The Blob: Capital, China, Chips, Chicago and Chilliwack

I saw a great movie recently so I thought I would share.

In this piece, we look at the AI and data center takeover, and the OpenAI-Oracle deal; the US government equity investments in Intel and MP Materials, the origins of TSMC and how many countries support national champions via industrial policy; efforts in China to reduce excess capacity and consequences for equity investors; crime and municipal solvency in Chicago and Illinois; how tight net new equity supply has been supporting US equity markets since 2011; and pictures from Chilliwack, Canada.

Michael Cembalest
JP Morgan Asset Management

The Blob: the AI and data center takeover

I think this is well understood, but just to reinforce the point: AI related stocks[1] have accounted for 75% of S&P 500 returns, 80% of earnings growth and 90% of capital spending growth since ChatGPT launched in November 2022. AI is showing up other places as well. Data centers are eclipsing office construction spending and are coming under increased scrutiny for their impact on power grids and rising electricity prices. Specialized power rates for most data centers aren't enough to cover costs of a new natural gas plant (leaving other customers to foot part of the bill), and in the PJM region, 70% of last year's increased electricity cost was the result of data center demand; more to come in our next energy paper. The biggest medium-term risk I can think of for top-heavy US equity markets: China's Huawei and SMIC pierce the $6.3 trillion NVIDIA-TSMC-ASML moat by creating their own supernode computing clusters and deep-ultraviolet lithography machines of comparable quality.

Other recent AI news: Oracle's stock jumped by 25% after being promised $60 billion a year from OpenAI, an amount of money OpenAI doesn't earn yet, to provide cloud computing facilities that Oracle hasn't built yet, and which will require 4.5 GW of power (the equivalent of 2.25 Hoover Dams or four nuclear plants), as well as increased borrowing by Oracle whose debt to equity ratio is already 500% compared to 50% for Amazon, 30% for Microsoft and even less at Meta and Google. In other words, the tech capital cycle may be about to change.

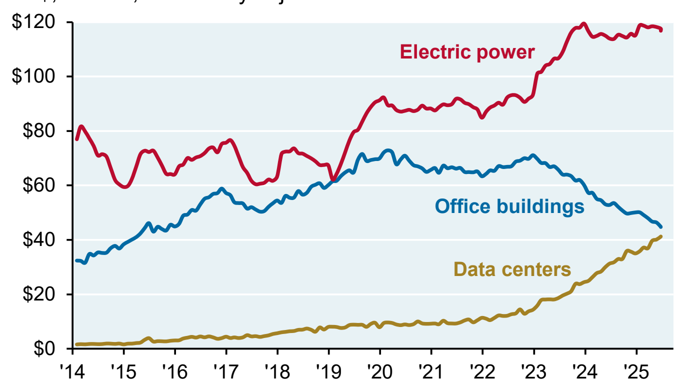
Returns, earnings, capex/R&D growth and contributions of AI-related stocks in the S&P 500 since ChatGPT launch

	AI: Direct	AI: Utilities	AI: CapEquip	S&P 500 ex-AI
Performance since November 2022				
Price return	181%	65%	138%	25%
Earnings growth	124%	15%	58%	9%
EBIT growth	98%	11%	71%	16%
Capex + R&D growth	63%	21%	-14%	4%
Contributions to S&P 500 since November 2022				
Price return	75%	0.9%	0.9%	23%
Earnings growth	79%	0.5%	0.8%	20%
EBIT growth	62%	0.4%	0.9%	36%
Capex + R&D growth	90%	2%	-0.1%	8%

Source: Bloomberg, JPMAM, September 22, 2025

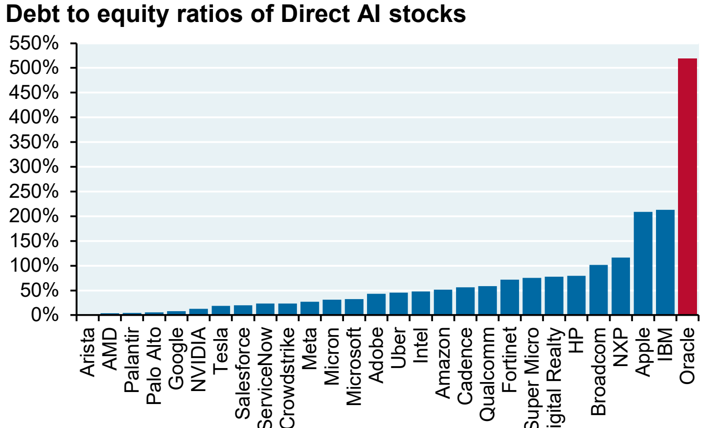
US construction spending

US$, billions, seasonally adjusted annual rate



Source: Census Bureau, JPMAM, July 2025

Debt to equity ratios of Direct AI stocks



Source: Bloomberg, JPMAM, September 16, 2025

On OpenAI/Oracle and the capital cycle:

"There is no way for Oracle to pay for this with cash flow. They must raise equity or debt to fund their ambitions. Until now, the AI infrastructure boom has been almost entirely self-funded by the cash flows of a select few hyperscalers. Oracle has broken the pattern. It is willing to leverage up to hundreds of billions to seize a share. The stable oligopoly is cracking…The implications are profound. Amazon, Microsoft and Google can no longer treat AI infrastructure as a discretionary investment. They must defend their turf. What had been a disciplined, cash-flow-funded race may now turn into a debt-fueled arms race". Doug O'Laughlin, *Fabricated Knowledge*, Sept 2025

[1] Our S&P 500 AI universe is composed of 41 stocks from three categories, based on analyses of earnings transcripts conducted by Dubravko's JP Morgan Global Market Strategy Team and by Empirical Research

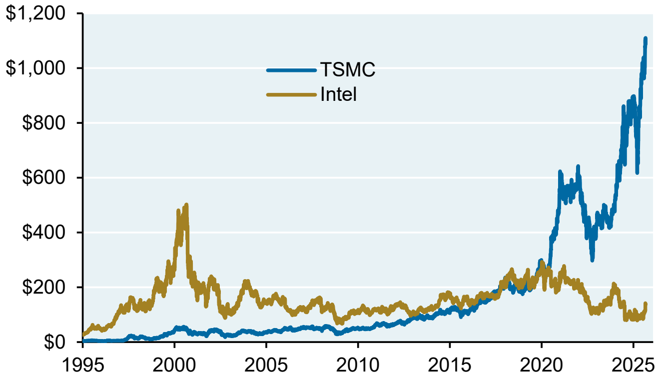
Direct AI (29): NVIDIA, Microsoft, Apple, Alphabet, Amazon, Meta, Broadcom, Tesla, Oracle, Palantir, AMD, Salesforce, IBM, Uber, ServiceNow, Qualcomm, Arista, Adobe, Micron, Palo Alto, Intel, Crowdstrike, Cadence Design, Dell, NXP, Fortinet, Digital Realty Trust, HP and Super Micro Computer. **AI utilities (8)**: NGR, Vistra, NextEra, Southern, Constellation, Public Service Enterprise, Entergy, NiSource. **AI capital equipment (4)**: Eaton, Trane, Johnson Controls, Quanta

Chips: the US government equity investment in Intel, TSMC and a world of mercantilist industrial policy

One of the stocks in our direct AI basket is **Intel**, a company which is decidedly NOT part of the reason that AI stocks have performed so well since 2022. Intel's earnings and market cap have actually *declined* since GPT was launched. There are plenty of critics of the US government's 10% stake in Intel, but I'm not one of them. It strikes me as way too late in the game for the US to rely primarily on market forces to support US domestic chip fabrication. Intel needs an anchor of demand to make its chip foundry viable, but what customer would elect to go with Intel if there's a chance its foundry won't survive? With the US gov't anchor investment in place, NVIDIA followed with a $5 billion partnership in Intel and other fabless chip companies may follow.

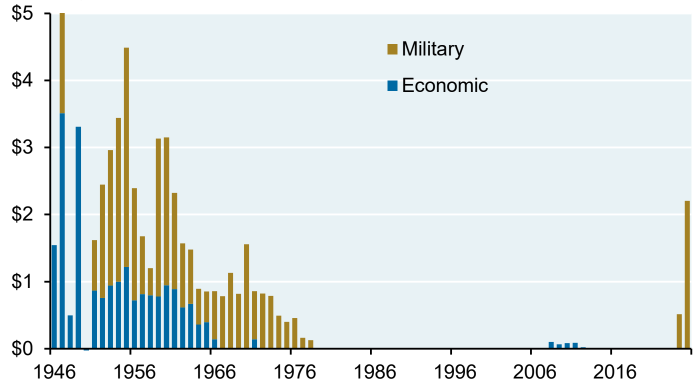
When the US Department of Defense took a 15% stake in **MP Materials** recently[2], I felt the same way: the US needs critical mineral mining and processing capabilities, and MP Materials has to compete with critical minerals companies in China, 40% of which are not even regulated[3]. Surviving in a world of mercantile adversaries playing by a different set of rules can only be sustained for so long when national security interests are involved.

TSMC vs Intel market cap
Billions, US$



Source: Bloomberg, JPMAM, September 22, 2025

US military and economic aid to Taiwan
Billions, US$



Source: Council on Foreign Relations, September 2024

Let's also remember how TSMC, Taiwan's "Guardian Sacred Mountain", became what it now is:

- In the 1970's, Taiwan faced the end of US military and economic aid, UN expulsion and an energy crisis
- Semiconductors were chosen as a lifeline to sustain Taiwan's economy using a pure-play foundry model given Taiwan's limited capabilities in circuit design or intellectual property
- The US company RCA was the only one willing to license its semiconductor design technology to Taiwan's Industrial Technology Research Institute. This led to TSMC being founded by Taiwanese-American Morris Chang with **$100 million in seed money from the Taiwanese government, which took a 49% stake**
- While the Taiwanese government's share in TSMC has declined since the 1970's, its National Development Fund is still the largest shareholder with 6%-7% and maintains a seat on the company's board
- **The Taiwanese government continues to support TSMC** via subsidized water and electricity prices, tax credits and creation of industrial parks and research centers. The result: "TSMC doesn't have to spend a penny to get the best talent from Taiwan"[4]. TSMC's market cap is now greater than Taiwanese GDP

The history of **South Korea and Samsung** is similar: billions in Korean government tax incentives, infrastructure development for semiconductor clusters, R&D support and streamlined regulations. The **Dutch government has also supported ASML**, Europe's most valuable tech company, with billions in infrastructure, housing and education funding for the Brainport Eindhoven innovation technology region.

