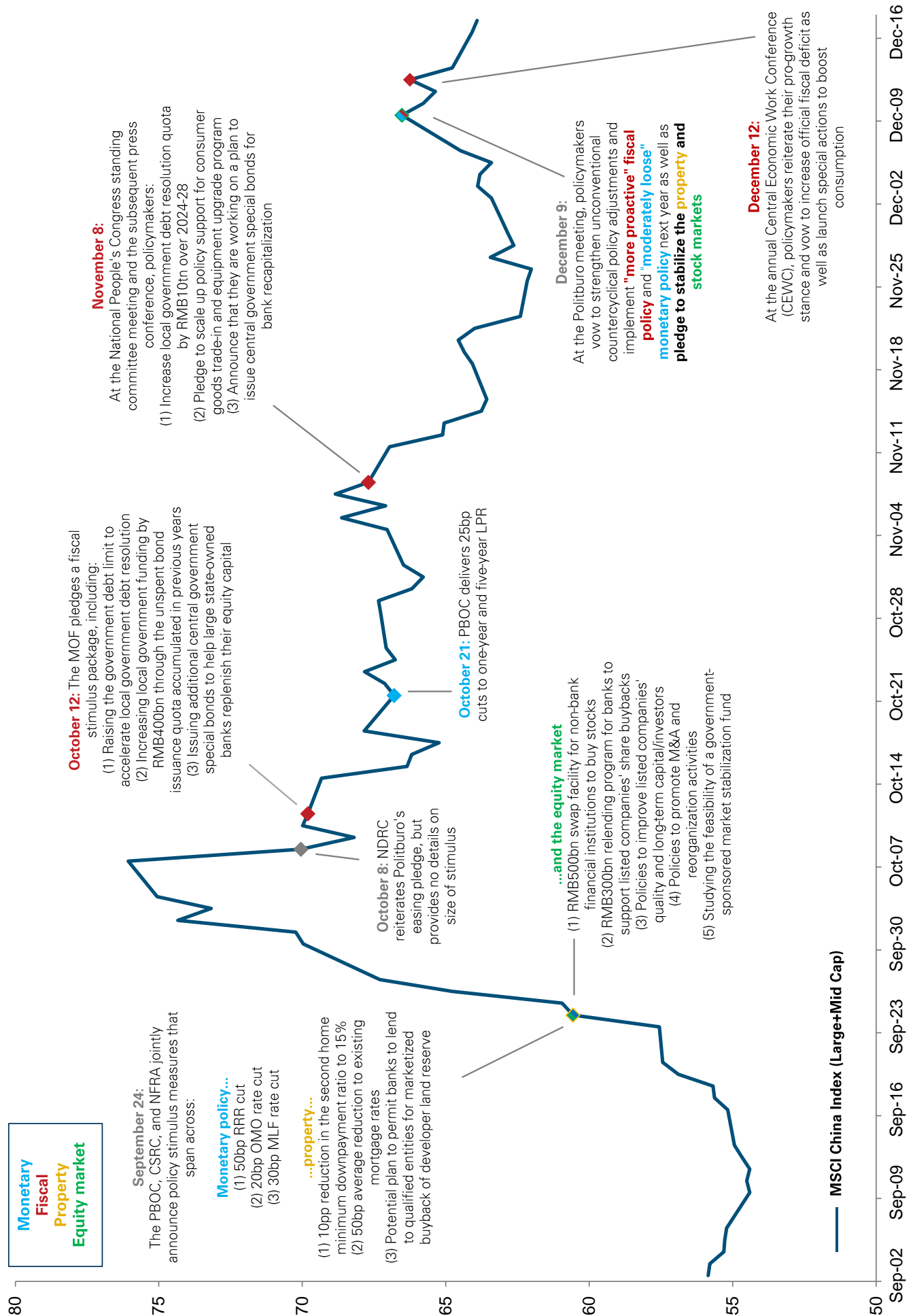
- *Truth Social post, November 2024*

”

Source: *The White House, WSJ, The Art of the Deal, Fox News, campaign platforms, Truth Social, compiled by Goldman Sachs GIR.*

Exhibit originally appeared in [Issue 134: Will China’s policy stimulus be enough?](#)

# Investors continue to look to stimulus...



Data as of December 17, 2024.

Source: MSCI, Goldman Sachs GIR.

Chart originally appeared in [Issue 134: Will China's policy stimulus be enough?](#)

