Financial Times 번역요약본 (‘26. 2/10)

1. Top chipmakers warn AI-driven supply squeeze will worsen : **글로벌 반도체 대기업들 “AI로 인한 공급 부족, 더 심해질 것”** (1/29)

- 삼성전자와 SK하이닉스는 AI 데이터센터용 메모리 반도체 수요 급증으로 인해 반도체 공급 부족 현상이 단기간 내 해소되기 어렵다고 경고함. 대규모 투자 확대에도 불구하고, 생산능력 증설 속도가 수요를 따라가지 못해 메모리 가격 상승과 공급 타이트 현상이 구조적으로 지속될 가능성이 큼. AI 시대의 반도체 경쟁에서 연산칩보다 메모리 (HBM)가 더 큰 전략 자산으로 부상하고 있으며, 메모리는 단기간 증설이 불가능하고, 장기 계약 구조로 인해 가격 변동성의 감소와 고수익 구조가 고착화되고 있으며, 한국 반도체 산업은 AI 인프라의 핵심 병목을 장악한 상태로 평가됨. 이는 단순한 호황이 아니라 AI 중심 반도체 질서 재편의 시작으로 평가됨.

2. Singapore’s public housing model meets the limits of its success : **싱가포르 공공주택 모델, 성공의 한계에 직면** (1/31)

- 싱가포르의 공공주택 (HDB) 제도는 지난 60여 년간 국민 주거 안정과 국가 성장의 핵심 기반으로 기능해왔으나, 최근 주택 가격 상승, 사회구조 변화, 임대기간 (99년) 문제 등으로 제도적 한계가 드러나고 있음. 싱가포르 시민과 영주권자의 75% 이상이 정부 보조 공공주택에 거주함으로써 단순한 주거를 넘어 국가 정체성과 사회 통합의 기반으로 작용했지만, 최근 코로나 19 이후 신규 공급이 지연되어 대기 기간이 최대 6년까지 길어지고, 그 결과 중고 (HDB 재판매) 시장의 가격이 급등하는 등 문제점이 드러나고 있음. 싱가포르 공공 주택 모델은 강력한 국가 개입과 시장 요소의 결합이라는 점에서 여전히 국제적 모범 사례이지만, 주택의 자산화, 사회 구조변화 (1인 가구와 비혼 증가), 장기 임대 구조의 한계는 향후 제도 개

편 없이는 지속 가능성이 약화될 가능성이 큼.

3. Global investors need to go on Japan watch right now : **지금 글로벌 투자자들은 일본을 주목해야 한다** (‘26. 2/3)

- 일본 국채 금리가 1990년대 이후 최고 수준으로 급등하면서, 일본의 재정/통화 정책 조합이 글로벌 금융시장에 파급 효과를 낼 가능성이 커지고 있음. 소비세 인하 논의, 막대한 정부 부채, 일본은행(BOJ)의 양적 긴축이 맞물리며 국채 금리 상승과 엔화 약세가 동시에 진행되고 있음. 일본의 국채 금리 상승과 통화정책 정상화는 더 이상 일본 내부 문제에 그치지 않으며, 재정 부담, 엔화 가치, 미 국채 시장과의 연결 고리를 통해 글로벌 채권 및 외환 시장의 주요 리스크 요인으로 부상하고 있음.

4. How Thailand became the ‘sick man’ of Asia : **태국은 어떻게 ‘아시아의 병자’가 되었나?** (‘26. 2/3)

- 한때 연 10%대 고성장을 기록하며 ’아시아의 호랑이‘로 불리던 태국은 현재 저성장 고착화, 산업 경쟁력 약화, 가계부채 급증, 정치 불안정이 겹치며 동남아 주요국 가운데 가장 부진한 경제로 전락하였으며, 이는 단기 경기 침체가 아니라 구조적인 문제로 평가됨. 소비, 제조, 관광업이 모두 동반 부진하여 성장 동력 전반이 약화되었고, 중국산 저가 제품 유입, 베트남 등 신흥 제조 허브와의 경쟁 심화로 제조업 및 자동차 산업이 쇠퇴하고, 2025년 외국인 관광객은 3,290만명으로 정점이던 2019년 4천만명에서 큰 폭으로 감소함. 태국 경제의 침체는 일시적 불황이 아니라 인구, 산업, 정치 구조가 동시에 흔들리는 복합 위기라는 진단이며, 근본적인 구조 개혁과 새로운 성장 동력 확보 없이는 동남아 핵심 경제국으로서의 위상 회복이 어려울 것으로 평가됨.

5. China is the main beneficiary of Trump’s Arctic antics : **트럼프**

의 북극 집착이 낳은 최대 수혜자는 중국 ('26. 2/3)

- 미국 트럼프 대통령의 그린란드, 파나마 운하, 캐나다를 둘러싼 공격적이고 즉흥적인 외교 안보 행보는 미국의 영향력을 약화시키는 반면, 중국에는 장기적인 전략적 기회를 제공하고 있음. 특히 미국이 통맹을 소외시키고 군사 자산을 재배치하는 사이, 중국은 북극과 아시아, 태평양 지역 전반에서 조용히 입지를 강화하고 있음. 트럼프는 그린란드 등을 미국 안보의 핵심 요충지로 규정하며 관세 위협, 동맹국 영토 병합 발언 등 충동적인 행보로 오히려 동맹 불신을 키우고 있으며, 그 결과 전후 국제질서 (Pax American)가 흔들리며 전략적인 공백이 발생. 중국은 미국의 실수를 굳이 저지할 필요 없이 관망하며 이익을 축적하고 있으며, 미국이 서반구에 집중하는 동안, 중국은 서태평양에서 영향력을 확대하고 있음. 중국은 스스로를 근(近) 북극 국가로 규정하지만, 실제로 북극 접근은 일본, 미국 해역을 통과하는 구조이며, 중국의 핵심 관심사는 군사적 지배가 아니라 북극 해빙으로 열리는 상업 항로임. 러시아 연안을 따라가는 '북극항로 (NSR)'는 중국이 러시아의 에너지 및 자원과, 유럽 시장에 접근하는 핵심 물류로 부상하고 있음.

6. The political cost of America's surging electricity bills : **미국 전기요금 급등의 정치적 대가** ('26. 2/3)

- 미국에서 AI 데이터센터 확산으로 전력 수요가 급증하면서 전기요금이 빠르게 오르고 있고, 이는 트럼프 행정부의 핵심 공약이었던 '에너지 가격 인하'와 정면 충돌하고 있으며, 전기요금 문제는 점차 정치적 부담이자 선거 이슈로 부상하고 있음. 2025년 1-11월 기준, 미국 가정용 전기요금은 11.5% 상승하였고, 오하이오, 펜실베니아, 뉴저지 등 일부 주는 15~20% 이상 상승하였음. 최근 AI 붐으로 데이터센터의 전력 수요가 증가하며, 2024년 34.7GW에서 2035년에는 106GW가 필요할 것으로 전망되며, 전력 생산 및 송전 인프라 확충 속도가 수요를 따라가지 못하고 있음. 미국인 51%가 '트럼프 정책이

생활비를 더 비싸게 만들었다'고 응답하였고, 전기 요금 문제는 최근 주(州) 선거에서 민주당 승리 요인으로 작용하였음. 미국에서 전기는 다시 한 번 '필수재'가 아닌 '정치 변수'가 되었으며, AI 및 데이터센터 중심 성장 전략이 지속되는 한, 전력 인프라 투자, 데이터센터 비용 분담, 재생에너지/화석연료 균형 정책 없이는 전기요금 상승과 정치적 반발이 반복될 가능성이 큼.

7. Can Tesla make its own chips : **테슬라는 자체 반도체를 만들 수 있을까** ('26. 2/4)

- 테슬라의 높은 기업가치는 전기차보다는 AI, 자율주행, 로봇 중심의 미래를 전제로 하고 있으며, 이를 실현하려면 핵심 반도체에 대한 통제력이 필요함. 일론 머스크는 이를 위해 자체 반도체 공장이 '테라팹 (TeraFab)' 구축을 언급했지만, 기술적 가능성과 별개로 경제성 및 실행 리스크가 매우 커보임. 흔히 비교되는 TSMC의 3~5 나도 최첨단 공정은 진입 불가능하지만, 테슬라 차량용 AI, 로봇용 칩 등에 쓰이는 7 나노 공정은 생산 가응할 것으로 보여 기술적으로 불가능한 일은 아님. 하지만 여전히 ASML의 EUV (극자외선) 노광 장비가 필수적이며, 초청정 클린룸, 대규머 전력, 냉각, 용수 등 인프라 필요, 결함률을 낮출 수 있는 고급 공정 엔지니어 수백 명 필요 등 기술 장벽은 매우 높음. 결정적 약점은 경제성 문제로, TSMC는 연간 400억 달러 이상 투자하며 다수 고객 및 설계로 리스크를 분산하고 있지만, 테슬라는 외부 고객 없이 자체 사용만 계획하고 있으며, 고정비 구조로 구조적인 적자 가능성이 존재함. 결국 테슬라의 반도체 내재화는 기술적으로는 가능성이 있으나, 경제성과 실행 측면에서는 가치 파괴 가능성이 매우 큰 전략이며, 역사적으로 볼 때 '막대한 자본 + 공정 불안정 + 고객 다변화 실패'의 조합은 대부분 실패로 귀결되었음. 테슬라의 테라팹 구상은 AI 기업으로 도약하려는 전략적 야망의 상징이지만, 실행될 경우 주주가치에 부정적 결과를 낳은 위험이 큰 것으로 전망.

Semiconductors

Top chipmakers warn AI-driven supply squeeze will worsen

South Korea's Samsung and SK Hynix to boost capital spending but say capacity expansion will be limited this year and next

Samsung and SK Hynix have posted record earnings on the back of heightened demand for memory chips in AI data centres © Kim Hong-Ji/Reuters

Song Jung-a in Seoul

Published JAN 29 2026

The world's two largest chipmakers have warned that investment in new capacity will not come fast enough to alleviate an AI-driven supply squeeze in semiconductors.

Samsung Electronics and SK Hynix said in earnings calls on Thursday that they would increase capital spending "substantially" this year but expected chip shortages to exacerbate in the short term as heightened demand for memory chips in AI data centres tested their capacity.

