

# The Taiwan Chokepoint

Taiwan's place in the world economy, the China scenarios, and what they could mean for the United States, China and global growth.

**Central question.** If China were to gain control over Taiwan, how would that reshape the densest technological and commercial node in the world economy — and where do the limits of that disruption lie?

**Finding: Taiwan is not a monopoly, it is a node.** The island holds 92 per cent of global advanced-logic capacity but produces only about a tenth of global semiconductor value added. That asymmetry sets the *shape* of the shock rather than its size: what is severed is not value but physical flow. The macroeconomic magnitude of the shock is then settled not in the semiconductor channel but in the financial one.

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*"Semiconductors have defined the world we live in, determining the shape of international politics, the structure of the world economy, and the balance of military power."*

CHRIS MILLER — *CHIP WAR*<sup>[42]</sup>

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## PART I · TAIWAN AND THE SEMICONDUCTOR CHAIN

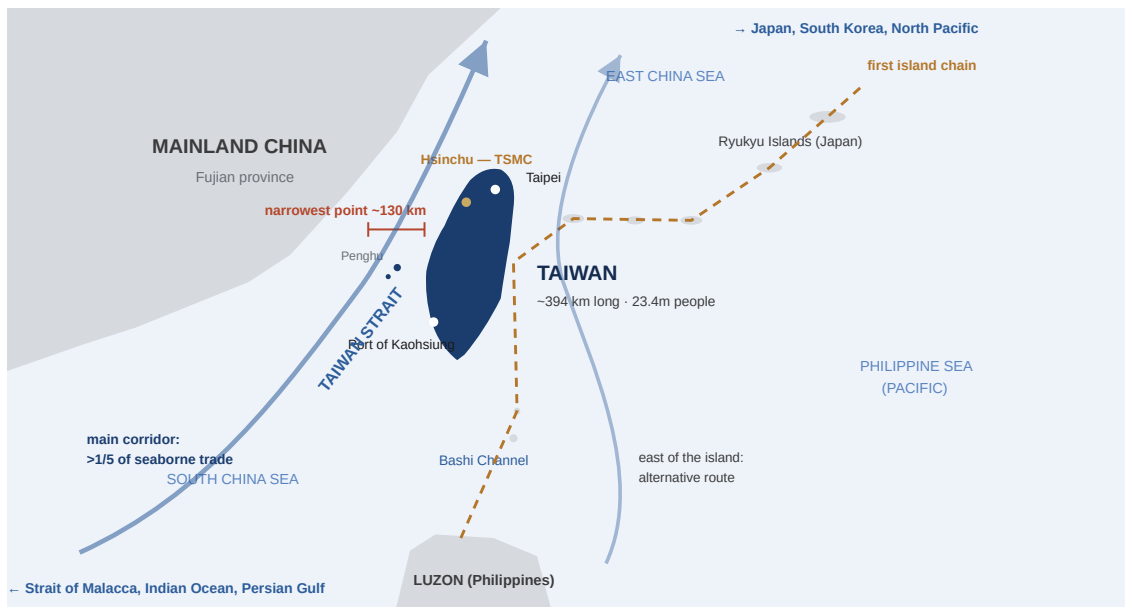
01

# Taiwan: an unresolved question of status and a one-product economy

Taiwan sits at the intersection of two stories: the legal residue of a civil war that froze in 1949, and an export economy that grew up around a single company.

## Exhibit 1 — Taiwan and its surroundings: island, strait and trade routes

The Taiwan Strait and the shipping corridors of the Western Pacific · schematic map, not to scale



Source: geography and corridor data from CSIS ChinaPower<sup>[3]</sup>; port and strait figures from CSIS<sup>[11]</sup>.

**Takeaway:** The island lies 130 kilometres from mainland China and directly astride the world's busiest shipping corridor — it carries two distinct risks because it is both a target and a passage.

## Status: the clock that stopped in 1949

Taiwan was under Japanese rule from 1895 to 1945 and was handed to the Republic of China after the war; in 1949 the defeated ROC government withdrew to the island. Washington's wording matters here: in the 1972 Shanghai Communiqué the United States said it *acknowledges* the position that Chinese on either side of the strait maintain there is but one China — not that it *recognises* that position.<sup>[34]</sup> The status quo rests on that deliberate ambiguity.

| Year | Turning point                                                                                     |
|------|---------------------------------------------------------------------------------------------------|
| 1949 | The ROC government withdraws to Taiwan; the PRC is founded on the mainland <sup>[34]</sup>        |
| 1971 | UN Resolution 2758 seats the PRC as the sole legitimate representative of China <sup>[34]</sup>   |
| 1979 | The US recognises the PRC; Congress passes the Taiwan Relations Act the same year <sup>[34]</sup> |
| 1987 | TSMC is founded; the pure-play foundry model reshapes the industry <sup>[33]</sup>                |

Source: compiled by the author from the works cited.

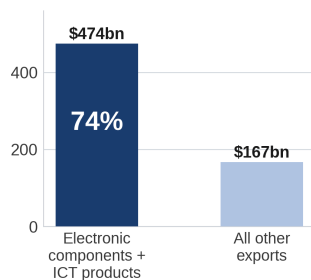
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## An island on one product: what does Taiwan's economy rest on?

Taiwan is an island of 23 million people with almost no natural resources. Its economy was built around a single industry, and three-quarters of its exports are now electronics — which means its economic strength and its fragility come from the same source.

### Exhibit 2 — Composition of exports

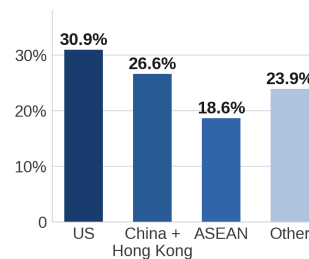
Taiwan goods exports, 2025 · \$bn



Source: Taiwan Ministry of Finance<sup>[37]</sup>.

### Exhibit 3 — Direction of exports

Share of leading markets, 2025 · goods exports



Source: Taiwan Ministry of Finance<sup>[37]</sup>. Mainland China and Hong Kong are shown together. ASEAN: the Association of Southeast Asian Nations — Indonesia, Malaysia, the Philippines, Singapore, Thailand, Vietnam and four neighbours.