# ...but will it be enough?

## China policy easing cycles, compared

Policy easing cycles	Background	Money, credit and tax				Demand-side stimulus		
		Monetary	Credit	Tax	Property	Infrastructure	Consumption	
2008-09	Global Financial Crisis and Wenchuan earthquake in 2008	3 RRR cuts (totaling 200bp) for large banks; 4 RRR cuts (totaling 400bp) for small and medium-sized banks; 5 policy rate cuts (totaling 216bp)	Boosting the financing of local government financing vehicles (LGFVs)	N.A.	Cutting taxes on property purchase and transactions, lowering mortgage loan rates and downpayment ratios, supporting financing needs from developers, and launching housing construction programs for low-income groups in 2008-10	RMB4tn stimulus package to boost infrastructure investment, especially on nationwide high-speed railway network	Auto purchase tax cuts (to 5% in 2009 from 10%, before reversing to 7.5% in 2010 and 10% in 2011), "go rural" program for home appliances, and fiscal subsidies for auto and home appliance replacement	
2015-16	Stock market crash in 2015, RMB market turmoil in 2015-16, high housing inventory in lower-tier cities, a deterioration in Greek debt crisis in 2015, Brexit in 2016	5 RRR cuts (totaling 300bp), 6 policy rate cuts (totaling 165bp), targeted RRR cuts, PSL, MLF cuts	Boosting the financing via corporate bonds, peer-to-peer (P2P) lending, share pledge financing	Replacing the business tax with VAT	PSL-backed shantytown renovation program (SRP) in lower-tier cities, cutting mortgage loan rates and downpayment ratios, cutting taxes on property transactions, removing/easing home purchase restrictions in Tier-2/3 cities, and facilitating developer offshore dollar bond financing	Launching public-private partnership (PPP) programs in 2015, boosting local government special bond issuance, and lowering capital requirement for investment projects	Auto purchase tax cuts (to 5% in 2016 from 10%, before reversing to 7.5% in 2017 and 10% in 2018)	
2018-19	Deleveraging campaign in 2017-18, an escalation of US-China trade conflicts in 2018-19	6 RRR cuts (totaling 400bp broad-based, plus targeted cuts), criteria easing for targeted RRR cuts, TMLF	Adjusting key parameters in the PBOC's Macroprudential Assessment (MPA) framework, increasing bank loan quota, introducing central bank bill swap program for bank perpetual bond issuance	Cutting VAT rate, raising the threshold for individual income tax (IIT) exemption from RMB3.5k/month to RMB5k/month or RMB60k/year, and introducing IIT reduction items	N.A.	Intensively launching infrastructure investment projects, especially on rail and urban transit systems, allowing local government special bonds (LGSB) proceeds to be used as equity capital for projects in select investment areas	Fiscal subsidies for the purchase and replacement of qualifying home appliances, auto replacement in rural areas, relaxation of car plate restrictions in large cities	
2020	Global Covid-19 pandemic	3 RRR cuts (totaling 50bp, plus targeted cuts), relending and rediscounting, 2 policy rate cuts (totaling 30bp)	Supporting the financing of SMEs and Covid-hit sectors, increasing credit support from policy banks, using some LGSB proceeds to replenish the equity capital for small banks	Tax cuts (mainly VAT cut for small taxpayers), waivers of social security fees, lowering utilities costs for SMEs	N.A. (instead, policymakers enacted some property tightening measures beginning in summer 2020, including the "Three Red Lines" to curb property developer debt)	Boosting infrastructure investment, supporting the financing of LGFVs, rolling out central government special bonds (CGSB) to counteract Covid pandemic, increasing transfer payments from the central to local governments	Small-scale consumption coupons in some large cities	
Sep 2024 until now (as of Nov)	Prolonged property downturn, increased fiscal funding challenges, weak domestic confidence, heightened geopolitical uncertainties	1 RRR cut (50bp) + PBOC forward guidance for another 25-50bp RRR rate cut (20bp), a 20-25bp cut to deposit rates, RMB800bn PBOC funding support for the equity market, continued PBOC purchases of CGBs	A 25bp LPR cut to lower the financing costs for the real economy	Tax cuts to facilitate property purchases and transactions	Cutting nationwide minimum downpayment ratio to 15%, removing home purchase restrictions in most cities, a 50bp cut to existing mortgage rates, allowing LGSB to be used for purchasing raw lands and housing inventory, cash-backed settlement of 1mn unit urban village renovation	A RMB10tn local govt debt resolution for 2024-28, pledging for ultra-long-term CGSB issuance to help large banks replenish equity capital, and more central govt debt financing in future, frontloading RMB200bn-worth of investment projects from 2025 for early start in late 2024	Subsidized consumer goods trade-in and equipment upgrade program, small subsidies to targeted groups and students; pledging to increase policy support for auto, home appliance, and electronics products	

Source: Government websites, compiled by Goldman Sachs G/IR. Special thanks to China Economist Lisheng Wang for the table. Table originally appeared in Issue 134: Will China's policy stimulus be enough?



4

Finally, **disruptive innovations** once again drove the markets and industry trends,



As “miracle drug” GLP-1s

and especially gen AI  
technology continued to ascend,



Which fueled concerns over market  
concentration and capex spend.

Pgs. 34-40

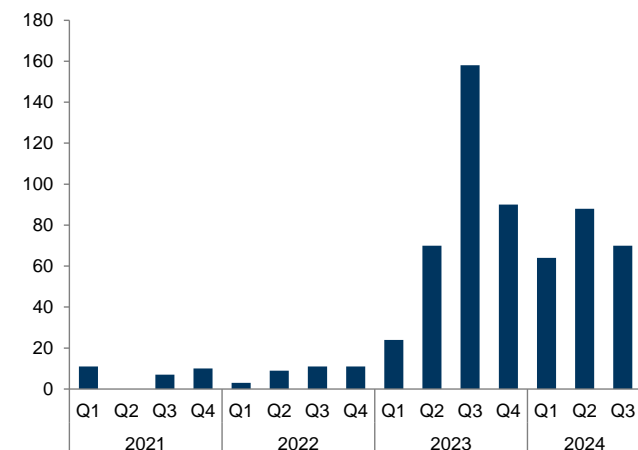
# The GLP-1 craze continues

Interest in GLP-1s has surged over the last couple of years...  
Google search trends for "GLP-1"



Note: Numbers represent search interest relative to the highest point on the chart for the given region and time. 100 represents peak popularity.  
Source: Google Trends (<https://www.google.com/trends>), GS GIR.

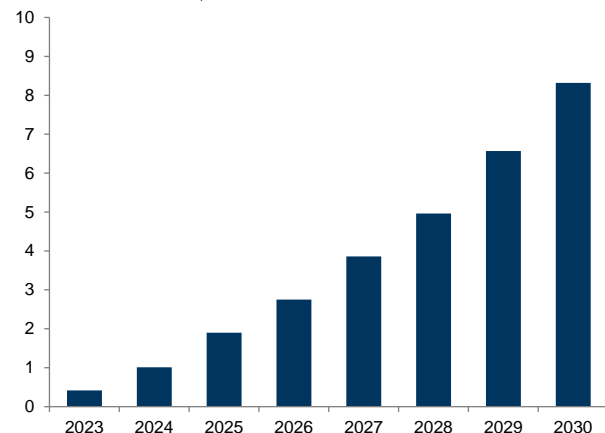
Management teams' mentions of GLP-1s on earnings calls have risen, though they remain somewhat off their 3Q23 peak  
Mentions of GLP-1 on S&P 500 companies' earnings calls



Source: GS Data Works, Refinitiv, Goldman Sachs GIR.

But manufacturing spend on GLP-1 drugs is expected to increase significantly ahead, driven by Lilly and Novo ...

Estimated GLP-1 obesity manufacturing spend by Eli Lilly and Novo Nordisk, \$bn

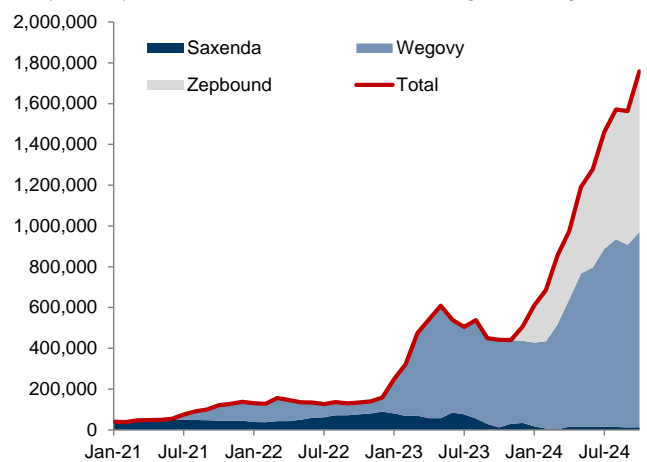


Source: Company data, Goldman Sachs GIR.