"We are planning a substantial increase in our capital expenditure in 2026 as AI-driven demand is likely to continue," said Kim Jae-june, executive vice-president of Samsung's memory business. "But supply shortages are likely to worsen as capacity expansion is expected to be limited this year and next."

Chipmakers are reporting record earnings on the back of the AI boom. Net profit at SK Hynix more than doubled to Won42.9tn ($30bn) last year, while at Samsung it rose 31 per cent to Won45.2tn. Their shares have surged 330 per cent and 200 per cent, respectively, in the past 12 months.

Samsung and SK Hynix shares have soared on AI bets

Share price rebased, January 31 2025 = 100

Source: LSEG via markets.ft.com

The chipmakers are benefiting from multiyear contracts with technology companies hoping to secure semiconductors for their data centre build-outs. These deals have constrained supply for other chip customers, including makers of phones and consumer electronics.

SK Hynix said it expected chip supply to remain tight "for the time being". The company said it would maintain capital spending at mid-30 per cent of revenues, despite sales surging.

"Demand is growing sharply, but it takes time to expand capacity, so the mismatch in demand and supply is worsening, pushing chip prices higher," said Song Hyun-jong, president of SK Hynix, on Thursday.

Analysts said the memory chip business, which was once defined by sharp boom-and-bust cycles, was now going through a structural change thanks to the emergence of high-bandwidth memory chips used in AI hardware.

"The memory market is shifting toward semi-customisation, with memory customers required to sign a contract a year prior to actual product delivery," said Peter Lee, analyst at Citigroup, in a note this week.

Lee expects average prices of dynamic random-access memory chips, which include HBM chips for AI servers, to jump 120 per cent this year, while prices for Nand flash memory chips, which are used to store data without power, to rise 90 per cent.

SK Hynix said it aimed to maintain its "overwhelming" market share in HBM4 chips. The company controls more than 60 per cent of the overall HBM market, according to Macquarie Equity Research.

But competition is intensifying in the most advanced HBM chips to be used for Nvidia's upcoming Vera Rubin processors.

Samsung is in the final stage of completing the qualification process for supplying HBM4 chips to Nvidia. It plans to deliver them in February and expects HBM revenues to more than triple this year.

"Memory is a chokepoint now, and I expect this tightness to be structural through at least Q4 2027," said Kwon Seok-joon, a professor at Sungkyunkwan University in Seoul. "The timing depends on AI capex and how fast new capacity actually comes online."

Additional reporting by Daniel Tudor in Seoul

Singapore

Singapore's public housing model meets the limits of its success

The city-state's 'father of urban planning' was lauded for his vision but rising resale prices and high demand are bringing strain

Owen Walker in Singapore

Published JAN 31 2026

Even if they don't know his name, most of Singapore's 6mn inhabitants have reason to be grateful to Liu Thai Ker.

In the eyes of many Liu, who died this month aged 87, was the "architect of modern Singapore", the man who designed the state-subsidised housing that has underpinned the growth of the former British colony in its six decades of independence.

Prime Minister Lawrence Wong praised Liu as the "father of urban planning" in the city-state, while President Tharman Shanmugaratnam said he "helped make Singapore a liveable city in the tropics".

Despite the city-state's credentials as a free-market entrepot, more than three-quarters of its citizen and permanent resident population live in 1.1mn government-built flats, bought at subsidised rates.

Clusters of the sturdy towers, which typically boast leisure facilities, cheap food vendors and grocery stores, dominate Singapore's inland skyline and have become a defining part of its national character.

"Singapore's public housing is its national bedrock — it's a fundamental part of national progress," said Christopher Gee, deputy director of the Institute for Policy Studies at the Lee Kuan Yew School of Public Policy.


Liu Thai Ker in 2021. As chief architect of Singapore's Housing and Development Board, he oversaw the development of half a million homes and 20 new towns © Wei Leng Tay/Bloomberg

Yet while Liu's death this month was greeted with plaudits for his work, it also raised questions about whether the model is still fit for purpose.

Rising property costs, notably in the resale market, have sparked concern over affordability, while the lottery system for allocating flats, which favours traditional nuclear families, is being tested by changing social norms. Over the longer term, property values are also being eaten away by the 99-year leases on which they are sold.

"The main thing that worries me is that . . . as the lease clock ticks down and as the stock ages, housing equity drops to zero," Gee added.

Singapore's public housing system is now facing problems that were not considered when it was kick-started six decades ago with the launch of the Housing and Development Board (HDB), whose initials are typically used as a shorthand for the apartments. The idea was to provide good-quality, subsidised housing for people making their first step on to the property ladder.

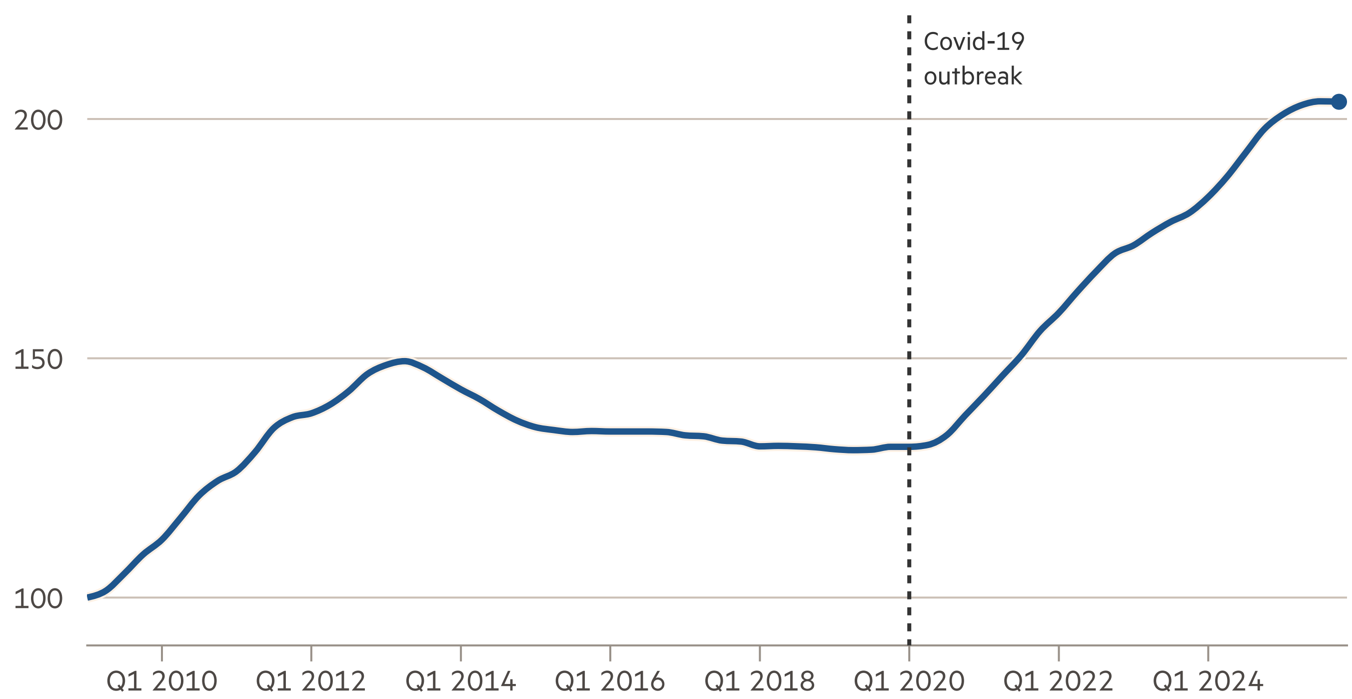
"It looks as if this was a system that was very well thought out from the beginning — but this is not the result of a grand vision," said Chua Beng Huat, emeritus professor at Singapore Management University School of Social Sciences.

The Malaysia-born Liu was then chief architect at the HDB, where he oversaw the development of half a million homes and 20 new towns. He also served as chief executive and chief planner at Singapore's Urban Redevelopment Authority, which oversees Singapore's urban development.

Liu was acutely aware that many of the HDB's first residents were leaving overcrowded slums or villages known as *kampongs*. He added communal spaces and wide corridors to his designs to create what came to be known as "vertical kampongs".

Singapore's public housing resale prices have risen since the Covid-19 pandemic

Resale price index (Q1 2009 = 100)



FINANCIAL TIMES

Source: Housing and Development Board

He was also wary of creating a drab, utilitarian skyline. Many of the developments were painted in pastel colours to reflect traditional Malay culture. "To me, every HDB block is as beautiful as Miss Universe," he said.

When Singapore introduced national service after gaining independence in 1965, home ownership was also encouraged as an incentive for conscripts to fight for their country. Today, more than 90 per cent of Singaporeans live in an owner-occupied home — among the highest rates in the world.

Properties are allocated to would-be buyers via a lottery system to applicants who are typically required to be married, engaged or older than 35.

Prices are eased through a raft of government subsidies based on personal circumstances. Singaporeans can also dip into their mandated savings and pension plans and obtain mortgages and loans from the HDB directly.

But critics have said that the lottery system is unfair to singles and non-traditional families, for whom it is harder to get a flat. Singapore's marriage rate has been steadily falling in recent decades, dropping from 57 per 1,000 unmarried males in 1994 to 42 in 2024.

The HDB system has also been used by Singapore's government to promote multicultural integration by setting limits on the proportion of different ethnic groups in the same estate. However, this policy has caused problems for some in the resale market by restricting potential buyers.

Wary of creating a drab, utilitarian skyline, Liu designed many of Singapore's subsidised housing estates in bright colours © Roslan Rahman/AFP/Getty Images

The system has also come under recent strain. Construction ground to a halt during the Covid-19 pandemic, resulting in delays to new HDBs coming on to the market. Wait times to move into a property rose from three years to as many as six.