**Takeaway:** Of Taiwan's \$640.7bn in exports, \$474bn is electronic components and ICT goods; the island depends on global demand for a single industry — and sells more than a quarter of its exports to the country that claims it as its own territory.

### The birth of the industry: a company created by the state

This concentration did not happen by itself. In 1987 the Taiwanese government, the state research institute ITRI and private investors jointly founded Taiwan Semiconductor Manufacturing Company. Roughly half the initial capital came through the National Development Fund and the government; Philips of the Netherlands put in \$58m, transferred its production technology and took 27.6 per cent in return. The founder, Morris Chang, proposed a business model that had never been tried: a *pure-play foundry* that designs no chips of its own and manufactures only other companies' designs.<sup>[33]</sup>

The model changed the industry's structure: a company that wanted to design chips no longer had to build a multi-billion-dollar fab. Fabless firms such as Nvidia, Qualcomm, AMD and Broadcom were built on top of it.

### Two sides of the strait: hostility and dependence at once

Taiwan's relationship with China is not purely a political conflict; it is also a tight commercial bond. Some 26.6 per cent of Taiwanese exports go to mainland China and Hong Kong.<sup>[37]</sup> Most of that trade is in intermediate goods: chips made in Taiwan become finished devices on assembly lines in China and are sold on from there. The two sides reject each other politically while standing at opposite ends of the same production line.

That picture is shifting. In 2025 the largest buyer of Taiwanese exports was the United States, at 30.9 per cent; exports to America rose 78 per cent in a year.<sup>[37]</sup> Demand for AI servers is moving the island's trade geography from the mainland towards America — reducing Taiwan's dependence on China while placing it at the centre of US–China rivalry.

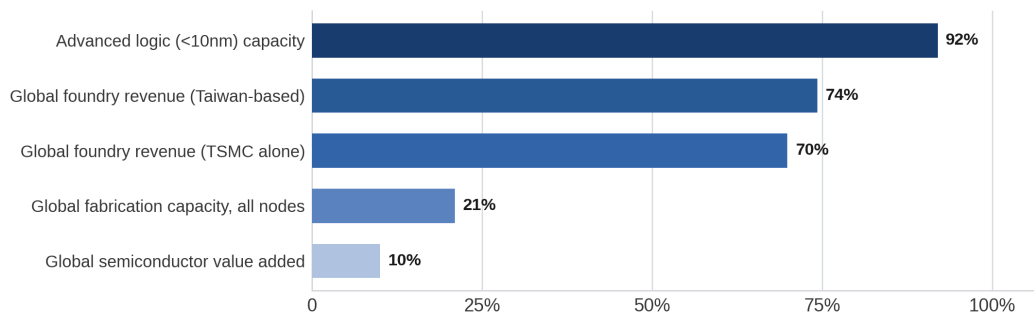
03

## The concentration ladder: where Taiwan is a monopoly, and where it is ordinary

The figure of 92 per cent is accurate but misleading on its own. Change the measure and Taiwan's share falls away fast. That decline is the single most important piece of evidence for understanding the economics of a crisis.

### Exhibit 4 — Taiwan's share melts away as the measure changes

**Taiwan's share of the global semiconductor ecosystem on five different measures** · foundry revenue shares full-year 2025; capacity and value-added shares are 2021–2024 estimates



Source: TrendForce data via *Taipei Times* (foundry revenue shares, 2025)<sup>[4]</sup>; USITC, *Silicon Island* (capacity and value-added shares)<sup>[5]</sup>; Rhodium Group<sup>[1]</sup>. The Taiwan-based foundry share is the sum of TSMC and UMC (author calculation).

**Takeaway:** Taiwan does not hold an industry, it holds that industry's *top rung*; enough to halt global electronics production, but not enough to destroy nine-tenths of global semiconductor value added outright.

The top rung, 92 per cent, measures logic fabrication capacity below 10 nanometres: smartphone processors, data-centre accelerators and laptop silicon.<sup>[5]</sup> One rung down, TSMC took 69.9 per cent of global foundry revenue in 2025 and Taiwan-based foundries together took 74 per cent.<sup>[4]</sup> Include every node and Taiwan's share of global fabrication capacity falls to 21 per cent, while its share of global semiconductor *value added* falls to 10 per cent.<sup>[5]</sup>

That last figure is skipped in most analyses, and skipping it leads to a serious error. Most of the value in semiconductors is created in design, IP, equipment and software — all of which sit in the United States, Japan, the Netherlands and South Korea. Taiwan performs the most capital-intensive and least substitutable *physical* step in the chain but captures little of the economic rent. Losing Taiwan is therefore not "losing 92 per cent of the global semiconductor industry"; the shock is not smaller, it is **differently shaped**: what is cut is physical flow, not value.

### What Taiwan holds is not rent but flow. Stopping a flow is far more destructive than seizing a rent — and far harder to sustain.

A second nuance is that TSMC is not strong only at the leading edge. On Rhodium's estimate it makes roughly 35 per cent of the world's automotive microcontrollers and 70 per cent of smartphone chipsets.<sup>[1]</sup> Automotive microcontrollers are built on mature nodes of 28–90 nanometres and are technically substitutable. But as the 2021 crisis showed, being substitutable is not the same as being substitutable *quickly*: qualifying a new line in automotive takes 12–24 months. The result: losing Taiwan creates a disruption measured in **years** at the leading edge and in **quarters** at mature nodes — and it is precisely that difference in duration that settles the macroeconomic outcome.

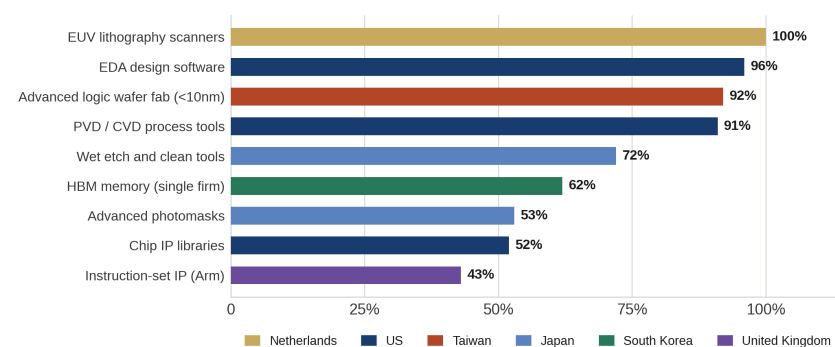
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## The chain layer by layer: only one of nine chokepoints is in Taiwan

The semiconductor supply chain does not rest on a single chokepoint but on a series of interlocking ones. A different country holds a monopoly at every layer — and the strength of a chain is set not by its strongest link but by the one that is hardest to repair.