Special thanks to US Healthcare equity analysts for these charts.  
Charts originally appeared in [Issue 127: Weighing the GLP-1 market](#).

...and the number of US adults taking GLP-1s for weight management has risen sharply

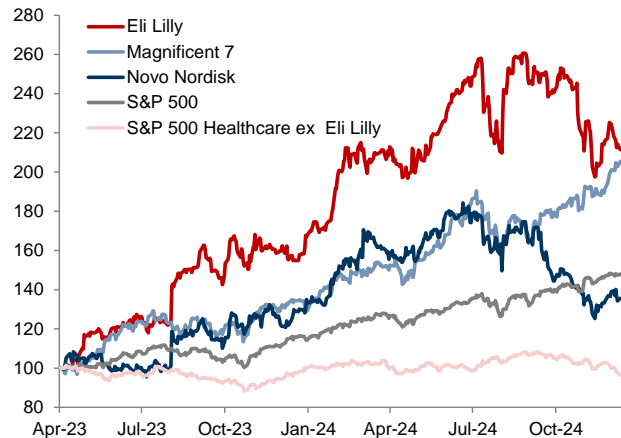
US prescriptions of GLP-1s for chronic weight management



Source: IQVIA, Goldman Sachs GIR.

While Eli Lilly and Novo Nordisk stocks rallied sharply earlier this year, they have retraced somewhat recently amid earnings, supply/demand questions, and caution around near-term data (e.g. CagriSema)

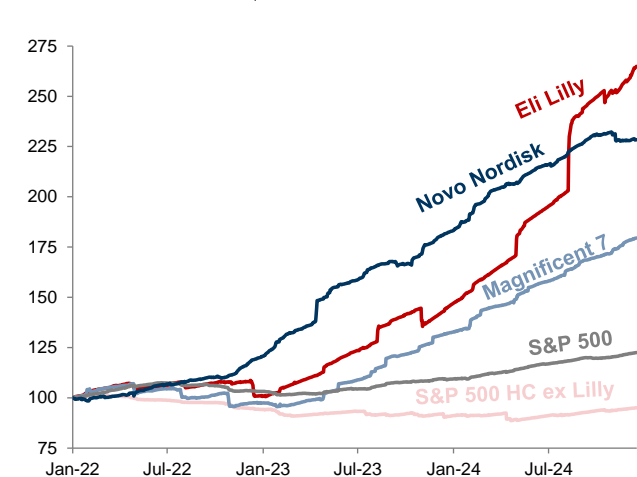
Indexed returns, 04/2023=100



Source: FactSet, Goldman Sachs GIR.

...and Lilly and Novo are expected to continue outperforming on an EPS basis

Consensus NTM EPS, Jan 2022=100

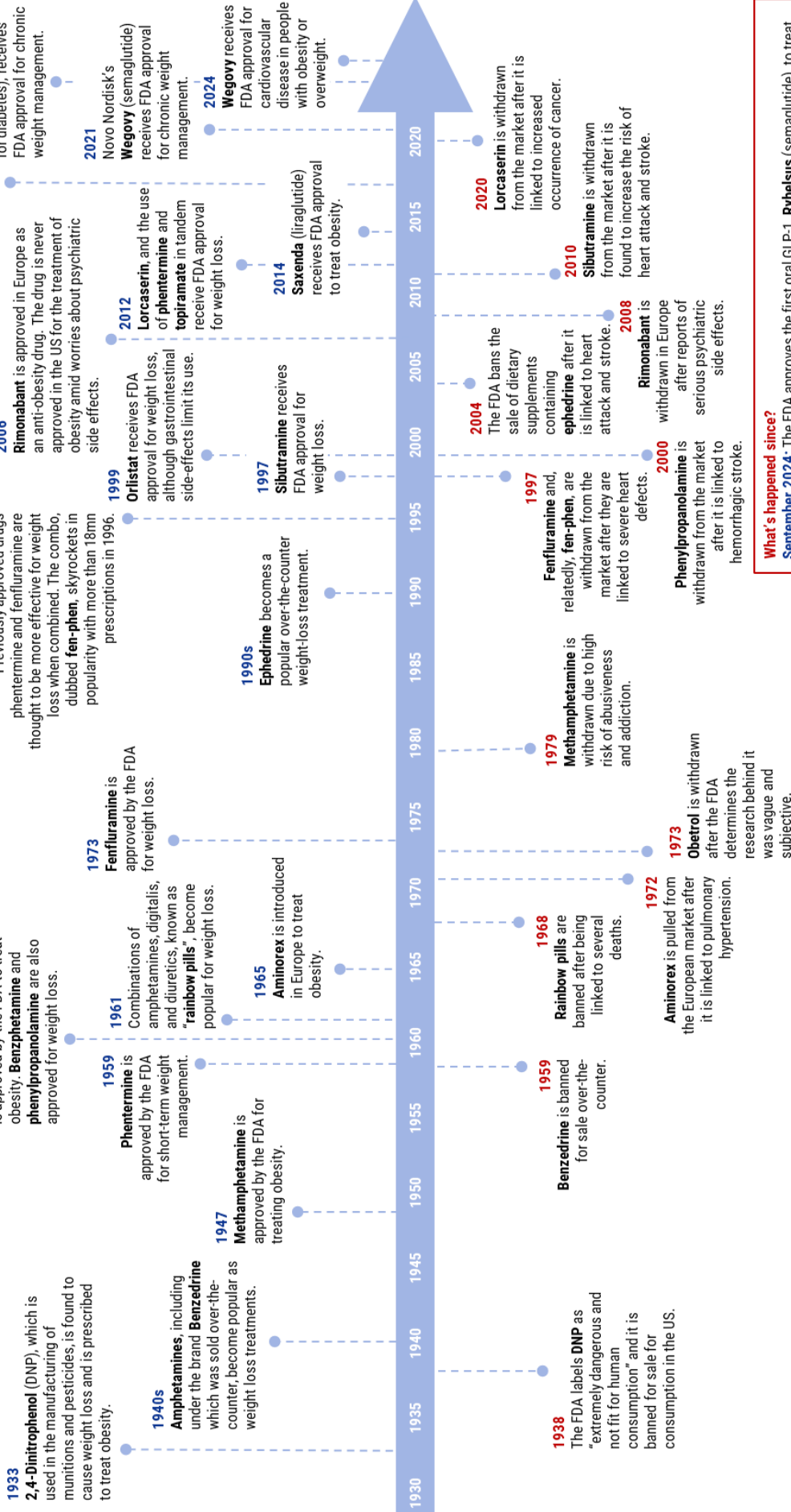


Source: FactSet, compiled by Goldman Sachs GIR.