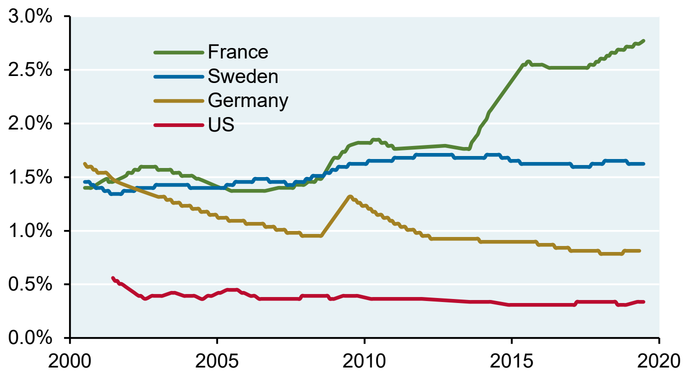
[2] Gov't support doesn't always have to be expensive. Purchasing all of the output from a Tennessee plant that produces gallium (critical in high tech and defense industries) could cost as little as $15 mm per year and provide 200% of US gallium consumption (Colorado School of Mines Payne Institute)

[3] "*China's public policies toward rare earths, 1975 -2018*", Yuzhou Shen et al in *Mineral Economics*, 2020, and "*The impact of unregulated ionic clay rare earth mining in China*", Packey and Kingsnorth, *Resources Policy*, 2016

[4] Shih-Chang Hung, professor of technology and innovation management at National Tsing Hua University

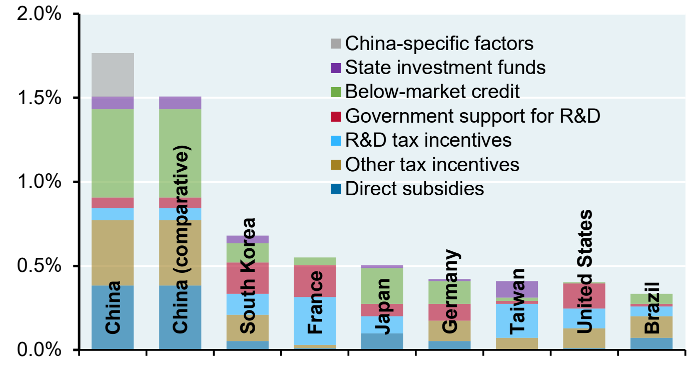
Bottom line: it's a really mercantile world out there. While the US has a stellar track record in creating new companies compared to Europe (see bubble chart), the rest of the world often provides a lot more in the way of tax, loan, grant and other subsidies to its manufacturing industries than the US[5]. In China, the world's most mercantile country, such subsidies can reach 15%-35% of industry profits. **Providing a Federal government lifeline to Intel may have been the least bad option in the world illustrated below**.