### Exhibit 5 — Every link in the chain has its own monopoly

Global share of the leading country at each supply-chain layer · equipment and software shares 2023–2024; HBM share Q1 2026



Source: Georgetown CSET / Emerging Technology Observatory chip chokepoint dataset<sup>[6]</sup>; USITC<sup>[5]</sup>; HBM share from TrendForce data via Astute Group<sup>[21]</sup>. "HBM memory (single firm)" is SK hynix's share.

**Takeaway:** Each link has its own monopoly. That does not diminish Taiwan's importance — on the contrary, it means a break in *any* link can halt the whole chain. What sets Taiwan apart is why replacing its link takes years (see page 6).

This exhibit carries the report's most political conclusion: in a world where China has taken Taiwan, TSMC's fabs **could not keep running** even if they were left standing. A leading-edge fab depends on ASML servicing, Applied Materials and Lam Research spares, Tokyo Electron systems, US-based EDA licences and Japanese photomasks — all of them subject to export control and all of them outside Taiwan.

### Three separate "leading-edge" chokepoints

Public debate fixes on "wafer fabrication"; in the AI era there are three distinct chokepoints and they are not in the same place:

|                                                                                                                                                                                    |                                                                                                                                                                                                                       |                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>LAYER 1</b></p> <p><b>Advanced logic wafers</b></p> <p>Production at N3/N5. Concentrated in Taiwan, with 92% of capacity. A new fab takes 3–5 years and costs \$20–30bn.</p> | <p><b>LAYER 2</b></p> <p><b>Advanced packaging (CoWoS)</b></p> <p>The step that joins a GPU's logic and memory layers. Mostly in Taiwan; this capacity was the binding constraint on AI supply through 2024–2026.</p> | <p><b>LAYER 3</b></p> <p><b>HBM memory</b></p> <p>In South Korea and the US: SK hynix at 62%, then Micron and Samsung. <b>Not in Taiwan</b> — a crisis does not sever this layer directly.</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Source: CSET/ETO<sup>[6]</sup>, TrendForce/Astute Group<sup>[21]</sup>, company disclosures and trade press.<sup>[22]</sup>

**Takeaway:** A Taiwan crisis severs two of the three links in the AI hardware chain; the third, HBM, survives but becomes unusable — which makes South Korea a party to the crisis as well.

The practical consequence: advanced packaging capacity can be relocated faster than wafer capacity, but as of 2026 that relocation has not reached meaningful scale — in a crisis, AI accelerator supply jams at packaging before it jams at wafers.

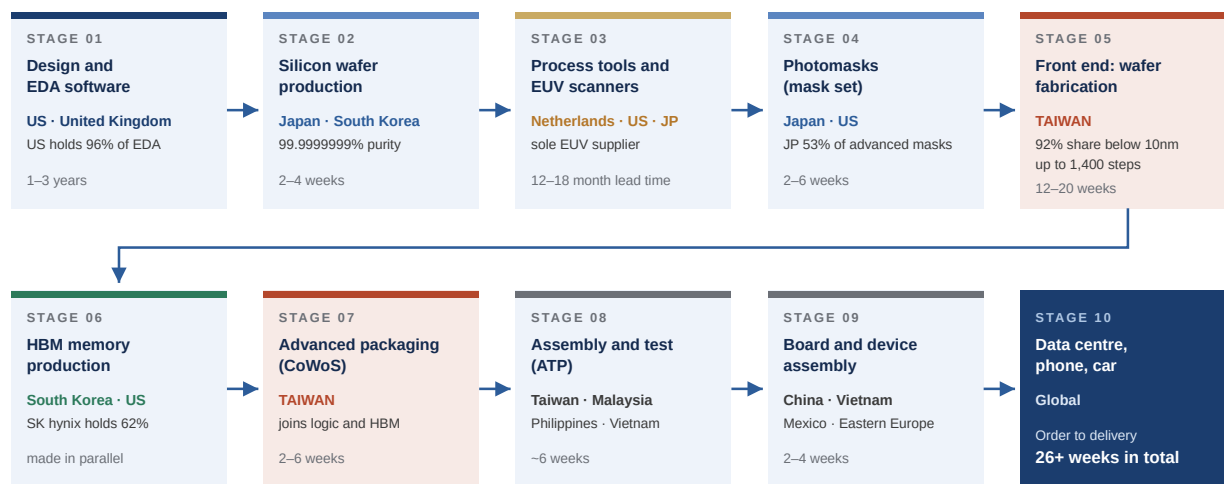
05

## The journey of a chip: from sand to device, six months across four continents

The previous page showed the chain's layers country by country. This page shows the same chain *in time*: the ten stages a single chip passes through from birth to finished device, each of them in a different country.

### Exhibit 6 — Production flow of a single advanced chip and the geography of each stage

Ten stages from design to finished device · durations are industry averages; share figures show the global distribution of the relevant layer



Source: process step counts and durations from the Semiconductor Industry Association<sup>[35]</sup>; layer shares from CSET/ETO<sup>[6]</sup> and USITC<sup>[5]</sup>; CoWoS from TSMC technology documentation<sup>[36]</sup>. Flow diagram constructed by the author.

**Takeaway:** None of the ten stages is optional and none can be skipped; because the chain is wired in series, the slowest link sets the system's speed and the *weakest* link sets its resilience.

The numbers help. An advanced chip passes through as many as 1,400 separate process steps during wafer fabrication, and that stage alone takes 12–20 weeks; assembly and test add another six. Total elapsed time from order to delivery can reach 26 weeks.<sup>[35]</sup> This creates an economically critical property: **the semiconductor chain cannot respond quickly to demand**. An order placed today is on the shelf six months later at best — which explains why supply disruptions are felt for so long.