# But weight-loss drugs have a mixed record

## A history of weight-loss drugs

### The rise...



**What's happened since?**  
**September 2024:** The FDA approves the first oral GLP-1, **Rybelsus** (semaglutide), to treat type 2 diabetes.  
**October 2024:** The FDA determines that the shortage of tirzepatide, which began in 2022 amid increased demand, is now resolved.  
**December 2024:** The FDA warns that patients taking GLP-1s, including Ozempic and Wegovy, could have higher risks during surgery.  
**December 2024:** The FDA warns against using unapproved GLP-1s for weight loss amid a rise of online retailers selling unapproved versions of semaglutide and tirzepatide.

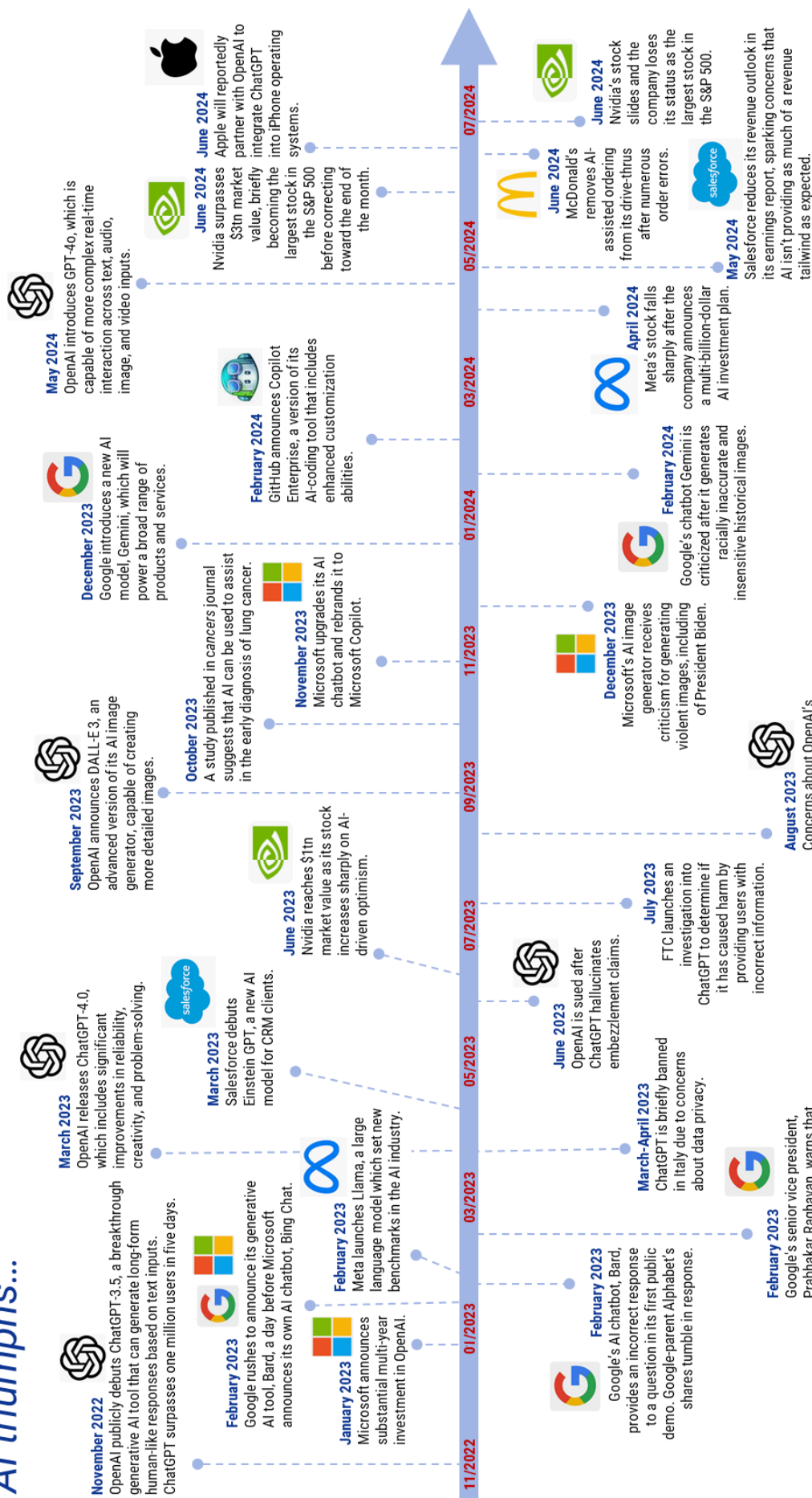
### ...and fall of weight-loss drugs

Note: This does not constitute an exhaustive list of all weight loss drug-related developments.  
 Source: National Institutes of Health, FDA, Li MF, Cheung BM, "Rise and fall of anti-obesity drugs", NY Times, various news sources, Goldman Sachs GfR.  
 Exhibit originally appeared in [Issue 127: Weighing the GLP-1 market](#).