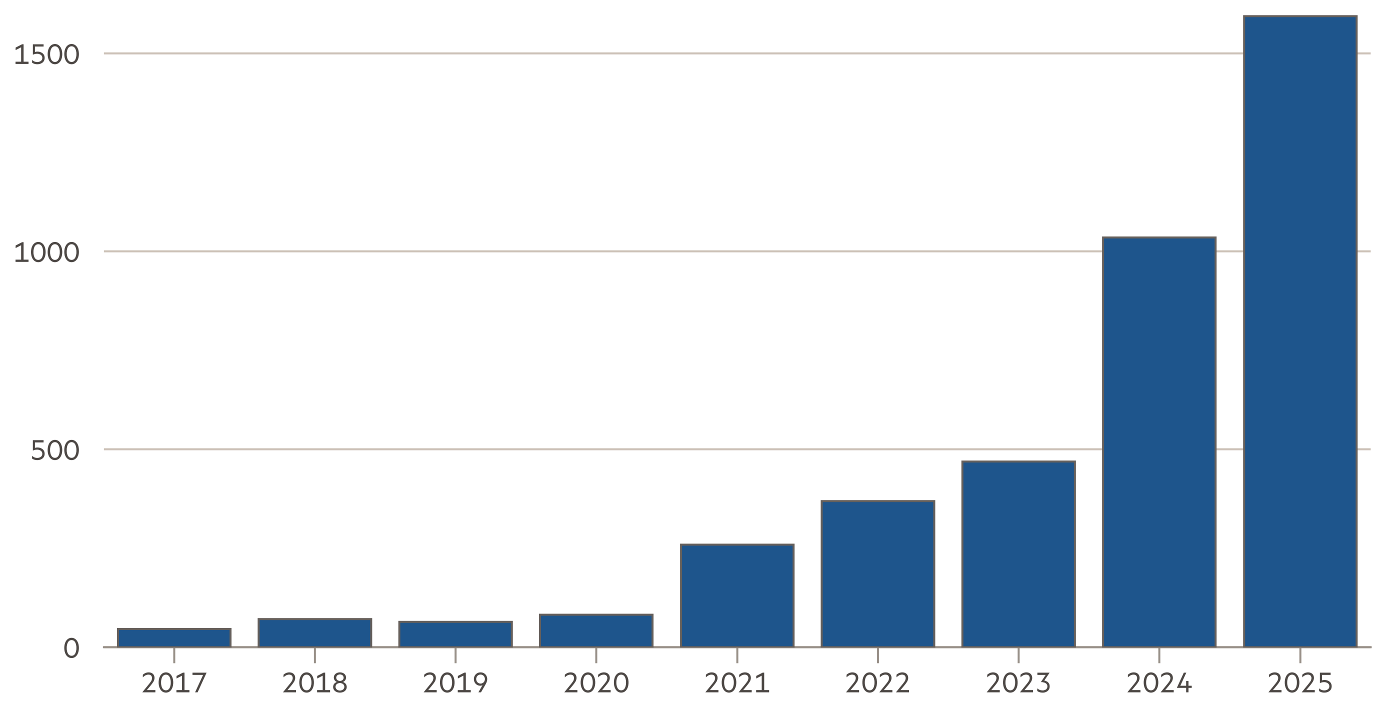
As a result, more buyers turned to the resale market, where HDB owners can sell properties after five years of occupancy. This led to a sharp rise in resale prices, especially in more desirable estates.

The number of HDB flats that sold on the secondary market for more than S$1mn (US$789,000) has steadily climbed in recent years, from 82 in 2020 to 1,035 in 2024 and 1,594 last year, according to FT analysis of official data.

Rising prices have become a charged political issue in Singapore, where cost of living concerns dominated last year's general election. The government has pledged to build more than 50,000 new flats between 2025 and 2027, many with waiting times of less than three years. It has also offered more subsidies to lower- and middle-income buyers.

High-priced public housing resales are increasing in Singapore

Number of public housing flats resold for more than S$1mn



FINANCIAL TIMES

Source: Housing and Development Board, FT calculations

HDBs are still considerably more affordable than private-sector housing. The average HDB was 4.3 times the median worker's salary in 2024 — one of the lowest rates in major Asian cities, according to the Urban Living Institute. By comparison, the cost of the average private home was 16.9 times higher.

But as Singaporeans deploy savings to fund HDB purchases and resale values rise, the properties have increasingly come to be viewed as an investment asset and a retirement nest egg.

"The asset accumulation idea is very much entrenched," said Gee. "The system has concentrated people's personal balance sheets in their housing equity and fosters this notion that property is a pathway towards increased wealth."

One threat to that model is the 99-year lease terms, after which properties are to be returned to the government. As the oldest HDB units enter their final three decades, that approaching deadline is eroding their value.

"What will happen at that point?" said Chua. "That is a big political issue."

Liu himself had warned that leaseholders "must respect that at the end of 99 years, the flat goes back to the government".

He also expressed concern in a 2022 interview that "public housing has become a kind of business venture, rather than actually solving the housing needs".

"I feel that the implication may not be very good for the economic development of Singapore," he said.

Data visualisation by Haohsiang Ko in Hong Kong

Opinion **Markets Insight**

Global investors need to go on Japan watch right now

Rises in government bond yields and weakness in the yen could have spillover effects on other markets

BENJAMIN SHATIL

Japan faces a delicate balancing act between managing rising interest expenses and keeping spending taps on © Getty Images

Benjamin Shatil

Published FEB 3 2026

The writer is a senior economist at JPMorgan

Over the past few weeks, Japan's government bond yields have surged to highs last seen in the 1990s — raising eyebrows both in Tokyo and elsewhere in the world. Ostensibly, this latest jump was a reaction to the mulling of a temporary consumption tax holiday on food. Given the relentless rise in the cost of staples — rice prices have doubled — the tax cut strikes a chord in an economy where the cost of living has barely changed in a generation.

The food tax holiday could lead to an annual fall in tax revenues of around 1 per cent of GDP, on our estimates. Manageable in isolation but challenging in the context of potential social security contribution cuts, defence spending increases and other pro-growth policies. As other governments have found to their peril, lowering consumption taxes is the easy part; putting them back up is not. By pushing bond yields higher, markets are probably right to question whether any cut would indeed be temporary.

Over time, Japan's elevated gross government debt level means that rising rates will necessitate higher interest repayments. Japan thus faces a delicate balancing act between managing rising interest expenses and keeping spending taps on — as the price action in the bond market has shown. The Bank of Japan's exit from years of ultra-easy policy risks sending government bond yields higher still, in our view.

Japanese bond yields have surged

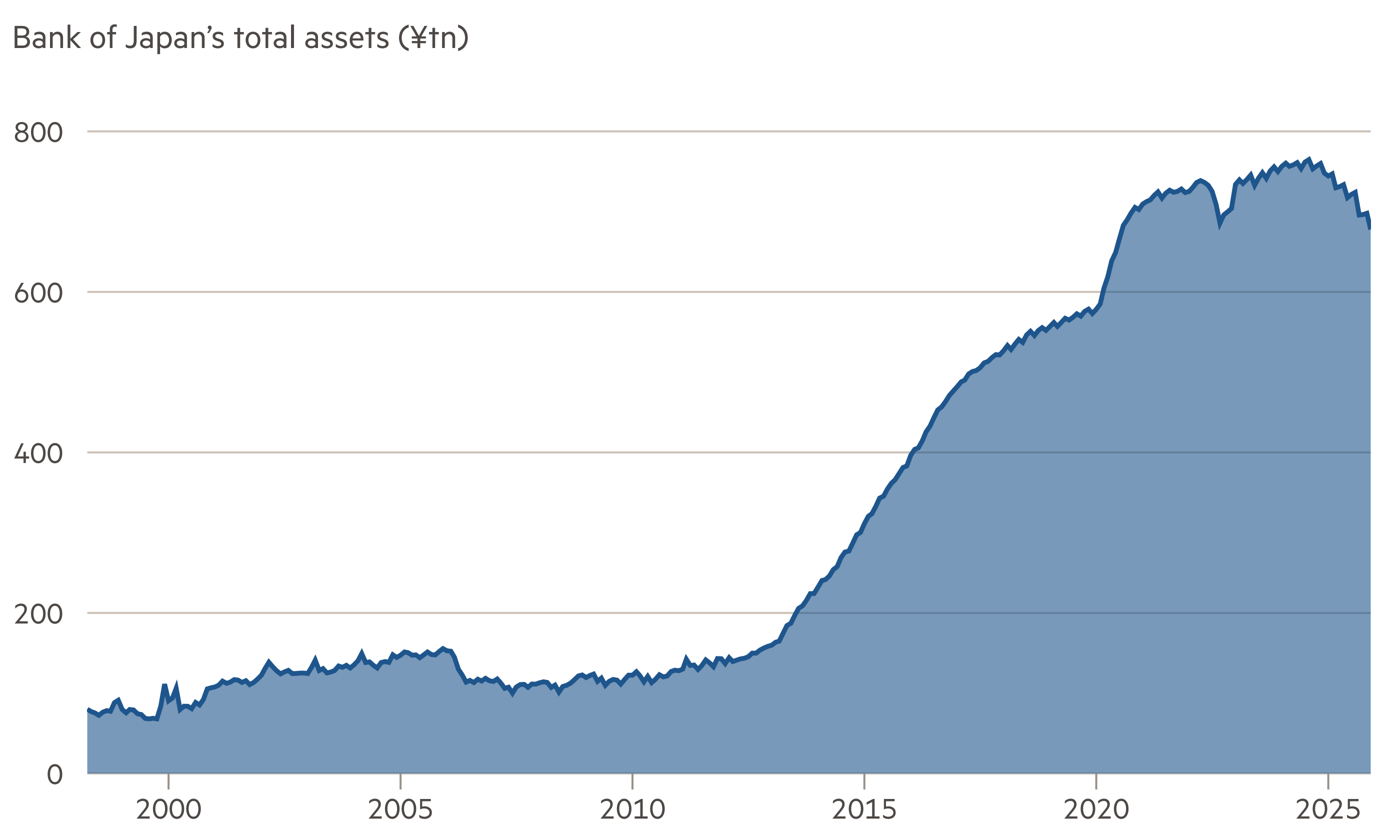
FINANCIAL TIMES

Source: LSEG

To be sure, the BoJ's pace of policy rate hikes has been glacial. It has taken governor Kazuo Ueda the best part of two years to hike to 0.75 percentage points (albeit the highest since the 1990s). But for all the feet-dragging on rate rises, the BoJ has been swift to unwind another of its legacy policies.

During years of quantitative easing, the Bank amassed a vast quantity of JGBs in the hope of loosening monetary conditions. At a surprisingly sharp pace, it is now allowing some of these bond holdings to mature without repurchasing them, effectively transferring them back to private-sector investors — quantitative tightening in all but name.