The second important property is that the flow is geographically dispersed but proceeds in an *unalterable sequence*. A wafer grown in Japan and processed in Taiwan is joined in Taiwan with memory made in Korea, then tested in Malaysia and fitted into a device in China. There is no parallel path between stages: you cannot move to 08 before 07 is finished.

#### WHY NO COUNTRY CAN BUILD THIS CHAIN ALONE

Each stage rests on a different economy of expertise: EDA software on decades of accumulated code, an EUV scanner on an optical system of hundreds of thousands of parts, wafer fabrication on nanometre-scale process control. No country can be best at all ten at once — **concentration is not a choice but the inevitable result of specialisation**.

These two properties set up the next page: in a chain wired in series every link is compulsory, so a break in any of them halts the whole output — but links are repaired at very different speeds, and the real risk hides in that asymmetry.

06

## What happens if one link breaks? The brutal arithmetic of a serial chain

The most important property of the flow on the previous page is that it runs **in series**: in a parallel system the others carry on when one component fails, but in a serial chain a single stopped link takes output to zero.

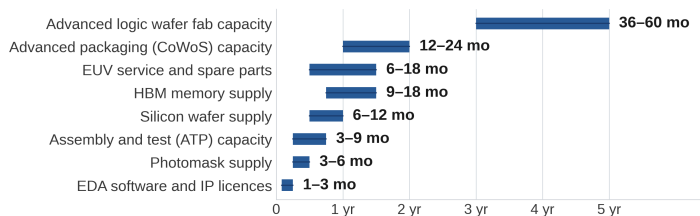
### THE ARITHMETIC OF A SERIAL CHAIN

Even if each of the ten stages runs without incident 98 per cent of the year, the probability that the whole chain works is  $0.98^{10} = 82 \text{ per cent}$ ; at 95 per cent per link the system falls to **60 per cent**. A chain of individually very reliable links is far more fragile as a whole. (*author calculation; illustrative*)

The real question is this: if a link breaks, *how long* does it take global advanced chip supply to return to normal? The answer varies dramatically from link to link.

### Exhibit 7 — If a link breaks: time for global advanced chip supply to normalise

Recovery time should each link of the chain be taken out entirely · ranges derived from the sources cited



Source: announced fab construction and ramp schedules<sup>[20]</sup>; production cycle times<sup>[35]</sup>; layer concentration data<sup>[6]</sup>; the observed course of the 2021 chip shortage<sup>[15]</sup>.

**Takeaway:** Seven links of the chain can recover within one to two years; the eighth — advanced logic wafer capacity — takes three to five. What puts Taiwan in a category of its own is not the size of its share but **the slowness of its replacement**.

This chart combines the findings of the previous two pages. The layer analysis showed that only one of the chain's nine chokepoints sits in Taiwan; the duration analysis shows that this single link requires a longer repair time than the other eight combined: **Taiwan is not the whole chain, but it is its longest-to-repair link**.

**A link is critical not because of the size of its share but because of how long it takes to put a new one in its place.**

### Substitutable is not the same as quickly substitutable

The 2021 chip shortage was a live example: the scarcity that hit the car industry was in easily substitutable mature-node chips, yet the crisis still ran for eighteen months — the obstacle was not technical but *administrative*.

At the leading edge the obstacle is technical, administrative and physical at once. A new advanced logic fab costs \$20–30bn, takes three years to build and months more for yields to reach commercial levels; and it cannot run at full capacity without the supplier ecosystem around it. "Someone else will take Taiwan's place" is true but incomplete: they will — in five years. That is the core input to the scenario analysis in the rest of this report.

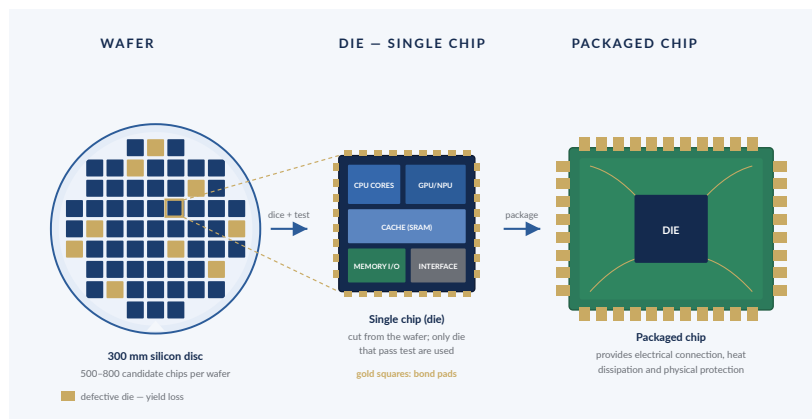
07

## Wafer, die and package: the three physical states of a chip

Most of the technical terms in the Taiwan debate describe different stages of a single physical object — and seeing those stages is the shortest route to understanding why the island cannot be replaced.

### Exhibit 8 — The difference between a wafer, a die and a packaged chip

**From silicon disc to finished component: three states of the same object** · schematic; the squares do not represent real chip counts or defect distribution



Source: Semiconductor Industry Association<sup>[35]</sup>; TSMC technology documentation<sup>[36]</sup>. Diagram not to scale.

**Takeaway:** The number of wafers produced and the number of chips that can be shipped are not the same thing; the gap is set by die area, manufacturing yield and packaging capacity — all three concentrated in Taiwan.

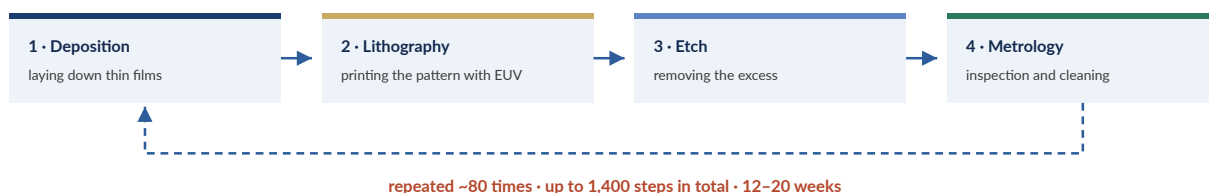
A **wafer** is the thin, extremely pure silicon disc on which chips are built, 300 millimetres across. Silicon is purified, grown into a single-crystal ingot, sliced and polished — a precision industry in its own right, concentrated largely in Japan. A **die** is the single chip cut from the disc; the **package** is the shell that connects it to a board, spreads its heat and protects it.