Government expenditures on subsidies
Share of GDP



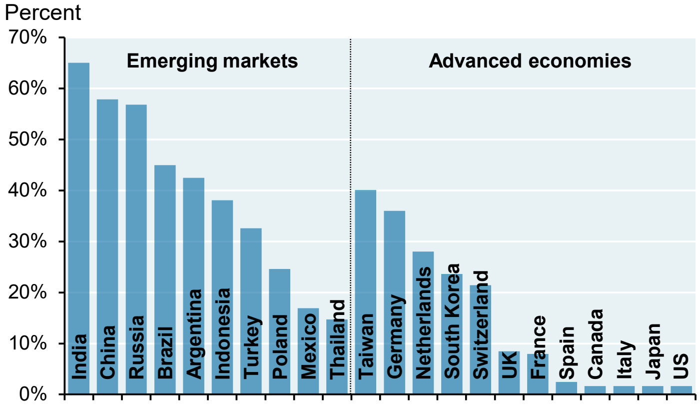
Source: Sweden Board of Trade, 2019

Industrial policy spending in key economies
Percent of GDP



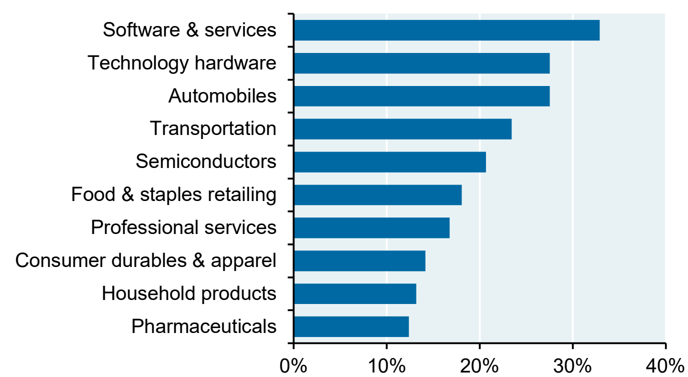
Source: CSIS, 2022

State-owned banks share of banking system assets
Percent



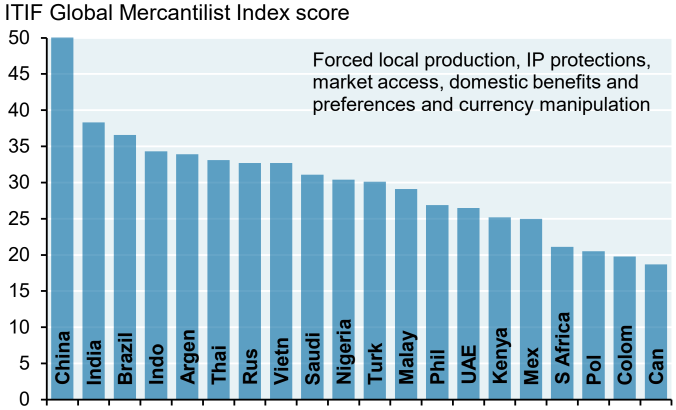
Source: CSIS, 2022

China direct subsidies for listed firms by subsector
Share of profits, 2017-2020



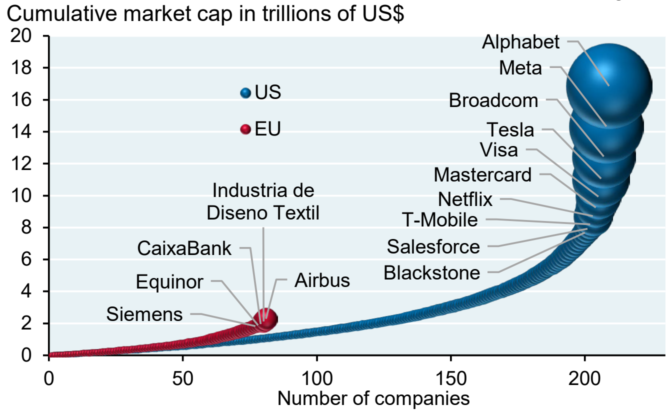
Source: CSIS, 2022

20 most mercantilist countries
ITIF Global Mercantilist Index score



Source: Information Technology & Innovation Foundation, 2019

Creation of new public companies in the 21st century
Cumulative market cap in trillions of US$



Source: Bloomberg, JPMAM, August 25, 2025

[5] Sources include "*Government subsidies in manufacturing sectors*", Sweden National Board of Trade, June 2023 and "*Red ink: estimating Chinese industrial policy spending in comparative perspective*", CSIS, May 2022

Chicago, crime and municipal solvency

The President has highlighted the crime situation in Chicago but has reportedly opted to send the National Guard to Memphis instead. **How bad is crime in Chicago?** Based on data from the Council on Criminal Justice, Chicago ranks at the high end of some crime statistics on a per capita basis and lower on others. To be clear, per capita comparisons at a city level can be affected by different ways of measuring urban populations within the city's outer limits. And like most cities, Chicago crime rates are very heterogenous by district: the 20 most dangerous communities have a homicide rate that's 68x higher than in the 20 safest communities.

Crime rates per capita, 2024-2025

	# of cities reporting	City rank										
		Chi	NYC	Meph	Balt	DC	St L	Phi	Minn	SF	Denv	Dal
Aggravated assault	23	6	dnr	dnr	4	21	3	8	dnr	14	dnr	dnr
Carjacking	9	4	dnr	3	1	2	dnr	dnr	dnr	6	5	dnr
Gun assaults	11	3	dnr	dnr	4	8	dnr	5	dnr	10	dnr	6
Homicide	30	11	26	2	4	6	1	13	dnr	dnr	23	dnr
Larceny	36	22	25	1	13	10	5	6	16	15	14	23
Motor vehicle theft	36	17	35	2	8	18	4	dnr	3	21	6	1
Nonresidential burglary	18	11	dnr	3	dnr	dnr	dnr	15	10	1	7	6
Robbery	36	5	14	2	1	6	9	8	3	7	16	dnr
Residential burglary	18	11	dnr	1	dnr	dnr	dnr	8	2	6	4	13

Source: Council on Criminal Justice, mid-year 2025 update. DNR = does not report
Key cities missing from CCJ data: Los Angeles, Houston and San Diego

If one were using this data to think about possible Federal intervention, Memphis-Baltimore-Philadelphia-St. Louis seem as dangerous as Chicago if not more so. That said, Chicago's homicide rate is 5x higher than NYC, and if we narrow the universe to the few mega-cities with more than 750,000 people, Chicago ranks #1 in aggravated assault, gun assaults, homicide and robbery.