BoJ balance sheet shrinks while fiscal risks mount



FINANCIAL TIMES

Source: Bank of Japan via Fred

For a bond market that until recently was almost entirely controlled (and around 50 per cent owned) by the central bank, this marks an important inflection. The BoJ's own roadmap suggests its balance sheet will shrink by another 13 per cent of GDP this year, on our estimates, as fewer bonds are bought to replace those that are maturing. This represents a sharp rundown for any major central bank; it is even more notable relative to Ueda's cautious pace of rate rises. The point here is that QT means a growing share of government debt to be absorbed by the private sector, beyond factoring in any potential rise in spending.

Of course, the BoJ could ease the pace of its balance sheet rundown in response to rising yields. It could ramp up its bond purchases once again, easing the burden on commercial banks, lifers and pension funds to absorb government debt supply. But if such adjustments came in response to market pressure and were perceived as a signal of fiscal matters dominating monetary policy — or indeed as debt monetisation — we suspect the long-term casualty would be the yen.

Speculation over Japan-US intervention steadies the yen

FINANCIAL TIMES

Source: LSEG • Scale inverted

Against this backdrop, speculation that Japan could work with the US to prop up the yen has halted the currency's slide, at least for now. Treasury secretary Scott Bessent has rejected the possibility of dollar sales to support the yen. But the New York Federal Reserve has been reported to have carried out a recent "rate check" — a move to check the prevailing market exchange rate, typically the precursor to currency intervention. If that had been carried out in consultation with Japanese authorities, it would be a significant, and unusual, marker.

Ahead of Japan's elections this weekend, the yen's retreat from the optically uncomfortable 160 level against the dollar will be welcome news. But outright currency intervention, if it is forthcoming, risks complicating the picture. Intervention could raise speculation (rightly or wrongly) that Japan's Ministry of Finance might sell its holdings of US Treasuries to finance yen purchases.

This might bolster the yen and calm the JGB market, if only temporarily. But it could come at the cost of pushing US Treasury yields higher, an outcome unlikely acceptable to the US administration. Conversely, sustained increases in JGB yields — if they lure a repatriation of Japanese capital out of US debt markets back to Japan — could have a similar "spillover" effect. What begins in Tokyo may not end in Tokyo.

Thailand

How Thailand became the 'sick man' of Asia

Once a regional tiger economy with double-digit growth, its pivotal drivers of consumption, manufacturing and tourism are in decline

A. Anantha Lakshmi in Bangkok

Published AN HOUR AGO

Like millions of Thais, Tipvimol Wanitthaphan came to the capital Bangkok in search of a better livelihood to support her family. For most of the past four years, she managed to do so by running a small restaurant catering to office workers.

But sales have plunged by two-thirds in recent months, as an economic downturn kept cost-conscious customers away. With losses mounting, Tipvimol, 57, plans to shut up her shop when her lease expires in April.

"Right now, a lot of people are being laid off . . . so the purchasing power is lower," she said, adding that she was worried about her own expenses and a car loan she has yet to pay back.

For voters such as Tipvimol, the economic slowdown is central to Sunday's general election. Thailand's prime minister Anutin Charnvirakul and other major contenders are campaigning on pledges to restore economic and political stability.

Tipvimol, 57, has run a successful restaurant in northern Bangkok for four years but is now planning to close down © Anantha Lakshmi/FT

South-east Asia's second-largest economy has been stuck at about 2 per cent growth for the past five years, with its pivotal drivers of consumption, manufacturing and tourism all in decline.

Growth as high as 13 per cent in 1988, when Thailand was hailed as an "Asian tiger", is now a distant memory due to a rapidly ageing and shrinking population, high household debt and a sustained decline in competitiveness.

"It has gone from being hailed as Teflon Thailand to the sick man of Asia within 10 years," said Burin Adulwattana, chief economist at Kasikornbank. "That's quite alarming,"

Making matters worse are prolonged political instability and frequent changes in leadership. The royalist-military establishment has been locked in a stand-off with reformist parties that have won the past two elections but have been blocked from power. Thailand has had three prime ministers in as many years.

Tourism projects and budgets have been hit by the political upheaval, said Kitti Pornsiwakit, president of the Association of Thai Tourism Marketing. With better "credibility and stability" in government, "we can go back to the best [years]", he said.

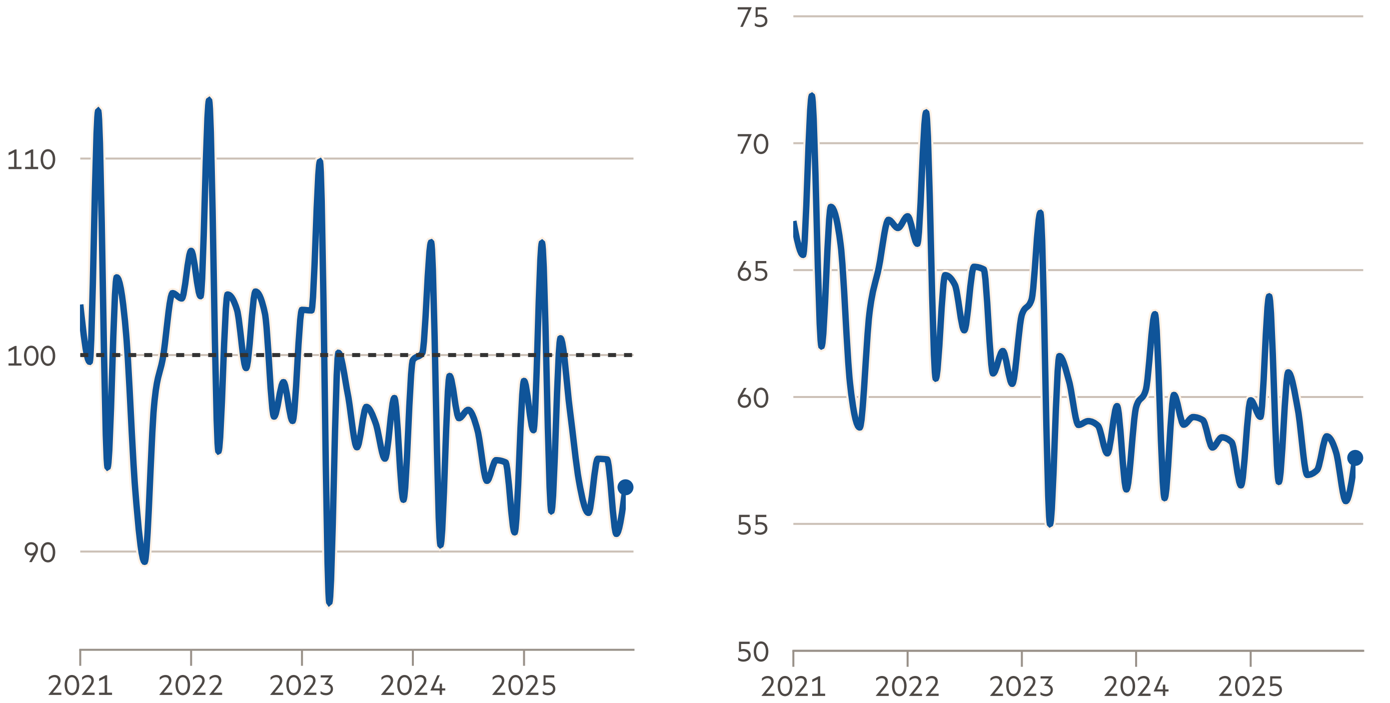
"Everything is falling apart," said Pipat Luengnaruemitchai, chief economist at Kiatnakin Phatra Securities. "We do not have new engines of growth. This is not a cyclical demand story. Now it's a serious issue that requires real structural change and reforms."

Thailand's manufacturing output has weakened in recent years ...

Industrial production index (average in 2021 = 100)

... and its capacity utilisation rate has declined

Capacity utilisation rate (%)



FINANCIAL TIMES

Source: Office of Industrial Economics

Signs of economic malaise are increasing. Banks worried about defaults are lending less, the property market is in its worst slump in three decades and headline inflation turned negative last year, signalling weak demand. Thailand's stock market has been the worst performer in Asia over the past 12 months, declining 10 per cent in 2025 in local currency terms.

The government has projected 2 per cent growth this year, but the IMF has forecast just 1.6 per cent, the slowest among major southeast Asian economies.

"We are concerned about an economic recession," Kriengkrai Thiennukul, chair of the Federation of Thai Industries said last month. He warned of pressures from 19 per cent US tariffs and the baht's gains against the dollar, which undercut the country's important export sectors.

"The new government must make serious efforts to transform old industries into new ones," he said.

Bangkok's Banthat Thong road, an area known for street food, has been struggling as many Thai consumers cut back © Patrick Chengzhi Wang / SOPA Images via Reuters Connect

Manufacturing has been on the decline for years, weighed down by weak domestic demand, an influx of cheaper Chinese goods and intense competition from newer manufacturing hubs such as Vietnam.