### Why yield determines cost

Take a disc carrying 100 candidate die. If 90 pass test, the cost is shared across 90 good chips; if 60 pass, the same cost is divided among 60. This is why competition at the leading edge runs on **yield** rather than equipment — and yield is the product of decades of process experience. A new fab takes months to reach commercial yield.

### Exhibit 9 — The layer loop of fabrication

**A wafer passes through the same four steps again and again** · schematic



Source: step counts and cycle times from the Semiconductor Industry Association<sup>[35]</sup>. Chip making is not a single operation but the same four steps repeated eighty times over.

08

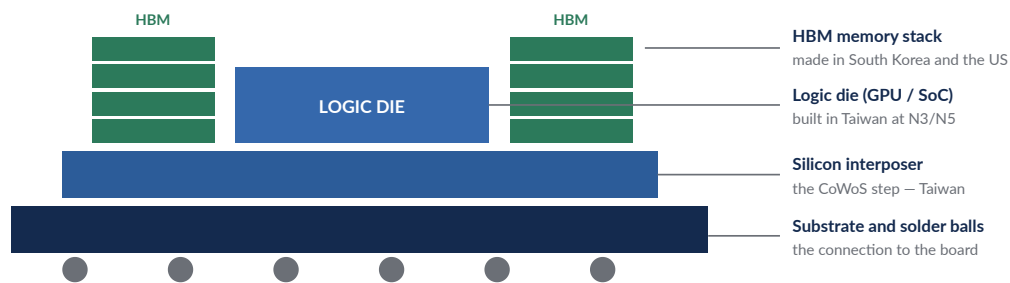
## Node and CoWoS: the two chokepoints of AI hardware

Building an AI accelerator requires two scarce resources at the same time: wafer capacity at the smallest node, and the advanced packaging capacity that joins that wafer to memory. Both sit on the same island.

A **node** — "3 nanometre", "2 nanometre" — is today a commercial name for a technology generation rather than a physical length. Each generation fits more transistors into the same area; moving to a smaller node means doing the same work with less energy. In AI hardware that is decisive: the lifetime cost of a data centre comes far more from the electricity it consumes than from the purchase price of the chips, so being one generation ahead creates a measurable operating advantage.

### Exhibit 10 — CoWoS: joining logic and memory in a single package

Chip-on-Wafer-on-Substrate — cross-section of 2.5D advanced packaging · in volume production since 2012



Source: TSMC 3DFabric / CoWoS technology documentation<sup>[36]</sup>; HBM shares from TrendForce/Astute Group<sup>[21]</sup>. Cross-section not to scale.

**Takeaway:** An AI accelerator is not one chip but an *assembly* of parts made in at least three different countries and joined together in Taiwan — which is why CoWoS capacity is a separate, and often tighter, constraint than logic die capacity.

What makes CoWoS distinctive is that the logic die and the memory sit side by side on the same silicon interposer. Memory carries data to the processor across the interposer rather than across the board, which multiplies bandwidth. Because training AI models is acutely sensitive to bandwidth, this packaging form became mandatory after 2022.<sup>[36]</sup>

| Chokepoint                 | Why it tightens                                                                     | Where it is concentrated                              |
|----------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------|
| Advanced logic wafers      | A fab takes three years to build and months more to reach commercial yield          | Taiwan — 92% of capacity below 10nm <sup>[5]</sup>    |
| Advanced packaging (CoWoS) | Interposer production is separate capacity; it binds even when wafer capacity rises | Predominantly Taiwan <sup>[36]</sup>                  |
| HBM memory                 | Stack yields are low; qualified capacity is limited                                 | South Korea and the US — SK hynix 62% <sup>[21]</sup> |

Source: works cited; ranking and assessment by the author.

**Takeaway:** Two of the three chokepoints are in Taiwan and one in South Korea; AI hardware supply therefore depends on two island economies in the Western Pacific running without interruption.

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## Why TSMC matters: one company, two economies

What makes TSMC special is not its size but its **position**: a company with no products of its own has become the only place where the products of the world's most valuable technology firms can physically exist.

**\$122.5bn**

2025 revenue

**69.9%**

Share of global foundry revenue

**~84,000**

Employees

**~30%**

Weight in Taiwan's main equity index

Source: TrendForce/*Taipei Times*<sup>[4][31]</sup>, TSMC corporate data<sup>[33]</sup>.

**Takeaway:** TSMC's 69.9 per cent share of foundry revenue is among the highest any single firm holds in any industry — and narrowed to the leading edge it rises above 90 per cent.

### For Taiwan: a cluster and a concentration risk

What the pure-play model gave Taiwan was not one company but a cluster: hundreds of firms supplying materials, masks, testing and equipment servicing grew up around Hsinchu on top of that model. But the same concentration creates a fragility. A single company carrying roughly 30 per cent weight in the main equity index — on some assessments close to half of the exchange's market value — ties Taiwan's asset prices to the demand cycle of one sector.<sup>[33][39]</sup> Moreover, only about a thousand of the island's 800,000 registered companies are listed, and there are warnings that AI-driven gains are not being distributed evenly across sectors.<sup>[39]</sup> TSMC's success represents not the whole of Taiwan's economy but its most visible and most fragile edge.

### For the United States: product lines, defence supply and the capex cycle

American interest is fed by three motives; each corresponds to a different policy instrument.

| Motive                       | Substance                                                                                                                                                      | Policy instrument                    |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| <b>Commercial dependence</b> | The advanced product lines of Nvidia, Apple, AMD, Qualcomm and Broadcom are all manufactured at TSMC                                                           | Supply-security arrangements         |
| <b>Defence and AI</b>        | Advanced compute is the physical infrastructure of both military systems and AI models; holding that capacity on one island is treated as a strategic exposure | Export controls, allied coordination |
| <b>The capex cycle</b>       | Much of US capital investment has turned to AI; its physical input comes from Taiwan                                                                           | Subsidy and localisation             |

Source: company disclosures; CHIPS programme figures from NIST/CHIPS Program Office<sup>[38]</sup>, assessment by the author.