Chicago's mayor recently cited improvements in crime-fighting and homicide "clearance rates" of 52%, the highest in Chicago since 2019. **Not so fast[6]…**

- Of 319 murders cleared (i.e., resolved) in 2023, only 140 occurred in 2023…some were so old they occurred when Nixon was still President. Even more important: "cleared" also doesn't always mean someone was arrested or indicted, it just means the police consider the crime "solved"; sometimes prosecutors don't move to trial, and sometimes presumed perpetrators die of old age. Of the 140 Chicago murders that were cleared and that occurred in 2023, charges were only filed in 18% of cases
- Broadening the time frame to 2013 – 2022, the percentage of murders actually cleared by an arrest was ~20% in Chicago compared to over 50% in NYC and a national average of 45%. The gap between perception and reality in Chicago is so great that Illinois legislators introduced a bill to require law enforcement to disclose the number of people arrested and charged, rather than cases cleared
- Since 2018, of 19k people wounded in non-fatal Chicago shootings, arrests were only made in 6% of cases. In Chicago, 80% of nonfatal shooting investigations are suspended each year, meaning assigned officers no longer actively investigate them. Slightly fewer than half of all cases are suspended within just 30 days
- More stats on Chicago crime policies: over 70% of arrested and charged individuals are released before trial; from 2020 to 2024, nearly 400 individuals arrested for murder or attempted murder were out on bail for a prior felony at the time of arrest; more than 75% of orders of protection go unenforced; and more than half of all high-priority 911 calls receive no immediate police response compared to 19% in 2019

Chicago, My Kind of Town: a photo from September 2025 shows Governor Pritzker posing with a community violence intervention worker who officials say was later charged with murder and other crimes after a smash-and-grab burglary of a Louis Vuitton store on the Magnificent Mile (WSJ). **Chicago could opt to spend more on public safety initiatives but may be constrained by a topic we've written about several times over the years: municipal solvency constraints, which we discuss next**.

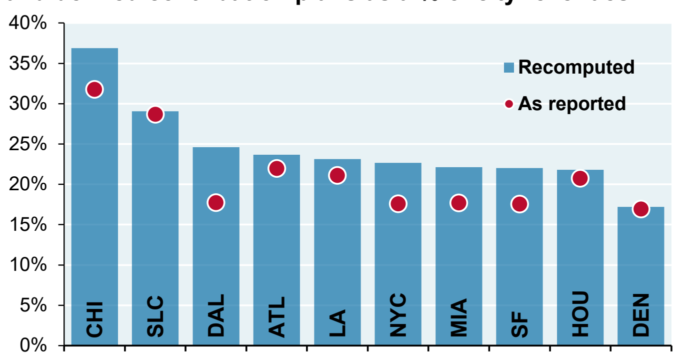
[6] Sources include CWB Chicago, CBS Chicago, Chicago Sun Times, TheTrace.org, Illinois Policy Institute and the University of Chicago Crime Lab

In 2014, I began a project to track total indebtedness of states and cities incorporating general obligation debt and underfunded pension and retiree healthcare plans. It's called the "ARC and the Covenants" project; ARC stands for the Annual Required Contribution that municipal actuaries determine as amounts needed to amortize underfunded plans, and the Covenant refers to promises made to employees. It requires us to pore through 400+ page Consolidated Annual Financial Reports for each plan; states and cities can have 10 or more single employer and multi-employer plans; and disclosures can be poorly explained and inconsistently provided.

In our prior updates for cities (2023) and states (2021), Chicago and Illinois showed up as having the highest ratios of required payments as a share of their respective revenues. We updated the ten cities and states with the highest ratios and little has changed. Let's start with Chicago:

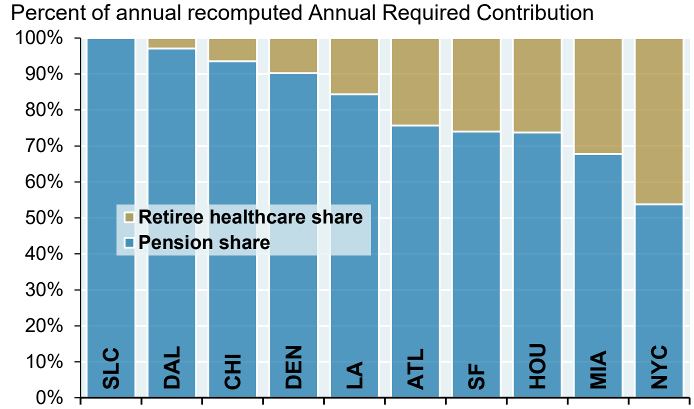
- **Chicago still has the highest ratio**, requiring a staggering 35% of all city revenue collections to fully amortize its underfunded plans over a 30-year period. Chicago faces a more difficult challenge than other cities since almost all of its underfunded obligations are contractual pensions, compared to retiree healthcare plans (OPEB) whose deductibles, copays and other terms & conditions can be revised
- The Chicago Police Department which would be responsible for any changes in law enforcement policies has a woefully underfunded pension. The Chicago Police Annuity Benefits Fund has just a 24% funding ratio, the 2nd lowest of all pension plans in our universe only behind the California Judges Retirement Fund
- **Our Chicago figures may be understated** since they do not reflect pension enhancements made in July 2025 which reportedly took funding ratios below 20%, a level considered "technically insolvent"
- **Watch for tax increases in Chicago to deal with this and with the city's $1.15 bn budget shortfall**