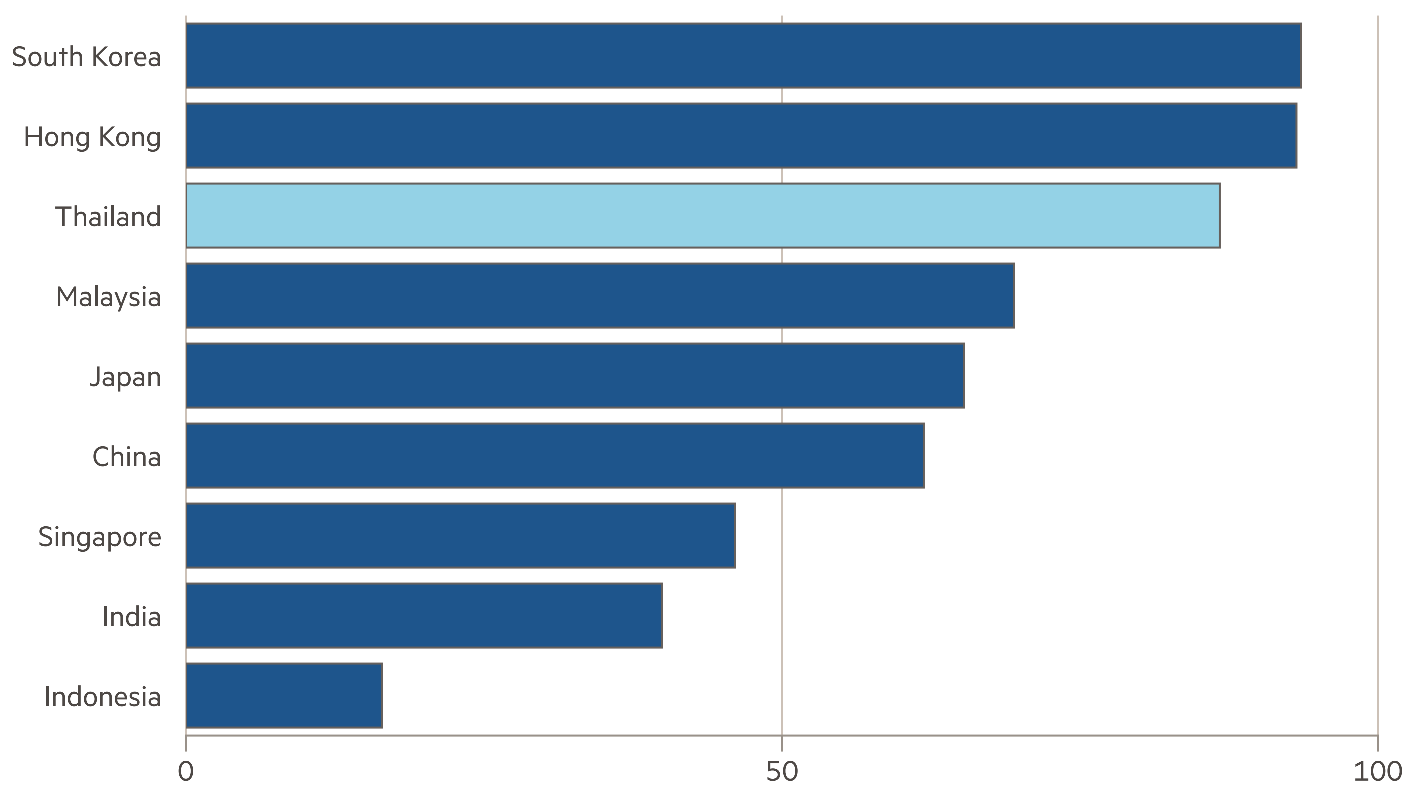
That has also taken a toll on Thailand's once mighty auto sector. The country was a regional hub for car manufacturing but Nissan, Honda, Suzuki and others have shut down factories or scaled back production in recent years.

Yupin Boonsirichan, chair of the Automotive Industry Club at the Federation of Thai Industries, said the car industry's "significant" slowdown had hit the job market and industrial output.

"Vehicle output, domestic sales and plant utilisation rates have declined from pre-pandemic and peak levels," she said, calling for government incentives to stimulate investment and domestic demand.

Thailand's household debt-to-GDP ratio is among the highest in Asia

Household debt, loans and debt securities (% of GDP), 2023



FINANCIAL TIMES

Source: IMF

Economists said Thailand would also have to drop protectionist policies, ease restrictions on foreign investment and improve infrastructure to take advantage of potential growth areas such as data centres, high-value manufacturing, pharmaceuticals and biotechnology.

But a more immediate task would be to revive the fortunes of the Thai consumer.

Household debt-to-GDP is close to 90 per cent, among the highest levels in Asia, as wages have remained stagnant. And Thailand's population has been shrinking for four years, with the birth rate hitting a 75-year low in 2025.

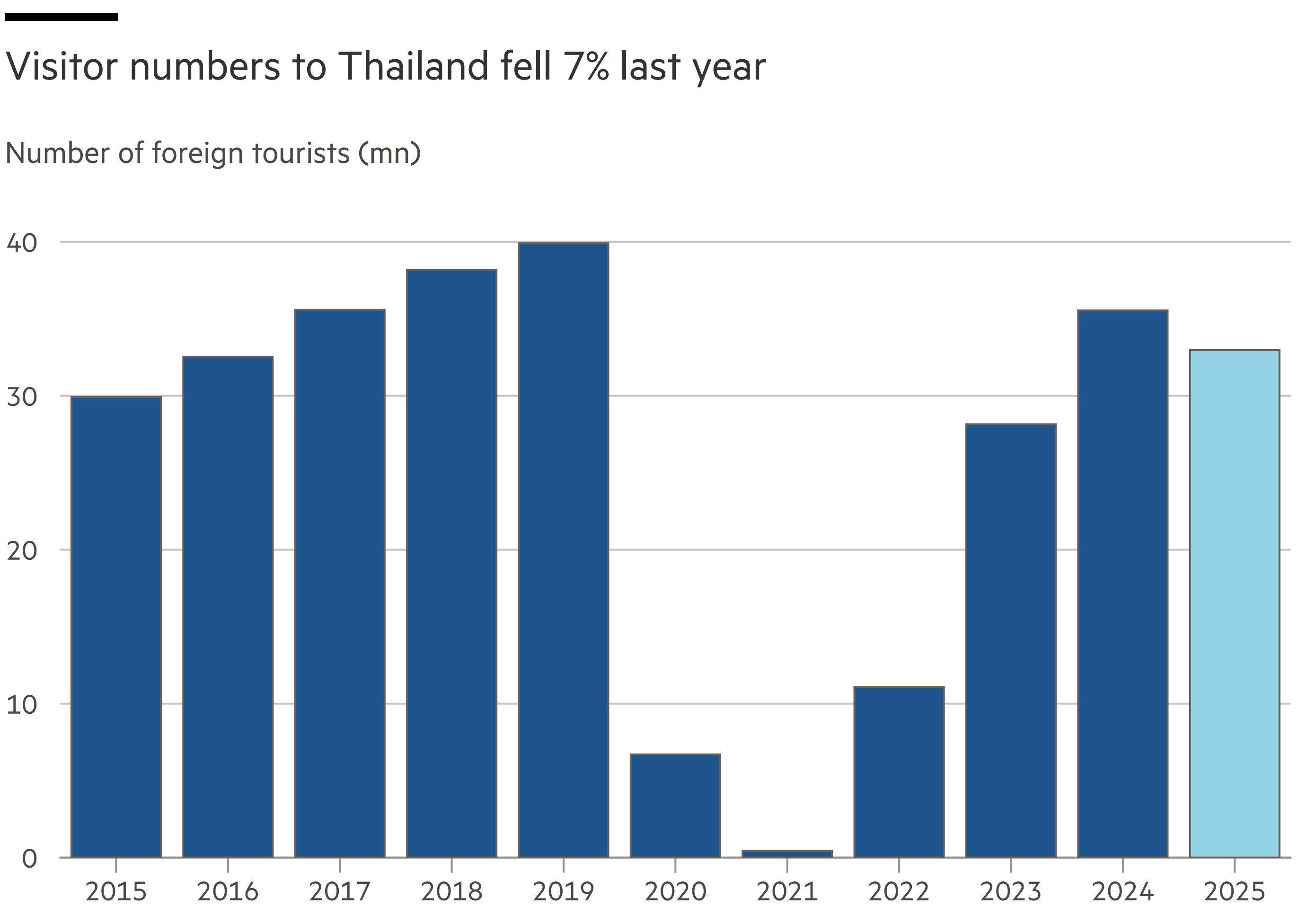
Many Thais are cutting back on expenses and discretionary spending.

"I get fewer and fewer customers," said Tewanaree Sawangnate, who runs a hair salon in Bangkok. The 45-year-old is now looking to save more. "I buy fewer personal items for myself and focus more on [purchases for] my children," she said while shopping at a store selling goods for Bt20 (US$0.62).

The economy is "not in the ICU", but "if the government doesn't address these structural challenges, things will look a lot worse from here", added Kasikornbank's Burin.

Tourism, another economic engine, is sputtering and this has had a knock-on effect on retail, agriculture and hotel construction, said Kitti. Thailand recorded 32.9mn foreign visitors in 2025, a 7 per cent fall from the previous year and still below the pre-pandemic peak of 40mn tourists in 2019.

The industry has been hit by safety concerns after a Chinese actor was abducted by a cyber scam operation last year, as well as increasing competition from countries such as Vietnam and Japan.



FINANCIAL TIMES Source: Ministry of Tourism and Sports, Bank of Thailand

The dour sentiment is evident across Bangkok, where restaurants are deserted, hotels are rarely full and retailers are struggling to stay afloat. At Banthat Thong road, once a bustling street food destination for tourists, several eateries have been forced to shut down.

At the Delidelo Cafe in the north of the capital, Tipvimol has begun to cut back on personal expenses, and has turned to her daughter to cover her car loan. "I have stopped going to restaurants or hanging out with friends," she said. "If we go out, it costs a lot of money," she said.

Additional reporting by Khemmapat Rojwanichkun in Bangkok and data visualisation by Haohsiang Ko in Hong Kong

Opinion **Chinese politics & policy**

China is the main beneficiary of Trump's Arctic antics

As the US redeploys its navy and alienates allies, Beijing is filling the void

ISAAC KARDON

HDMS Knud Rasmussen, a Royal Danish Navy patrol vessel, enters a harbour in Nuuk, Greenland. Donald Trump has stated that securing the Greenland-Iceland-UK Gap and the Panama Canal are vital for US national interests © Juliette Pavy/Bloomberg

Isaac Kardon

Published 12 HOURS AGO

The writer is a senior fellow at the Carnegie Endowment for International Peace and author of 'China's Law of the Sea: The New Rules of Maritime Order'

US aggression against adversaries and allies alike is changing the strategic geography of the globe. Russia may be first to benefit from Donald Trump's erratic campaign against Nato to "get Greenland". But only China stands to reap long-term strategic rewards across the globe — including in the Arctic region that Washington claims to be defending.

With each new and unexpected mis-step in the western hemisphere — from abducting Venezuela's leader to talk of conquering a Nato ally's territory to threats to subjugate Canada — Trump is opening new and unexpected avenues for Chinese access and influence.

For those who seek consolation in Trump's propensity to chicken out or lose interest in matters of state, this radical lurch into hemispheric defence policy should be of grave concern. Neither Trump's latest tariff climbdown, nor the announced framework for a deal on Greenland will halt the broader trends accruing in Beijing's favour. The world is reckoning with a ruptured postwar order, and China is filling the void by default as the relatively stable, safe great power. For now, Beijing can simply watch from the sidelines as its opponent makes unforced strategic errors.