# AI remains a dominant theme...

## A short history of AI developments

## AI triumphs...



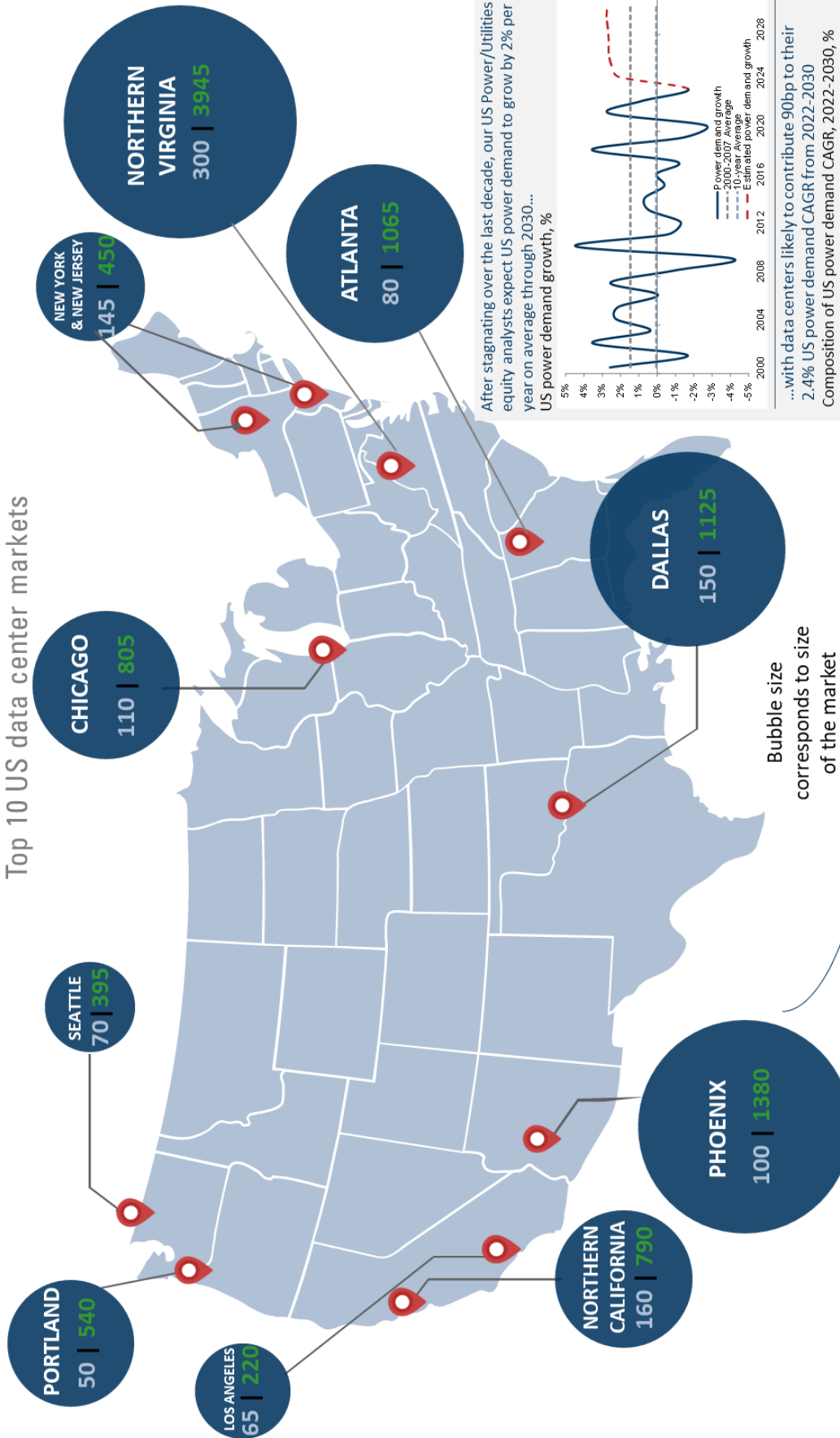
**What's happened since?**  
**July 2024:** Meta releases Llama 3.0, the third generation of its open-source AI model, and announces total downloads of Llama models have reached 350m to date through July 2024.  
**October 2024:** Apple launches "Apple Intelligence" to incorporate generative AI technology in iPhones, iPads, and Macs. Google expands rollout of AI Overviews in Search to over 100 countries globally.  
**December 2024:** OpenAI announces that ChatGPT can now recognize objects shown through a smartphone camera or on the screen of a device and respond with its Advanced Voice Mode. Alphabet unveils the latest version of its AI model, Gemini 2.0 Flash, which includes significant improvements in model performance. Alphabet also announces a suite of "agentive experiences".

## ...and disappointments

Note: This does not constitute an exhaustive list of all AI-related developments.  
 Source: Apple, BBC, *Cancers*, OpenAI, tech.co, Google, various news sources, compiled by Goldman Sachs GfR.  
 Exhibit originally appeared in Issue 129: Gen AI: too much spend, too little benefit?

# ...but the technology is power hungry...

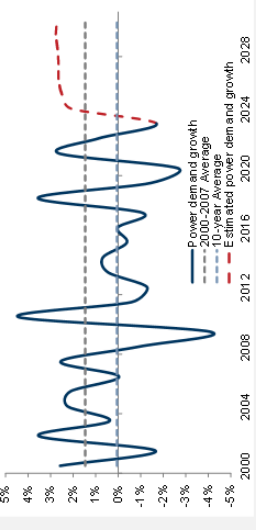
Northern Virginia is the US data center capital, though Phoenix, Dallas, and Atlanta are also hotbeds for data center growth  
 Top 10 US data center markets



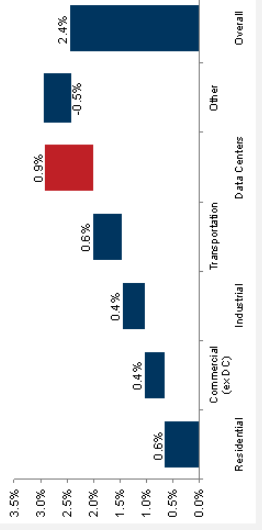
Bubble size corresponds to size of the market based on the total amount of commissioned power

No of data centers | Megawatts of multi-tenant commissioned power\*

After stagnating over the last decade, our US Power/Utilities equity analysts expect US power demand to grow by 2% per year on average through 2030...  
 US power demand growth, %



...with data centers likely to contribute 90bp to their 2.4% US power demand CAGR from 2022-2030  
 Composition of US power demand CAGR, 2022-2030, %

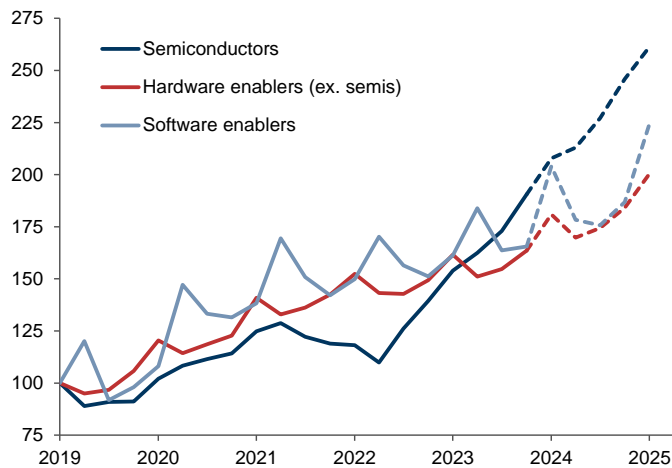


\* Total capacity of all data centers currently leased or available for lease in the region.  
 Note: Portland includes Hillsboro and Seattle includes Quincy. Data for map is from April 2024 Dgtl Infra article.  
 Source: Dgtl Infra, EIA, Goldman Sachs GfR.  
 Exhibit originally appeared in Issue 129: Gen AI: too much spend, too little benefit?