Cities: cost of pension and retiree healthcare plans (including amortization of unfunded amounts), gov debt and defined contribution plans as a % of city revenues



Source: Individual city CAFRs, Moody's, JPMAM, FY 2024

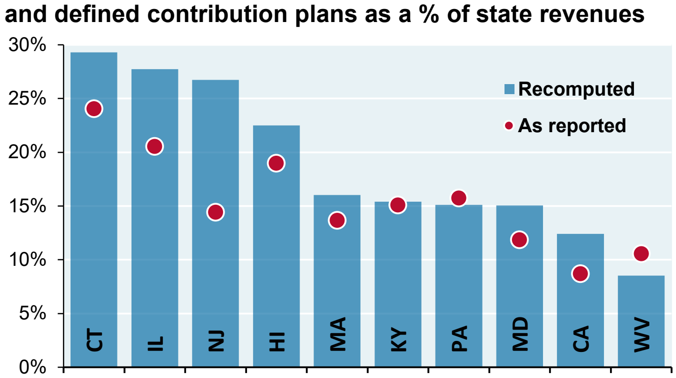
City split: pension & retiree healthcare obligations
Percent of annual recomputed Annual Required Contribution



Source: Individual city CAFRs, Moody's, JPMAM, FY 2024

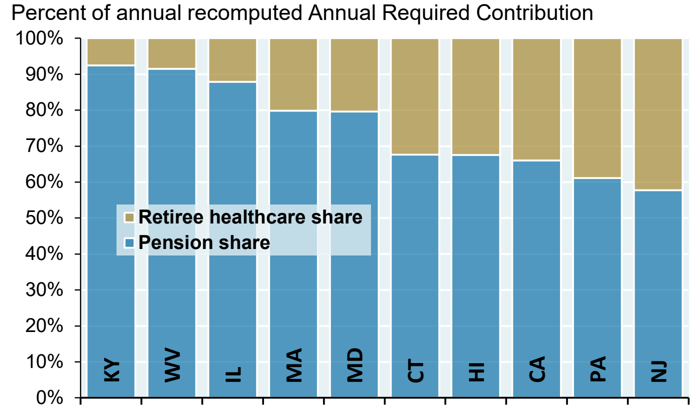
A similar story for the state of Illinois, which was edged out by Connecticut this time but which (like Chicago) has greater burdens linked to contractually obligated pensions vs more flexible OPEB. Illinois keeps showing up as #1, #2 or #3 on analyses of state migration outflow rates, which isn't going to make any of this easier.

States: cost of pension and retiree healthcare plans (including amortization of unfunded amounts), gov debt and defined contribution plans as a % of state revenues



Source: Individual state CAFRs, Moody's, JPMAM, FY 2024

State split: pension & retiree healthcare obligations
Percent of annual recomputed Annual Required Contribution

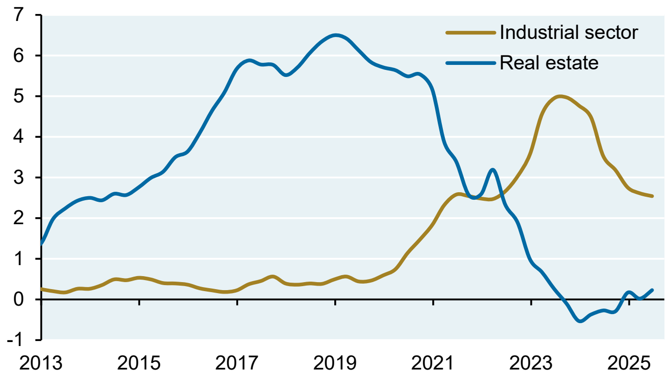


Source: Individual state CAFRs, Moody's, JPMAM, FY 2024

China, "involution" and the export of surplus production

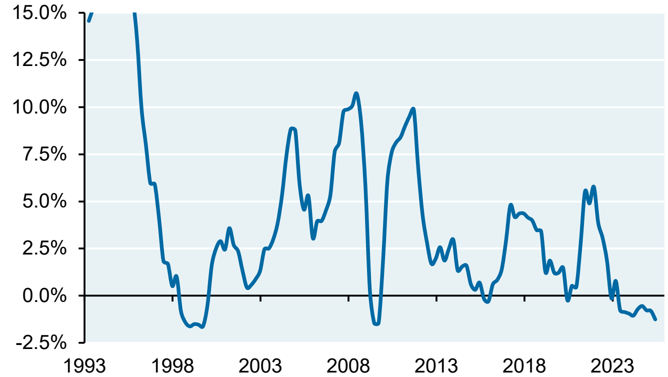
The buzzword of the day in China is "involution", which refers to excess capacity and oversupply which has led to the longest period of Chinese deflation since 1998 and weak industrial profits. Rather than continuing to try to stimulate domestic demand to absorb excess production, China now claims it will push banks to reduce lending to oversupplied industries solely for meeting GDP targets. This will be a tough ask for the Chinese corporate sector which has been exporting excess production to the rest of the world, as shown below.