As Trump takes an axe to Pax Americana in the western hemisphere, Xi Jinping will continue to book gains in the western Pacific, where China's primary strategic interests lie. China's military already enjoys growing freedom of action around Taiwan — aided by the redeployment of key US Navy assets to the Caribbean and Middle East. Under these permissive conditions, Xi can afford to bide his time and marshal China's resources for future conflicts closer to home, exploiting any opportunity to break free of America's perceived "encirclement and containment" of China.

Trump is correct that securing the Greenland-Iceland-UK Gap and the Panama Canal are vital for US national interests; preventing an enemy from controlling or denying these chokepoints is indeed a "homeland security" concern. But his impulsive moves, like tariffs and invasion threats, perversely elevate China's interests. With no reason to challenge the US militarily in its own hemisphere — and no naval or military presence near Greenland nor any actual "control" of the Panama Canal — China can play its strongest cards in America's backyard, almost all of which are economic in nature.

Even a hypothetical revival of Venezuela's oil production could not keep pace with China's existing capacity across Latin America. Its state-owned enterprises operate at scale extracting and importing oil, gas, lithium, copper and other critical minerals that fuel China's accelerating dominance in batteries and electric vehicles.

Northern Sea Route could cut journeys significantly

Source: FT research
© FT

The Greenland gambit betrays a basic misunderstanding of polar geography and a misreading of China's strategic options. China's sole access point to the Arctic Ocean is on the other side of the world, around Japan and transiting through the US Aleutian Islands before entering the Russian Arctic through the Bering Strait. Beijing's interest lies primarily in opening the new commercial sea lanes emerging from the melting polar ice. The Northern Sea Route — running along Russia's northern coast — is rapidly becoming China's express shipping route to tap into Russia's vast energy and mineral resources and access northern Europe's rich markets.

China's self-appointed "near-Arctic" status cannot change the geographic reality that its ships and aircraft must navigate through Japanese and US waters to access the Arctic Ocean. And Russia is the biggest impediment to Chinese encroachment in Moscow's strategic backyard. No Chinese naval or coastguard vessels have been reported near Greenland by anyone but Donald Trump; that's because to date they operate only in the Bering and Chukchi seas bordering Alaska. The Trump administration is ignoring — and likely exacerbating — the genuine strategic challenge China poses on the other side of Asia, largely in Alaskan waters and airspace.

Meanwhile, Canada — a country with a recent history of diplomatic friction with China — is becoming a supplicant to Beijing by necessity, choosing the least-worst great power option available. As in Greenland and Panama, Trump's threat to seize allies' sovereign territory is one they cannot accept. China is therefore becoming the only realistic hedge for middle powers seeking relief from the American threat.

The Atlantic and the Caribbean will remain US lakes. But China will play a progressively freer hand in an expanding sphere of influence in its home region and across the globe. Trump's manufactured chaos across the western hemisphere bolsters Xi's confidence and hastens the senseless self-destruction of a successful postwar order.

The Big Read Energy sector

The political cost of America's surging electricity bills

Data centres powering the AI boom are straining grids and causing price rises that could hurt Trump

Martha Muir and **Jamie Smyth** in New York

Published YESTERDAY

At Ross McGregor's family-owned factory in Springfield, Ohio, roaring presses slam, shape and weld metal to make parts for cars, farms and power plants.

His company, Pentaflex, is an energy-intensive business, and the former Republican state legislator says it is one of many in America's manufacturing heartland that are struggling due to soaring energy prices.

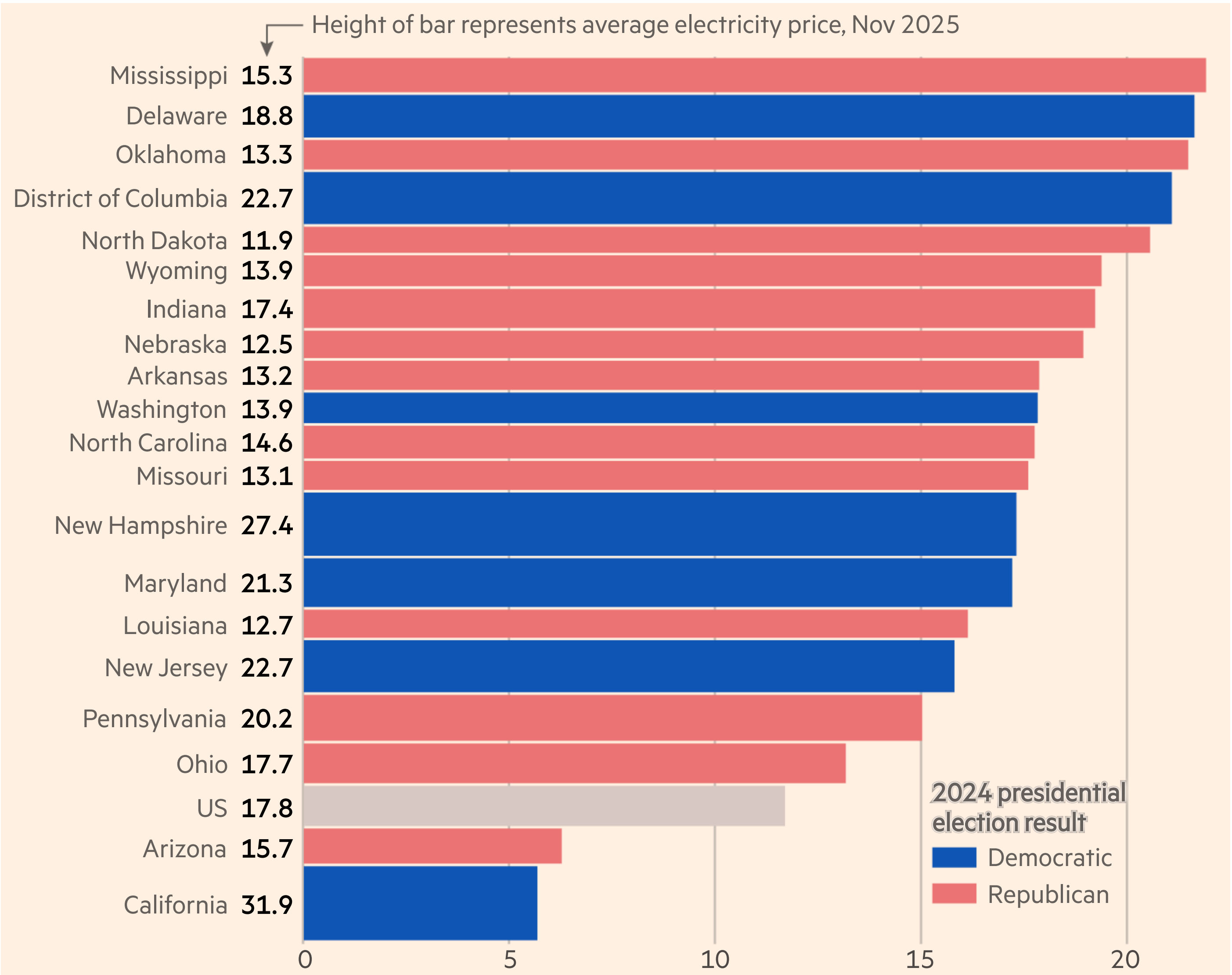
In Ohio, electricity bills for industrial clients have risen 17 per cent since January 2025, and McGregor expects a 15 to 20 per cent jump when he renegotiates his contract next year. Energy demand is soaring in the Midwestern state, which has become a hub for data centres to power the AI boom.

"Electricity is the mother sauce," McGregor says, a term that refers to the base starting point in French cuisine. "We can't do anything without it."

McGregor blames President Donald Trump and grid operators for mishandling energy policy, despite a pledge by the president to slash prices in half within a year of taking office. "Talk is cheap," he says. "You can't say we want more domestic manufacturing and have the grid not keeping up."

Many states report double-digit increase in price of electricity under Trump

% change in average price of residential electricity during Trump's second term (Jan to Nov 2025). Top 15 states with highest rate of increase, and selected others, are shown



FINANCIAL TIMES

Source: EIA • *cents per kWh

Trump placed energy policy and affordability at the centre of his election campaign in 2024, with policies to boost domestic oil, coal and gas production and deliver "energy abundance". Cheaper energy would revitalise the economy, strengthen manufacturing and bring jobs back to the US, according to his campaign.

Yet while petrol prices have fallen by about 5 per cent since his inauguration, mainly due to sharp falls in global oil prices, the price of natural gas, home heating oil and electricity have all surged above the rate of inflation.

Between January and November, the latest month for which data is available, the cost of electricity for residential customers in the US increased by 11.5 per cent.

But the nationwide average obscures pressure points, particularly in areas where power demand is surging. In Pennsylvania and Virginia, for example, bills for residential clients have gone up about 15 per cent, and in New Jersey commercial bills are up 5 per cent.

A broad confluence of issues is to blame. Decades of under-investment means that utilities need to upgrade ailing power grids at a time when the costs of raw materials and components have risen steeply. Critics say the Trump administration's attacks on renewable energy and moves to prop up the coal industry have added to consumer costs. Rising exports of liquefied natural gas (LNG) have also driven up domestic wholesale prices.

But perhaps the most pressing factor is the new generation of data centres powering the AI boom. The rising demand is pushing up customer bills, experts say, as the sector has failed to build enough extra electricity generating capacity or grid infrastructure.

Wintry weather in Columbus, Ohio. Household demand for gas is higher during cold weather, which in turn pushes up electricity bills
© Brian Kaiser/Bloomberg

"In many parts of the country, utilities are buying energy in the market, where price is determined by supply and demand," says Ari Peskoe, director of the electricity law initiative at Harvard Law School. "Demand is going up because of these data centres and supply isn't coming on fast enough."

Trump's failure to deliver lower energy bills is denting his popularity. Some 51 per cent of Americans surveyed in a New York Times/Siena University poll said Trump's policies have made life less affordable for them, while 24 per cent said he had made it more affordable.

Democratic candidates won a clean sweep in the first major elections since Trump's return to office, including in New Jersey and Virginia, where electricity bills were a major theme.

The Trump administration has defended its policies and attempted to blame rising prices on former president Joe Biden. But in a moment of candour Chris Wright, US energy secretary, said Republicans were likely to be "blamed", in an interview with Politico in August. Since then it has passed a number of emergency directives aimed at tackling the issue.