The third motive is where policy becomes most concrete: under the CHIPS programme the United States committed up to \$6.6bn in direct incentives to TSMC's Arizona investment<sup>[38]</sup>, and with later expansions the company's total US commitment has passed the hundred-billion mark.<sup>[20]</sup> This is an industrial policy but also an insurance premium: the aim is not to replace Taiwan but to avoid starting from zero if the island goes offline.

An extreme reading of the same concern is debated in the military literature: the "broken nest" approach proposes rendering the facilities unusable in the event of an invasion — the argument being that deterrence comes from showing that seizing the asset would carry no value.<sup>[28]</sup> The idea returned to prominence in 2025 through the statements of a senior US defence official.<sup>[29]</sup> No such outcome is *assumed* in this report's scenario analysis.

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## The second node: \$2.45tn through the strait

Taiwan's second role in the world economy has nothing to do with chips. The island sits in the middle of one of the busiest trade corridors on earth — and the largest user of that corridor is China itself.

**\$2.45tn**

Value of goods transiting the strait (2022)

**>20%**

Share of global maritime trade

**\$1.3tn**

China's trade through the strait (2024)

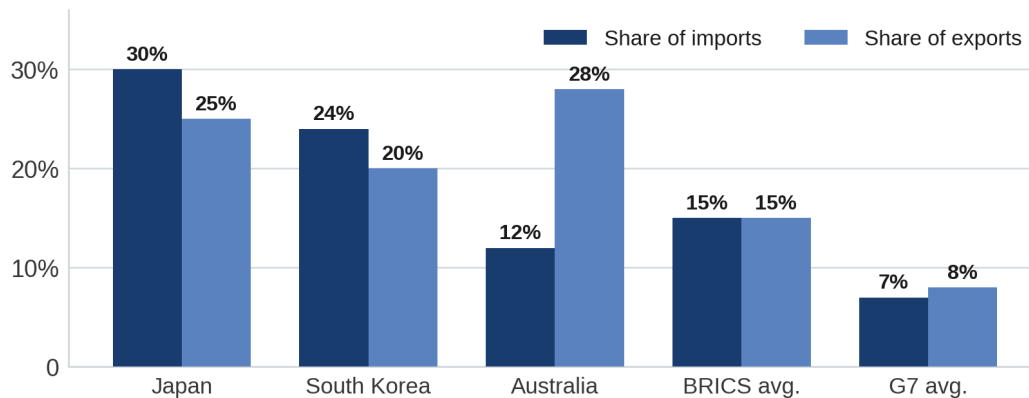
**57%**

Kaohsiung's share of Taiwan's maritime trade

Source: CSIS ChinaPower, *Crossroads of Commerce*<sup>[3]</sup>; CSIS quarantine scenario analysis<sup>[11]</sup>.

### Exhibit 11 — The economies most dependent on the strait are America's allies

Share of total goods imports and exports transiting the Taiwan Strait, 2024



Source: CSIS ChinaPower, *Crossroads of Commerce*, with the 2024–2025 data update<sup>[3]</sup>. The G7 average is reported as roughly half the BRICS average (author calculation).

**Takeaway:** Closing the strait hits Japan and South Korea before it hits America — which puts direct pressure on the crisis choices of Washington's allies.

The distribution of the figures says the opposite of the common narrative. Japan moves 30 per cent of its goods imports and 25 per cent of its exports through this corridor: roughly \$413bn. The corresponding figure for South Korea is \$300bn, and 28 per cent of Australia's exports.<sup>[3]</sup> BRICS economies are twice as dependent as the G7 average; the United States is among the least exposed on the list. More striking still is energy: Japan sources 94 per cent of its crude oil and South Korea 71 per cent from the Persian Gulf, and those cargoes pass through the strait or its close alternatives.<sup>[3]</sup> Three-quarters of China's imports through the strait are raw materials. Whoever closes the strait therefore closes their own energy and commodity artery too.

#### SHIPS CAN REROUTE — BUT NOT FOR FREE

Closing the strait does not halt global trade; vessels can sail east of Taiwan. The critical point is not the cost of the alternative route but the **war-risk insurance** that switches on across the region. As the Red Sea showed, underwriters designating an area as high-risk produces a far faster and broader cost effect than route distance does (see page 16).

The strategic observation is this: the Taiwan Strait is as much China's own vulnerability as it is China's lever — CSIS's blockade wargames confirm that symmetry.<sup>[10]</sup> We return to it on page 21.

11

# Why China wants Taiwan: five motives on five time horizons

Beijing's Taiwan objective cannot be reduced to a single cause. Five separate motivations operate at once and each carries a different urgency — which matters for judging which scenario is more likely.

|                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>MOTIVE 1</b></p> <p><b>Regime legitimacy</b></p> <p>"Reunification" is the closing clause of the Communist Party's national-rejuvenation narrative. Xi Jinping routinely calls it "unstoppable" in new-year addresses. <sup>[24]</sup> <b>Horizon: open-ended, but constant pressure.</b></p> | <p><b>MOTIVE 2</b></p> <p><b>Military geography</b></p> <p>Taiwan is the keystone of the first island chain. Basing on the island would give China's navy direct Pacific access and deep-water egress for its ballistic-missile submarines. <b>Horizon: decades.</b></p> | <p><b>MOTIVE 3</b></p> <p><b>Technological leverage</b></p> <p>Under US export controls China lost leading-edge access. Controlling TSMC would in theory unlock it — but the equipment dependence on page 4 makes that impossible in practice. <b>Horizon: short, but low return.</b></p> | <p><b>MOTIVE 4</b></p> <p><b>Demographic window</b></p> <p>China's working-age population is shrinking and potential growth is falling. This is offered as a structural argument reinforcing "now or never" logic. <b>Horizon: the 2030s.</b></p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Source: CSIS ChinaPower <sup>[30]</sup>; Al Jazeera <sup>[24]</sup>; Stimson Center <sup>[25]</sup>; compiled by the author.

**Takeaway:** Three of the motives are military or political and only one is economic — and even that is the technically weakest case. Taking Taiwan "for the chips" is Beijing's least rewarding option.