Chinese bank loans to industry vs real estate
Trillions, RMB, change in loans outstanding y/y



Source: The People's Bank of China, Bloomberg, JPMAM, Q2 2025

China GDP deflator
Percent

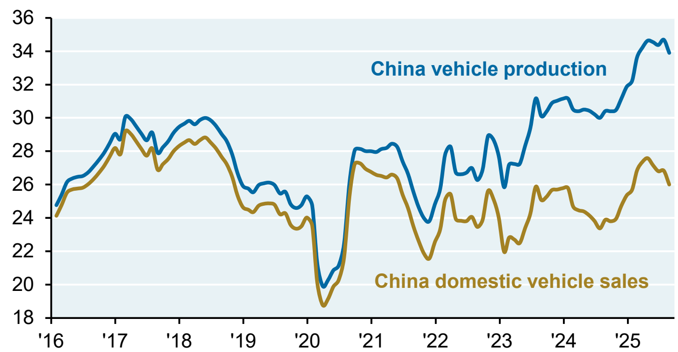


Source: Bloomberg Economics, JPMAM, Q2 2025

China exports and corporate earnings
Index (100 = Jan 2017)

Source: Haver, China Customs, Bloomberg, JPMAM, August 2025

China vehicle production vs domestic sales
Million vehicles, 6 month average, seasonally adjusted annual rate



Source: China Association of Auto Manufacturers, China General Administration of Customs, JPMAM, August 2025

China mercantilism and oversupply

The US is not the only country using tariffs to deal with Chinese oversupply. Mexico, Turkey, Indonesia, Brazil, South Africa, Thailand and Vietnam are among the countries that have imposed tariffs on Chinese industrial or consumer exports.

While president Xi refers to the need for integration and dismantling trade walls rather than erecting them, China has been the world's most mercantile country since its early 2000s acceptance into the WTO. Its tools of the trade: special status for state enterprises, subsidies, direct grants and loans, below-market borrowing, state-directed credit, technology transfer and special procurement policies.

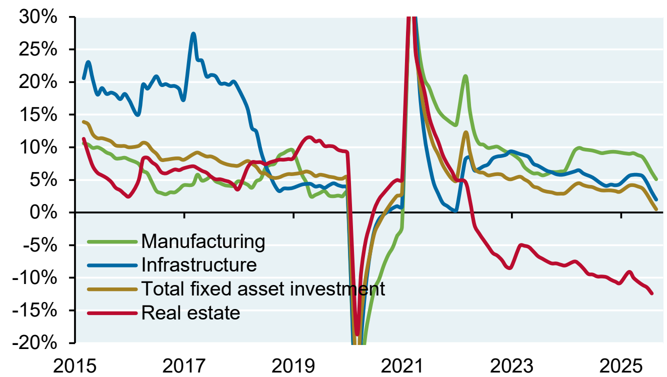
According to economist George Magnus, this is nothing new. A trade war or "shangzhan" was also a key feature during the latter years of the Qing Dynasty (1644-1912) and the early years of the Chinese Republic. One of the leading advocates for a mercantilist political economy was Zheng Guanying (1842-1922) who argued for state involvement in the revival of domestic tea and silk industries, domestic cultivation of opium, subsidies for modern textile factories and import substitution.

At a July 2025 meeting of China's Central Commission on Economic and Financial Affairs, President Xi devoted a session to "disorderly low-price competition," and the need for an "orderly exit of outdated production capacity". Since then, Chinese equities have rallied at a faster pace than the rest of the world. Has China followed through? In July, there was a noticeable decline in fixed investment as shown on the right. But it's not clear how long this will last, and it's also unclear what the balance of winners and losers will be among Chinese industrial companies, since some will have to cut production. **The safer play: focus instead on OECD industrial companies which would benefit from any reduction in Chinese oversupply**, particularly since our real time growth monitors for China still point to weak overall economic activity (outside exports).

China vs world equity total returns in US$
Index (100 = 12/31/2024)

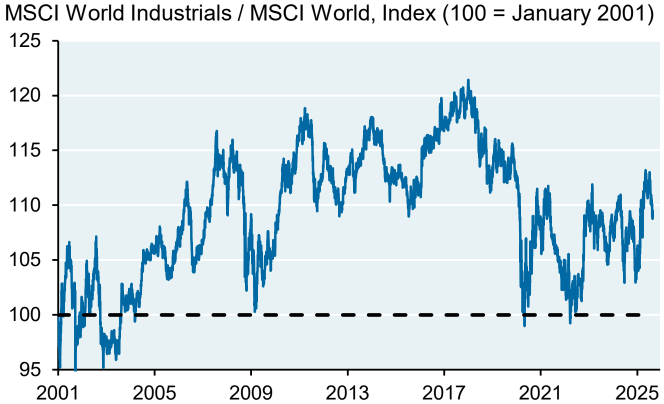
Source: Bloomberg, JPMAM, September 23, 2025