"Affordability is something the White House can't ignore," says Rob Gramlich, president of Grid Strategies, a power consultancy. "Energy dominance pursued without affordability could be a real problem at the ballot box."

Electricity costs first burst into national politics during the Depression, when opaque monopoly utilities charged extortionate prices to customers outside urban areas, prompting President Franklin D Roosevelt to declare that "electricity is no longer a luxury. It is a definite necessity".

A massive build out of power plants and grid infrastructure meant that growing demand was satisfied in subsequent decades, while rising energy efficiency in the early 2000s kept demand growth low, limited price increases — and in some cases delayed upgrades to infrastructure.

Fast forward to 2026, and access to electricity is once again being spoken of as a "definite necessity" — this time for the US's rapidly expanding technological and industrial aims.

"Winning the AI race" with China — the target of a July presidential executive order — requires data centres to be fed massive amounts of electricity from a strained power grid. Data centre power demand will surge from 34.7 gigawatts in 2024 to 106GW by 2035, according to BloombergNEF, a research group, equivalent to more than 80mn homes.

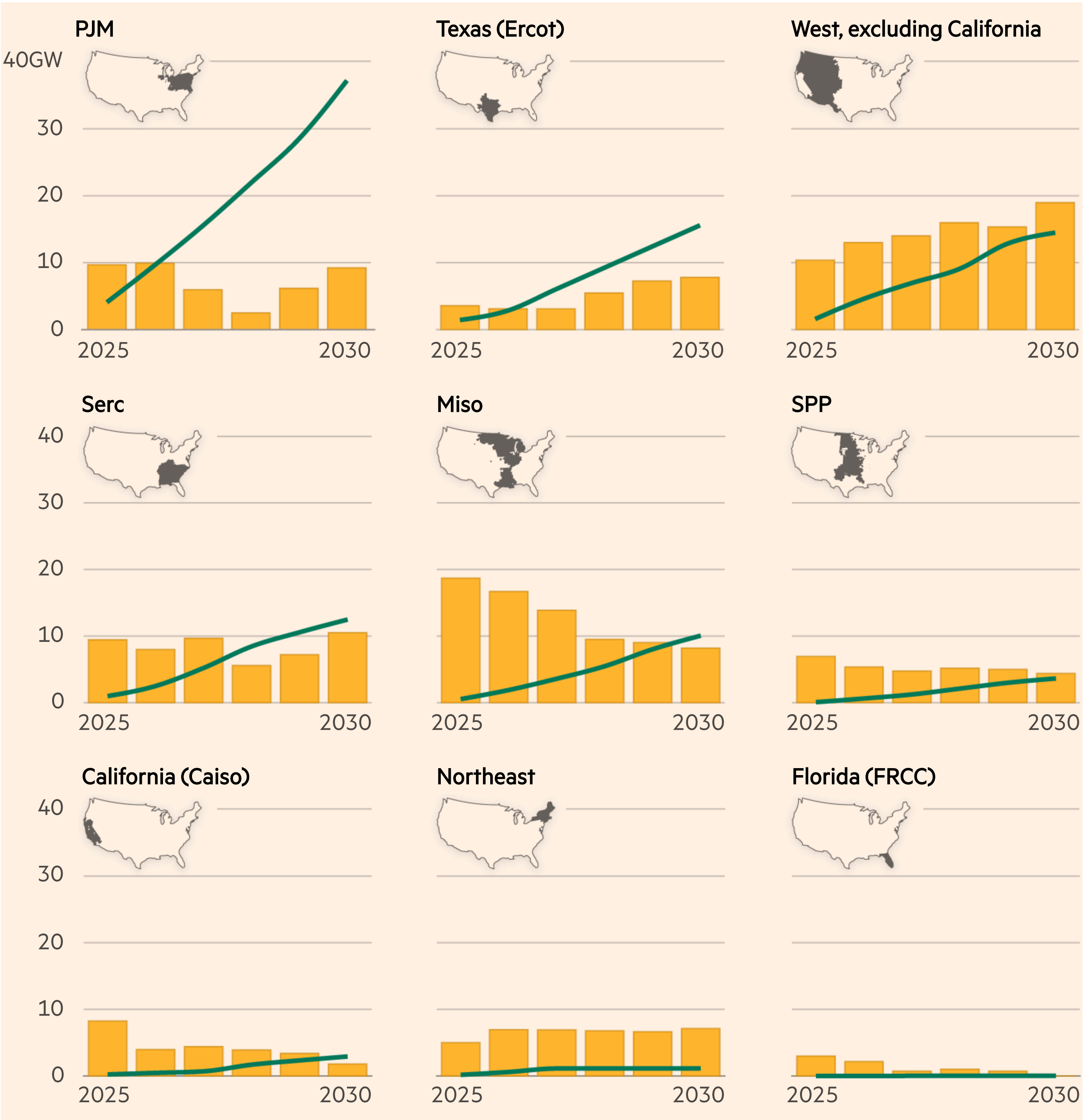
Overall US electricity demand is forecast to jump by a quarter by 2030 and by 78 per cent by 2050, compared with 2023, according to consulting firm ICF.

"We've created a scarcity of electrons," says Dan Brouillette, secretary of energy in Trump's first administration. "Your first reaction is to tell the kids to turn the lights off but that's not going to work this time."

One of the worst affected areas is the electric grid operated by PJM, which serves more than 67mn people in the Northeast and Midwest, including "data centre alley", a hub in Virginia through which 70 per cent of global search traffic passes.

In parts of the US, the gap between new data centre demand and spare grid capacity is growing

Each chart represents a grid operator or area



Sources: S&P Global Energy; 451 Research • North-east includes the New England and New York independent system operators. New data centre demand includes reserve margin

According to PJM's market monitor, data centres were responsible for $23bn of additional costs in the grid operators' last three capacity market auctions, which it uses to procure power supplies for future years.

The problem, says Calvin Butler, chief executive of Exelon, a utility parent company, is that utilities in the region are not permitted to build power plants and are reliant on independent power-producing companies.

For their part, independent power producers say that price caps, introduced by Pennsylvania's Governor Josh Shapiro to protect consumers, disincentivise the building of new generation capacity.

"I 100 per cent understand why they're politically attractive," says Paul Segal, chief executive at independent producer LS Power. "But they're ultimately damaging to investor and market confidence."

A Harvard Law School report in March reviewing 50 rate-setting processes claims utilities often subsidise data centre operators at the expense of residential ratepayers in order to win their business. It identifies "special contracts" between the parties, approved through "opaque regulatory processes".

"Hiding subsidies for trillion-dollar companies in power prices increases utility profits by raising costs for American consumers," says the report.

Experts say some of the administration's policies are compounding the problem. Trump has targeted solar and wind energy by cutting tax credits from the Inflation Reduction Act, Biden's flagship industrial policy. According to climate group Resources for the Future, tax credit cuts could increase utility bills by 5 to 7 per cent by 2030. He has also repeatedly attacked offshore wind farms under construction on the east coast, issuing a series of stop-work orders and lease suspensions.

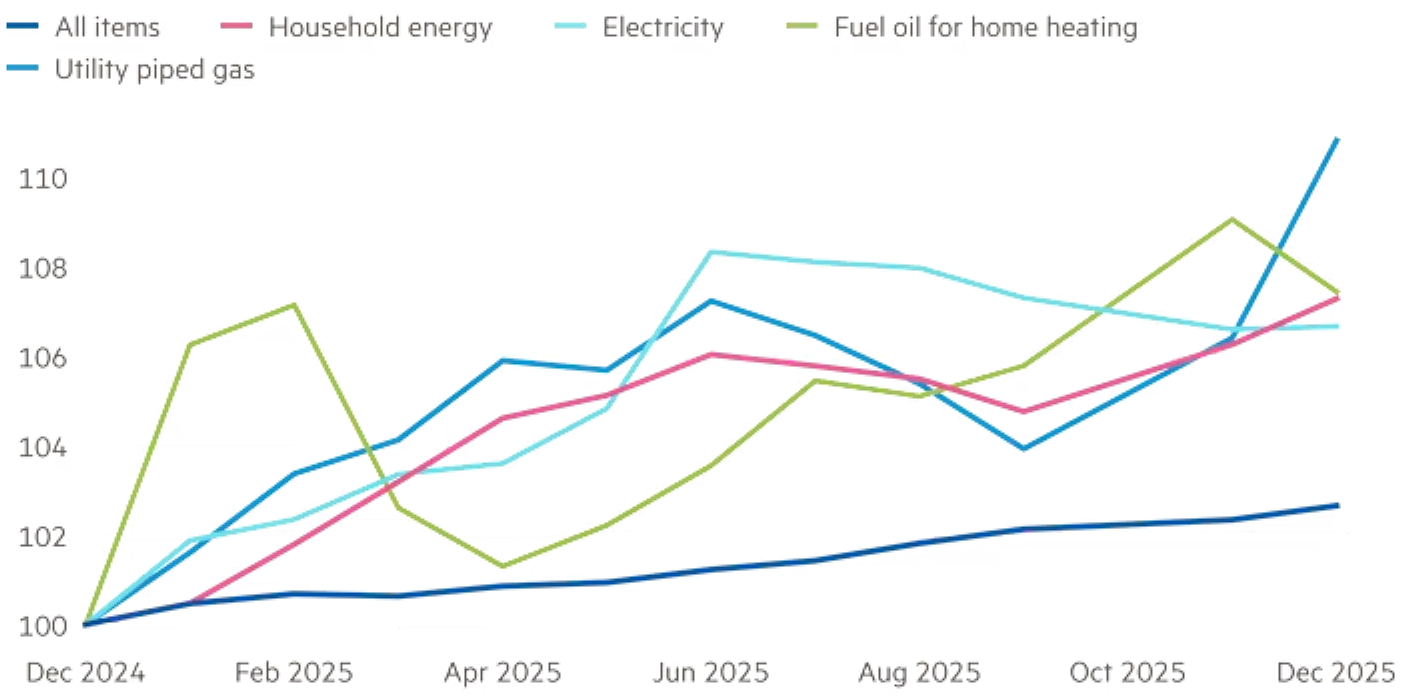
He has justified these moves by saying renewables are "too expensive and too weak". Critics allege he is deliberately undermining competition to the fossil fuel industry and limiting use of technologies that are among the fastest and cheapest to deploy.