# ...and AI adoption remains a question...

AI investment has surged over the last several years...

Actual and forecasted revenues by AI-exposed sector, index, 4Q19=100

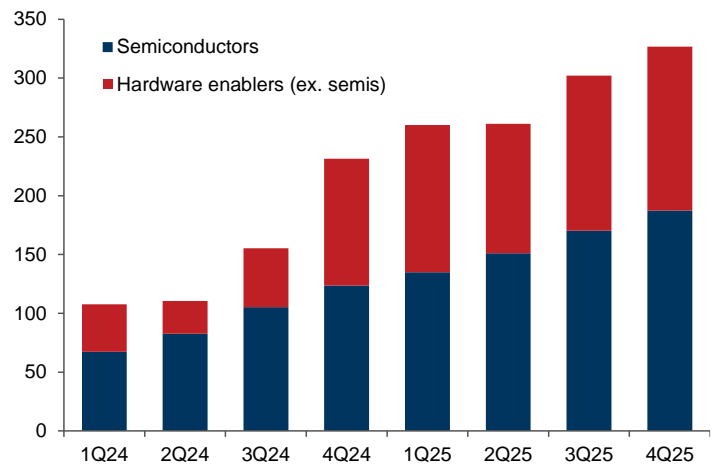


Dashed lines in this chart indicate consensus revenue forecasts.

Source: FactSet, Goldman Sachs GIR.

...and the market has significantly upgraded its AI investment expectations across the AI hardware stack...

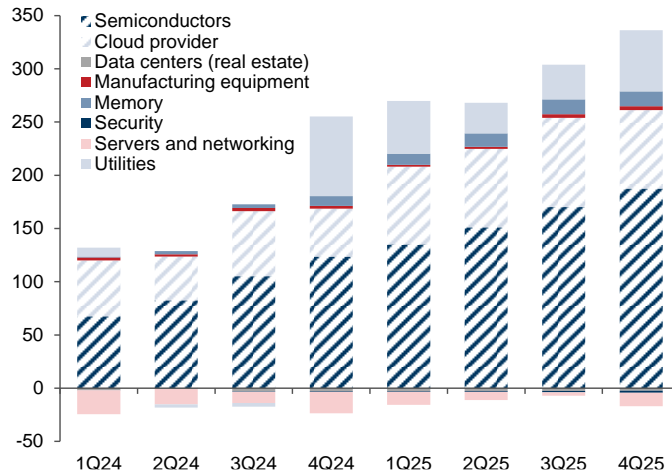
Change in Russell 3000 consensus revenue forecasts since March 2023, \$bn, annualized



Source: FactSet, Goldman Sachs GIR.

...though much less so across the broader AI space so far

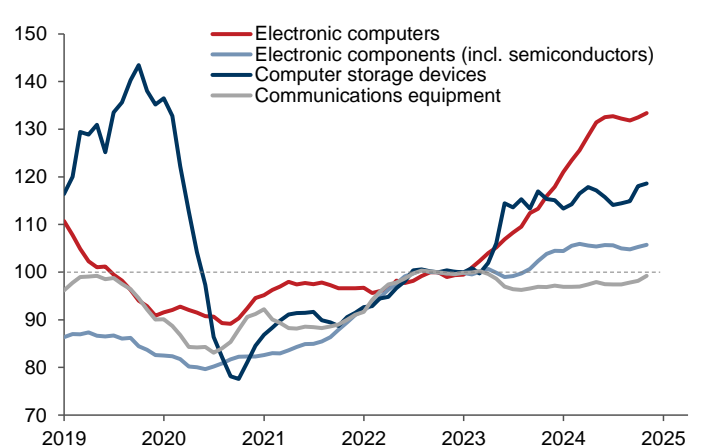
Change in Russell 3000 consensus revenue forecasts since March 2023, \$bn, annualized



Source: FactSet, Goldman Sachs GIR.

Manufacturers' shipments for some AI-related components have risen significantly

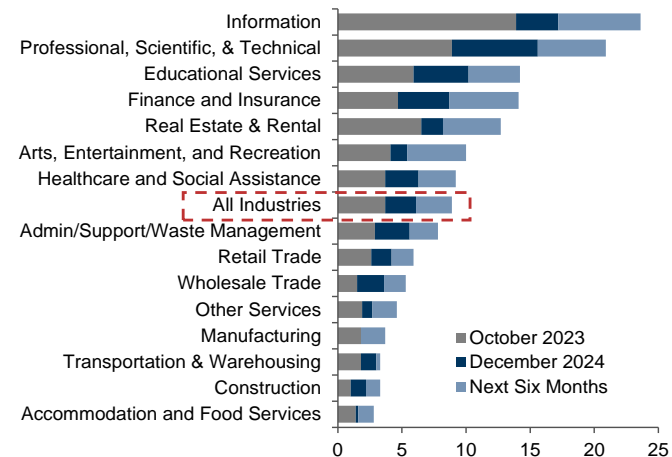
US nominal manufacturing sales, AI-related categories, index, Sept. 2022=100, 3m average



Source: Haver Analytics, Goldman Sachs GIR.

However, AI adoption remains muted on average across industries, though nearly a quarter of information firms expect use to pick up in the next 6 months...

Share of US firms using AI by sector, %



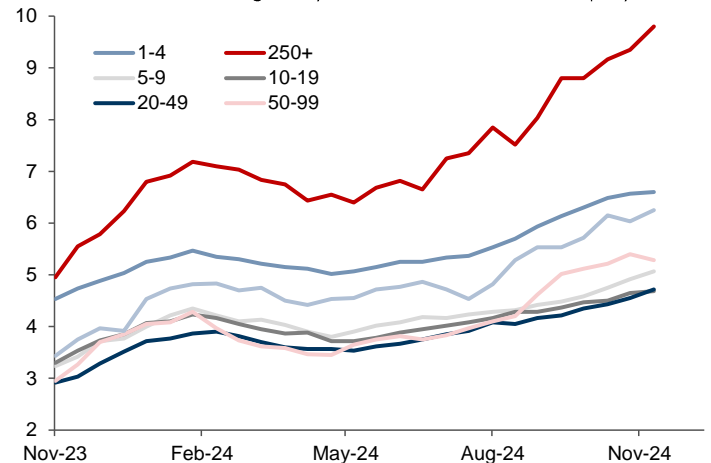
Source: Census Bureau, Goldman Sachs GIR.

Special thanks to the Global Economics team for charts.