*"Reunification is a historical inevitability; no one can stop it."*

XI JINPING, NEW-YEAR ADDRESS, 1 JANUARY 2026 <sup>[24]</sup>

## The fifth motive: the credibility of deterrence

To the four above must be added a fifth that most analyses skip: **the credibility of deterrence**. For Beijing, Taiwan is where America's security commitments in Asia are tested. This changes the economic calculus, because what makes an economic cost acceptable is that the political return is not economic. If a state is willing to risk losing a tenth of its GDP, the cost–benefit analysis behind that decision was not conducted in economic terms.

That carries a methodological warning for the rest of this report: the size of an economic cost is not on its own a deterrent. Russia's decision in 2022 is the recent evidence. The argument that "it will not happen because the cost is too high" is therefore not used as a conclusion here.

| Motive             | Gained if control is secured         | Lost if control is secured                                                   |
|--------------------|--------------------------------------|------------------------------------------------------------------------------|
| Legitimacy         | Completion of the Party narrative    | Domestic legitimacy risk if the war proves costly                            |
| Military geography | Free Pacific access, submarine depth | Regional rearmament and a permanent US–Japan posture                         |
| Technology         | TSMC's facilities, in theory         | Facilities rendered inoperable as equipment, software and spares are cut off |
| Economy            | Taiwan's economy of over \$800bn     | Risk to export markets, reserves and the energy artery (see page 21)         |

Source: compiled by the author; Taiwan GDP from DGBAS <sup>[17]</sup>, loss items from Atlantic Council–Rhodium <sup>[8]</sup>.

## PART II · SCENARIOS AND TRANSMISSION MECHANISMS

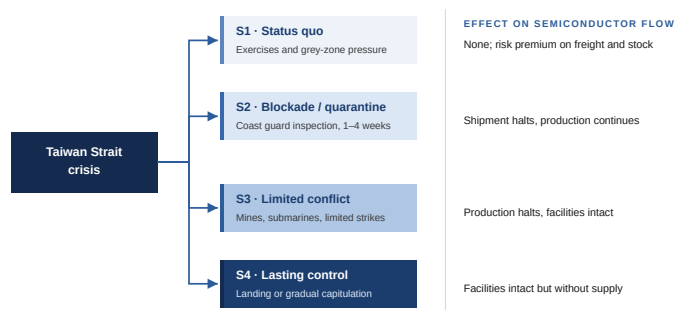
12

## Four scenarios: "if China takes Taiwan" is not a single event

What decides the economic outcome is not whether China secures control but *how*. The four scenarios below diverge along two dimensions: duration of disruption and physical damage.

### Exhibit 12 — Scenario tree and the variables that separate them

Four scenarios, their triggers and their effect on semiconductor flow · scenario definitions by the author, derived from the CSIS and Bloomberg Economics frameworks



Source: scenario definitions constructed by the author; blockade and quarantine mechanics from CSIS<sup>[10][11]</sup>, economic decomposition from the Bloomberg Economics framework<sup>[2]</sup>.

**Takeaway:** The difference between the scenarios is of kind, not degree: under a blockade chips are made but cannot move; under lasting control the facilities are intact but cannot produce because equipment supply has been cut.

The economic importance of that distinction is this: in the blockade scenario the problem is **logistical**, and logistical problems are solved expensively but quickly. Under lasting control the problem is **productive capacity**: new fab construction, three to five years and \$20–30bn apiece.

Military wargames show how quickly the scenarios turn into one another. CSIS found an invasion could be repelled at heavy cost<sup>[9]</sup>; the same institution's 26 blockade games set in 2028 show how hard escalation is to contain — teams answered perceived escalations with small ones of their own, and two games spiralled into general war.<sup>[10]</sup> The wall between S2 and S3 is thinner than scenario tables suggest, so scenario probabilities cannot be treated as independent.

### Three variables that separate the scenarios

| Variable                      | Why it is decisive                                                                                     | Where it diverges                                                                                |
|-------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Physical damage</b>        | If facilities are intact the disruption is a supply problem; if damaged it is a reconstruction problem | Critical between S3 and S4; a "broken nest" outcome would make S4 an entirely different scenario |
| <b>Duration of disruption</b> | Six months is the upper bound of what inventory and allocation mechanisms can absorb                   | Changes in kind between S2 and S3–S4; the precise duration cannot be known in advance            |
| <b>Scope of sanctions</b>     | Moves the shock from the trade channel into the payments channel                                       | Uncertain under S2, near-certain under S3 and S4                                                 |

Source: choice of variables by the author; inputs from CSIS<sup>[10][11]</sup> and Atlantic Council–Rhodium<sup>[8]</sup>.

**Takeaway:** Two of the three variables are military and one political — the parameters that decide the economic outcome are set by political and military decisions, not economic ones.

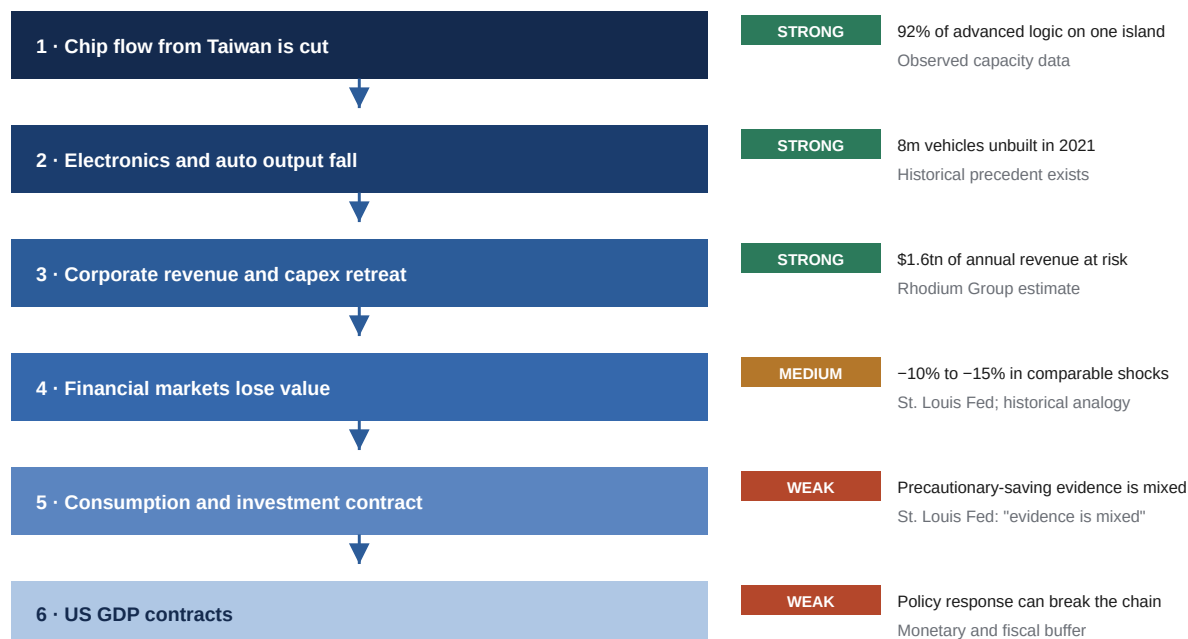
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## Transmission Chain A: the road from chip shock to GDP, and where it breaks