China monthly fixed asset investment by sector
y/y % change



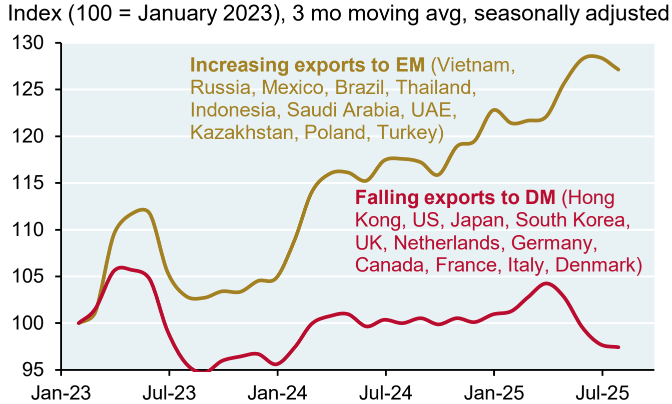
Source: Bloomberg, National Bureau of Statistics of China, August 2025

Developed world industrials total return vs the market
MSCI World Industrials / MSCI World, Index (100 = January 2001)



Source: Bloomberg, JPMAM, September 12, 2025

Shifting Chinese exports in 2025
Index (100 = January 2023), 3 mo moving avg, seasonally adjusted

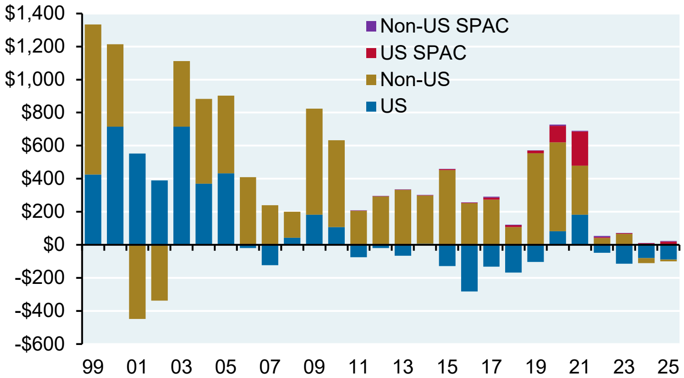


Source: China General Administration of Customs, JPMAM, July 2025

This chart might be the simplest explanation for US equity market resilience since 2011: limited supply

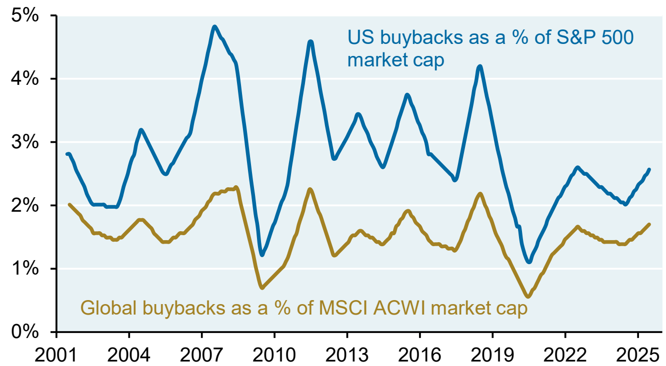
From time to time I ask my colleagues in the Investment Bank to update their analysis on net equity supply. I'm not a market technician but I do believe that declining net equity supply conditions since 2011 have contributed to US equity market resilience in the face of various shocks. If you believe that supply and demand conditions affect the price of goods and labor, there's every reason to believe such conditions can affect financial asset prices as well. At the end of the day, $1.5 trillion in annual defined benefit and defined contribution payments into qualified plans by households and employers has to end up invested someplace. While such contributions have declined as a share of market cap from their 2009 peak, they're still running at 3%-4% per year while the supply of US equities continues to shrink (blue series in first chart).

Global net equity supply
Billions, US$



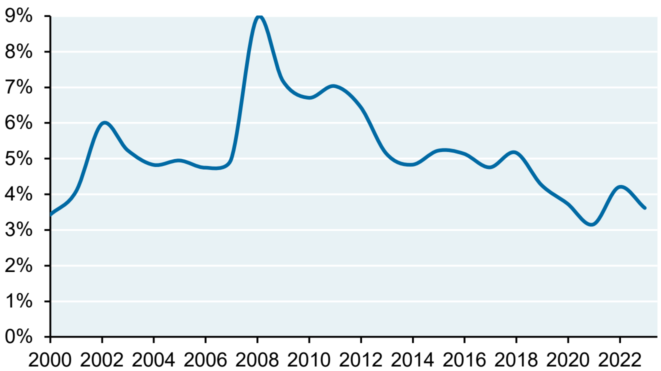
Source: JPM Flows & Liquidity, September 2025

Announced buybacks as a share of equity market cap
Percent



Source: JPM Flows and Liquidity, September 2025

Defined benefit & defined contribution plan household and employer contributions as share of S&P 500 market cap



Source: Bloomberg, FRED, JPMAM, 2023

Chilliwack, British Columbia, August 2025

Sturgeon Instagram reel: https://www.instagram.com/reel/DOUBigeiefC/?igsh=MWhlb3liOXhxbXd3cw==

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