Charts originally appeared in [Issue 129: Gen AI: too much spend, too little benefit?](#)

...and, in recent months, AI adoption among large firms has begun to rise

Share of US firms using AI by firm size, number of employees



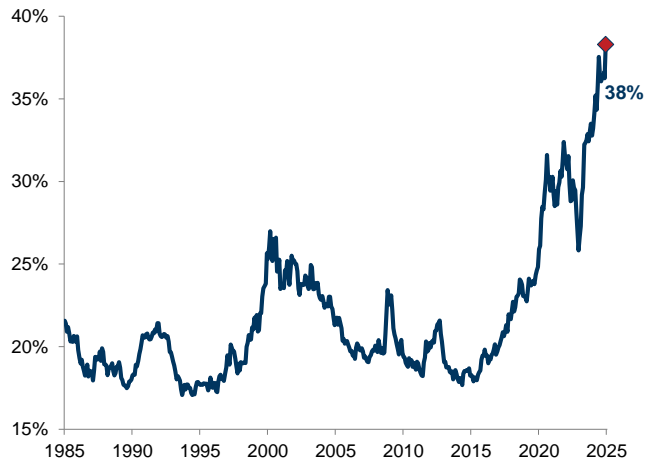
Note: Reflects a moving average over the most recent six surveys. Surveys are generally conducted biweekly.

Source: Census Bureau, Goldman Sachs GIR.

# ...leading to bubble concerns

The 10 largest stocks in the S&P 500 currently account for over a third of total market cap

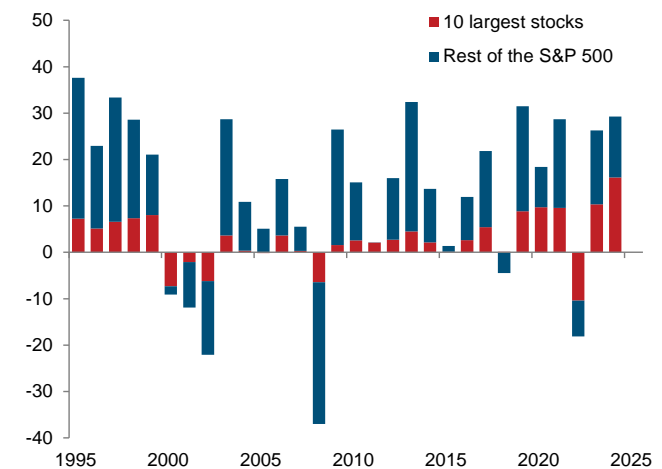
Market cap of 10 largest S&P 500 firms, % of index total



Source: FactSet, Compustat, Goldman Sachs GIR.

And the 10 largest stocks have been significant drivers of the aggregate S&P 500 return in recent years

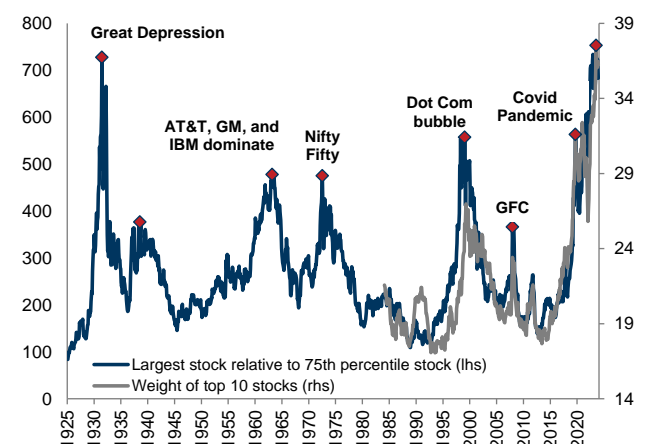
Contribution to annual S&P 500 return, pp



Source: Goldman Sachs GIR.

US equity market concentration today is particularly high relative to history as measured by the market cap of the largest stocks relative to the broader market...

Market cap of the largest stock relative to 75th percentile stock (x, lhs), weight of the top 10 stocks in S&P 500 (% , rhs)\*



\*Consists of US stocks with price, shares, and revenue data listed on the NYSE, AMEX, or NASDAQ. Series prior to 1985 estimated based on data from Kenneth French data library reflecting the market cap distribution of NYSE stocks. Source: Compustat, CRSP, Kenneth R. French, Goldman Sachs GIR.

...as well as the Herfindahl-Hirschman Index, another common measure of market concentration...

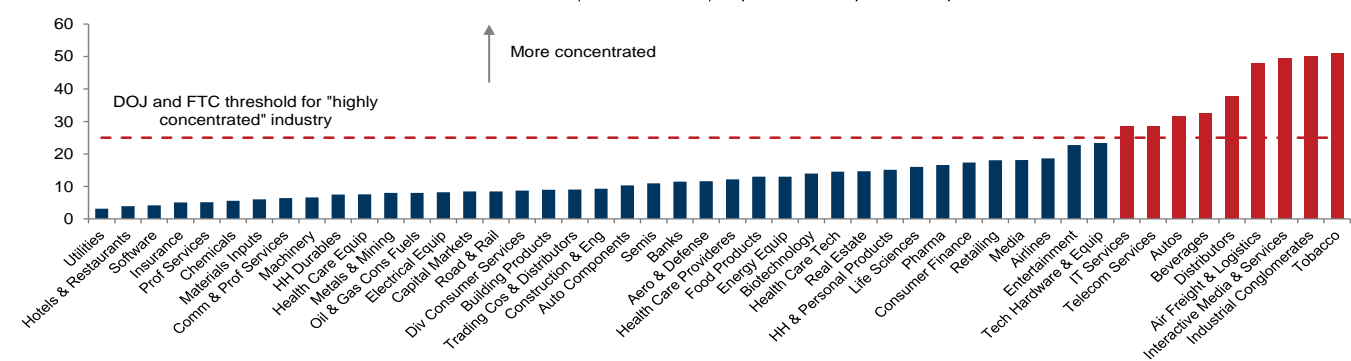
HHI for the US equity market, based on total annual sales\*



\*Universe is publicly-listed US companies. HHI is calculated by summing the squares of each firm's share of total sales in a given year. Source: Compustat, Goldman Sachs GIR.

The HHI also indicates that the most concentrated areas of the US equity market today are tobacco, industrial conglomerates, and interactive media & services

Current Herfindahl-Hirschman Index (HHI) across the public US equity market by industry (based on 2023 US sales)\*



\*Universe is S&P Total Market Index using GICS level 2 and 3 industries. Source: Compustat, Goldman Sachs GIR.

Special thanks to US Portfolio Strategy team for charts.