The Department of Energy has issued multiple emergency orders forcing utilities to keep ageing coal-fired electricity generation plants scheduled for decommissioning open. It argues these actions are necessary to minimise the risk of blackouts and reduce electricity prices.

Critics say keeping these coal plants open is unnecessary, costly and technically difficult, as many are prone to breakdowns. If this policy is maintained into 2028, it could cost customers between $3bn to $6bn a year, according to a report by Grid Strategies commissioned by environmental groups.

Household energy costs have outstripped overall price rises during Trump's second term

US CPI & household energy components (Dec 2024 = 100)



Source: BLS

Trump has also made boosting LNG exports a pillar of his second term. Exports absorb about 10 per cent of total US gas production but this is forecast to double by 2030.

Experts warn this is already pushing up wholesale gas prices in the US, particularly when household demand is high during cold or hot weather. Last week wholesale gas prices soared to their highest level in three years during a winter storm. This, in turn, pushes up electricity bills, as about 40 per cent of US electricity is generated in gas-fired power plants.

"Prices of natural gas and electricity are so high that many manufacturers cannot produce products at a profit and are shutting down," said Industrial Energy Consumers of America, a group representing manufacturers, last week in a letter to the Trump administration.

Tyson Slocum, director of the energy programme at Public Citizen, a consumer advocacy group, says LNG export terminals are "diverting massive natural gas flows" towards consumers overseas.

"It means the rest of the country has to fight and bid over that declining share of available gas, which pushes the price up," he adds.

The LNG industry says exports are not causing skyrocketing prices, instead blaming exceptionally cold weather and delays in building new pipelines and other infrastructure.

"Winter weather can be a wild card for the natural gas market. It also highlights the need for additional infrastructure and permitting reform, which can unlock more of the benefits of natural gas, both at home and abroad," says Charlie Riedl, executive director at the Center for LNG, an industry group.

A spokesman for the Department of Energy said it would take more time to alter the trajectory of electricity prices because of years of "energy-subtraction policies" during the Biden administration that pushed up prices. He said the Trump administration is "reversing course" by keeping dependable coal and natural gas online, increasing domestic production and strengthening the grid.

Some factors are beyond Trump's control. Electricity customers are also paying for upgrades to the country's creaking power grid, which has been weakened through historic under-investment and battered by extreme weather.

According to a report from research centre Lawrence Berkeley, storms in Florida and Maine have added more than three cents per kilowatt-hour to residential electricity prices, while investments in wildfire mitigation have boosted California bills by about four cents per kilowatt hour.

The Trump administration initially downplayed concerns over affordability, saying in December that they were a "hoax".

But now the president, utilities and data centre companies are waking up to concerns about electricity costs, fearing a backlash. High-profile Republicans such as Florida Governor Ron DeSantis and Missouri Senator Josh Hawley have also spoken out.

A US oil lobby billboard in Washington promotes 'energy dominance'. The Trump administration has pushed for boosts to domestic oil, coal and gas production © Pete Kiehart/Bloomberg

In mid-January, Trump took to Truth Social to declare he "never want[s] Americans to pay higher Electricity bills because of Data Centers", which was followed by Microsoft pledging to cover the electricity costs of theirs.

And in an announcement days later, the White House called for PJM to hold an emergency power auction, in which money raised from big data centre operators would be used to build new power plants.

Analysts say an additional auction could help close the region's supply gap, but warn the measure will be challenging to implement and that PJM is not bound to carry out the White House's orders.

"Data centres can be deployed in one to two years, but the power generation to support them takes much longer," says Tim Fox, a managing director at ClearView Energy Partners, an independent research firm. "The tech ethos of 'move fast and break things' could not contradict more with the prudent processes of electric utilities."

The complex web of utilities, grid operators and state commissions that control the electricity market means Trump himself has little power to directly bring down prices, says economist Ed Hirs.

"Typically electricity costs are a state issue, not a federal one," he says. "He doesn't have a lot of road."

Trump is trying to give federal regulators a larger role in the country's electricity system. In October the Department of Energy asked the Federal Energy Regulatory Commission to take jurisdiction over the connection of loads bigger than 20 megawatts, which has traditionally belonged to states.

The president is also moving to fix what he calls the country's "broken permitting system", which he says has been "weaponised to stall growth" and is pushing up prices.

'Data centre alley', a Virginia hub through which almost three-quarters of global search traffic travels. Some locals blame politicians for approving energy-hungry centres © Pete Kiehart/Bloomberg

In reformers' sights is the National Environmental Policy Act, which was born of environmental concerns over air and water quality in the 1960s.

While well intentioned, the legislation creates "litigation doom loops" that drag out the development of new power plants and transmission lines, says Thomas Hochman, a director at the Foundation for American Innovation, a think-tank funded by the technology industry. Permitting power generation and transmission line projects can take about four years or more.

Legislation passed by the House of Representatives in December would overhaul Nepa to allow for faster construction of energy infrastructure.

But Trump's crusade against renewables could bury the bill as the repeated attacks on offshore wind projects complicate attempts to forge a compromise.

Data centres, which many experts blame for pushing up prices, could eventually lower bills under certain conditions, say analysts, if Big Tech foots the bill for investments in new power plants and transmission lines. Bills may also fall if power costs are spread among a larger customer base. Utilities are also increasingly creating special cost structures for data centres.

Utilities such as Southern California Edison are focusing on trying to entice data centres to set up in their regions.

"We see a big opportunity there," says Erica Bowman, the utility's vice-president of strategy, planning and performance. "Everything's on the table in terms of attracting folks to our service area so we can put downward pressure on rates."

For consumer advocates such as Dana Wiggins, relief can't come soon enough. The director of the Center for Economic Justice at the Virginia Poverty Law Center says she's increasingly dealing with requests for help with rising energy bills.

"It's making [people's] margins thinner and thinner," she says.

Almost a third of Americans struggle to pay their electricity bills, according to a survey by Smart Energy Consumer Collaborative, a non-profit group. This is up from one-quarter just two years ago.

And dangerously for Trump and Republicans, while Virginians point the finger of blame at utility companies and data centres, they believe it is politicians' fault for not reining them in.

"A lot of people are attributing higher bills to data centres and utility companies being greedy, but people are definitely blaming elected officials for those issues," Wiggins says.

With just 10 months to go to the midterm elections, Democrats such as Shapiro have seized on the issues of affordability and rising energy prices.

Electricity affordability is an issue Democrats "should be really leaning into", Arizona Senator Ruben Gallego says. "It's going to be a hard problem to solve but we have to because it will affect so many working-class people."

Data visualisation by Steven Bernard, Jana Tauschinski, Caroline Nevitt and Keith Fray

Opinion **Business Insight**

Can Tesla make its own chips?

History suggests such a venture is particularly prone to value destruction

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Tesla owner Elon Musk says the company needs to build and operate a so-called TeraFab to manufacture its own chips © Bloomberg

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Tesla's $1.3tn market value already assumes a future driven more by artificial intelligence than by electric cars. Delivering on that expectation would require far greater control over the hardware that powers autonomy, robotics and AI training.

Elon Musk has said the company therefore needs to build and operate a so-called TeraFab to manufacture its own chips. Can Tesla actually do this?

That idea should be considered separately from Musk's more extravagant ambitions. Compared with projects such as Mars colonisation or neural implants, building a chip fabrication plant is grounded in existing industrial practice.

Much of the scepticism around a new entrant to the chip industry rests on a misconception: when many think of chipmaking, they tend to picture TSMC's most advanced output of 3- and 5-nanometre chips that are used for Nvidia's flagship AI chips today. Those high-end chips require cutting-edge machines and decades of accumulated trial and error. Against that standard, a new entrant looks hopeless.

Yet that is also the wrong comparison. Chipmaking does not have to match TSMC at the most advanced level to be viable. There exists a narrow middle ground where manufacturing remains technically achievable for a new entrant and still powerful enough to support AI workloads. Any Tesla fab would have to target older technology, around 7 nanometres, which is widely regarded as the last advanced generation of chips before complexity and capital requirements rise sharply.

TSMC first started volume production of these chips in 2018 and the technology remains widely used in AI and data centres today. Even if it is several years behind, Tesla could, in principle, produce usable AI chips for running models for vehicle autonomy and humanoid robots.

That makes 7nm the correct benchmark, but not an easy one. It still requires extreme ultraviolet lithography machines from ASML. It also needs ultra-clean facilities with large-scale power, cooling and water infrastructure, hundreds of precision tools and advanced chip packaging capabilities.

Critically, it would need hundreds of engineers with extensive experience in bringing chip defect rates down, talent that is scarce and already concentrated at TSMC. Initial production would typically take three or more years, with high material losses and prolonged trial and error before reaching usable output.

Even if Tesla clears the technical bar, feasibility alone does not guarantee value. When making chips, the benchmark today is TSMC, which spent more than $40bn in capital expenditure last year. That spending is justified because its risk is spread across a long customer list and thousands of designs, helping to absorb production losses and accelerate learning.

Tesla cannot replicate this model. Musk has said Tesla does not intend to sell chips outside the company. Without global orders, a chip business becomes a fixed-cost operation that would struggle to avoid being structurally lossmaking. Previous investments in US fabs by TSMC suggest per-fab costs of at least $20bn, even accounting for subsidies. Unlike most industrial assets, chip fabs require sustained reinvestment just to remain competitive. Even under generous assumptions, recovering investment would take many decades.

Economics aside, execution risk remains the greater challenge. Starting in the mid-2010s, Intel's troubled transition to its 10-nanometre chips, despite decades of industry experience, was driven by aggressive timelines and internal pressure, leading to years of delays and a permanent loss of leadership.

Tesla's history of reported inconsistencies in EV build quality, including panel gaps and post-delivery rework, does not automatically imply technical incompetence. But it does reflect a corporate tolerance for shipping products before manufacturing processes are fully stabilised. In cars, such defects are largely cosmetic and can be corrected. In chipmaking, that is not an option.

US-based GlobalFoundries is another instructive case. After acquiring IBM's lossmaking chip business in 2015, it concluded just three years later that advanced chip manufacturing was not economically viable.

Tesla would face both of these risks at the same time: the cultural pressures Intel faced and the unfavourable economics that forced GlobalFoundries to retreat. History suggests this combination is particularly prone to value destruction, apparent only after the capital has already been spent.

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