Charts originally appeared in [Issue 133: Market concentration: how big a worry?](#)





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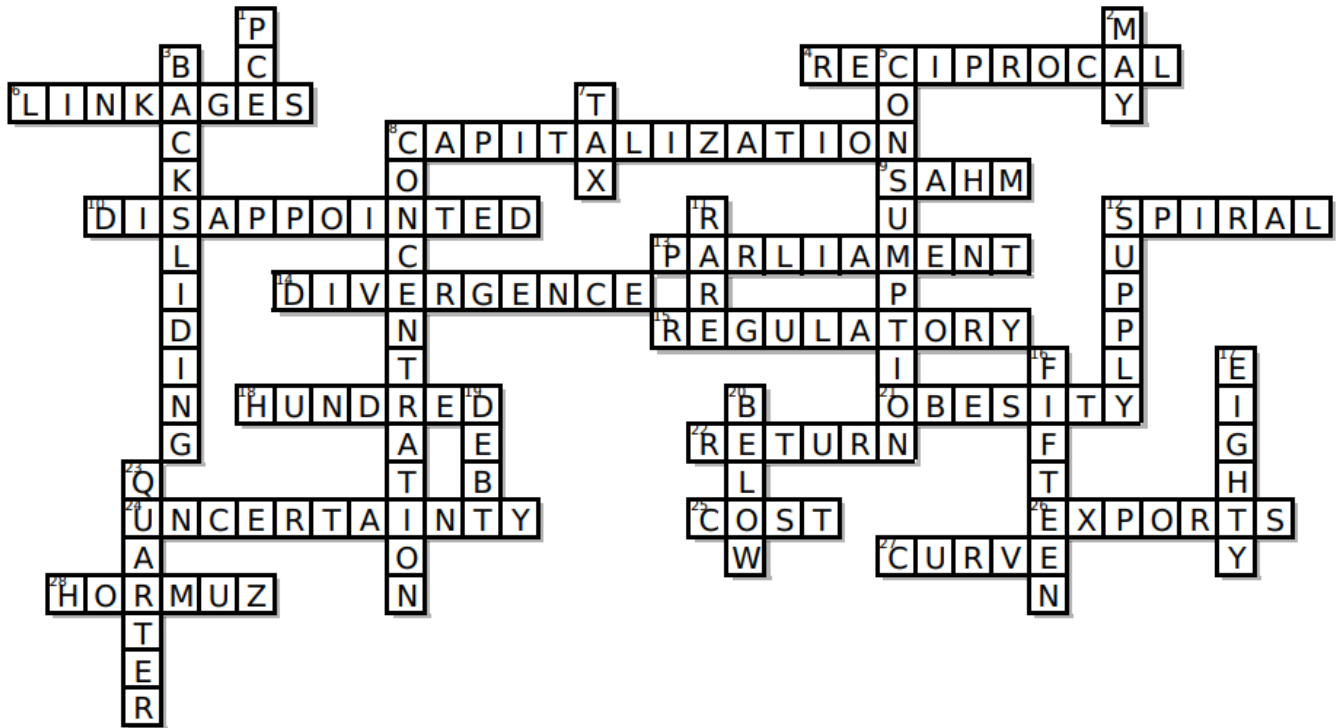


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# Puzzle solutions

Crossword from pg. 3 of this report:



# Glossary of GS proprietary indices

## Current Activity Indicator (CAI)

GS CAIs measure the growth signal in a broad range of weekly and monthly indicators, offering an alternative to Gross Domestic Product (GDP). GDP is an imperfect guide to current activity: In most countries, it is only available quarterly and is released with a substantial delay, and its initial estimates are often heavily revised. GDP also ignores important measures of real activity, such as employment and the purchasing managers' indexes (PMIs). All of these problems reduce the effectiveness of GDP for investment and policy decisions. Our CAIs aim to address GDP's shortcomings and provide a timelier read on the pace of growth.

*For more, see our CAI page and Global Economics Analyst: Trackin' All Over the World – Our New Global CAI, 25 February 2017.*

## Dynamic Equilibrium Exchange Rates (DEER)

The GSDEER framework establishes an equilibrium (or "fair") value of the real exchange rate based on relative productivity and terms-of-trade differentials.

*For more, see our GSDEER page, Global Economics Paper No. 227: Finding Fair Value in EM FX, 26 January 2016, and Global Markets Analyst: A Look at Valuation Across G10 FX, 29 June 2017.*

## Financial Conditions Index (FCI)

GS FCIs gauge the "looseness" or "tightness" of financial conditions across the world's major economies, incorporating variables that directly affect spending on domestically produced goods and services. FCIs can provide valuable information about the economic growth outlook and the direct and indirect effects of monetary policy on real economic activity.

FCIs for the G10 economies are calculated as a weighted average of a policy rate, a long-term risk-free bond yield, a corporate credit spread, an equity price variable, and a trade-weighted exchange rate; the Euro area FCI also includes a sovereign credit spread. The weights mirror the effects of the financial variables on real GDP growth in our models over a one-year horizon. FCIs for emerging markets are calculated as a weighted average of a short-term interest rate, a long-term swap rate, a CDS spread, an equity price variable, a trade-weighted exchange rate, and—in economies with large foreign-currency-denominated debt stocks—a debt-weighted exchange rate index.

*For more, see our FCI page, Global Economics Analyst: Our New G10 Financial Conditions Indices, 20 April 2017, and Global Economics Analyst: Tracking EM Financial Conditions – Our New FCIs, 6 October 2017.*

## Goldman Sachs Analyst Index (GSAI)

The US GSAI is based on a monthly survey of GS equity analysts to obtain their assessments of business conditions in the industries they follow. The results provide timely "bottom-up" information about US economic activity to supplement and cross-check our analysis of "top-down" data. Based on analysts' responses, we create a diffusion index for economic activity comparable to the ISM's indexes for activity in the manufacturing and nonmanufacturing sectors.

## Macro-Data Assessment Platform (MAP)

GS MAP scores facilitate rapid interpretation of new data releases for economic indicators worldwide. MAP summarizes the importance of a specific data release (i.e., its historical correlation with GDP) and the degree of surprise relative to the consensus forecast. The sign on the degree of surprise characterizes underperformance with a negative number and outperformance with a positive number. Each of these two components is ranked on a scale from 0 to 5, with the MAP score being the product of the two, i.e., from -25 to +25. For example, a MAP score of +20 (5;+4) would indicate that the data has a very high correlation to GDP (5) and that it came out well above consensus expectations (+4), for a total MAP value of +20.

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