For a chip shock to reach the US economy, every link of a six-link chain has to work. Tested against the evidence link by link, the chain is strong at the start, plausible in the middle and weak at the end.

### Exhibit 13 — Chain A: the evidentiary strength of each link

Transmission of a semiconductor supply shock to US GDP · evidentiary strength assessed by the author on the basis of the findings in the sources cited



Source: link contents from Rhodium Group<sup>[1]</sup>, AlixPartners<sup>[16]</sup>, St. Louis Fed<sup>[7]</sup>; the strength classification is the author's assessment.

**Takeaway:** The first three links rest on solid evidence; the break comes at the fourth and fifth — exactly where the shock stops being sectoral and becomes macroeconomic.

The fifth link matters most, because the proposition that "a chip shock produces a recession" rests precisely there. The St. Louis Fed's review notes that the evidence on whether households turn to precautionary saving in geopolitical shocks is **mixed** across Pearl Harbor, the Korean War, 9/11 and Covid.<sup>[7]</sup> In some shocks consumption collapsed, in others it rose. The chain "markets fall → consumption falls → GDP contracts" is therefore conditional, not automatic.

At the sixth link a counterforce enters. The same study notes that in such a shock central banks would probably support markets and the banking system by cutting short-term rates and opening special lending facilities.<sup>[7]</sup> The policy response is a link that weakens rather than breaks the chain — and most models do not internalise it.

#### HOW TO READ THIS CHAIN

The diagram is not a forecast but an **inventory of evidence**. The first three links rest on observed data and historical precedent; the last three rest on behavioural and policy assumptions. The GDP loss a model produces is largely the result of how strong a coefficient it assigns to those last three links — which is why the dispersion between the estimates on page 18 reflects modellers' assumptions more than the channels themselves.

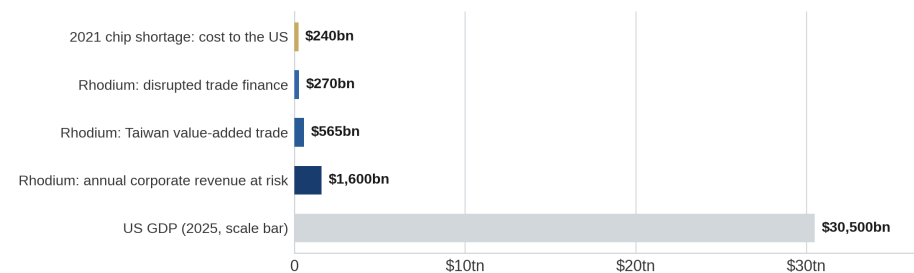
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## Scale-testing Chain A: what did the 2021 chip shortage teach?

There is a precedent: in 2021 global chip supply tightened sharply, US manufacturers' inventories fell below five days — and the American economy did not enter recession.

### Exhibit 14 — Amounts at risk, set against the size of the US economy

Taiwan crisis estimates and the cost of the 2021 chip shortage, compared with US GDP · \$bn



Source: Rhodium Group (2022) blockade scenario estimates<sup>[1]</sup>; cost of the 2021 chip shortage from reporting based on US Commerce Department data<sup>[15]</sup>; US GDP from the IMF<sup>[14]</sup>. The Rhodium figures are **revenue and trade volume at risk**, not GDP loss — the two must not be conflated.

**Takeaway:** "\$1.6tn at risk" is a large number but it is not a GDP loss; the difference between revenue being interrupted and value added being destroyed is the most frequently missed distinction in this debate.

### Calibration: how big was the 2021 shock?

The cost of the 2021 chip shortage to the US economy was estimated at roughly \$240bn; the car industry lost \$210bn of revenue on 8 million vehicles of forgone production.<sup>[15][16]</sup> That \$240bn amounts to about 1 per cent of US GDP that year. The economy grew 5.9 per cent in the same year. A real, large, global chip supply shock occurred; its effect was measurable; and it produced no recession.

The precedent cuts both ways. On the negative side, the 2021 shock was a capacity bottleneck, not the removal of Taiwan; a Taiwan-sourced disruption would be an order of magnitude heavier. On the positive side, the economy's capacity to absorb through substitution, inventory and price adjustment proved greater than models assume — carmakers shifted allocation to high-margin models, output fell but sector profits hit a peak.

---

**The chip shortage cost the US economy about \$240bn. The same year the economy grew 5.9 per cent. A supply shock being large does not make it macroeconomic.**

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How big would the complete removal of Taiwan be? A simple upper bound: if the \$565bn of Taiwan's annual value-added trade measured by Rhodium were cut entirely — and never substituted — that amounts to 0.5 per cent of a global GDP of roughly \$115tn in 2025.<sup>[1][14]</sup> (*author calculation*) For models to reach losses of 5–10 per cent, a **multiplier** of ten to twenty times the direct trade loss is required. That multiplier comes from the financial channel and from a confidence shock — not from the chip channel.

This is the report's central technical finding: **the macroeconomic size of the shock is settled in the financial channel, not the semiconductor one.** The chip channel is the trigger, not the amplifier.

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## Transmission Chain B: shipping, insurance, energy and inflation

The second channel is entirely independent of chips and spreads across a wider geography. The decisive variable here is not distance but **how underwriters define risk**.

### Exhibit 15 — Chain B: how a shipping shock propagates

Strait tension → freight and insurance → energy → inflation → policy space · diagram constructed by the author

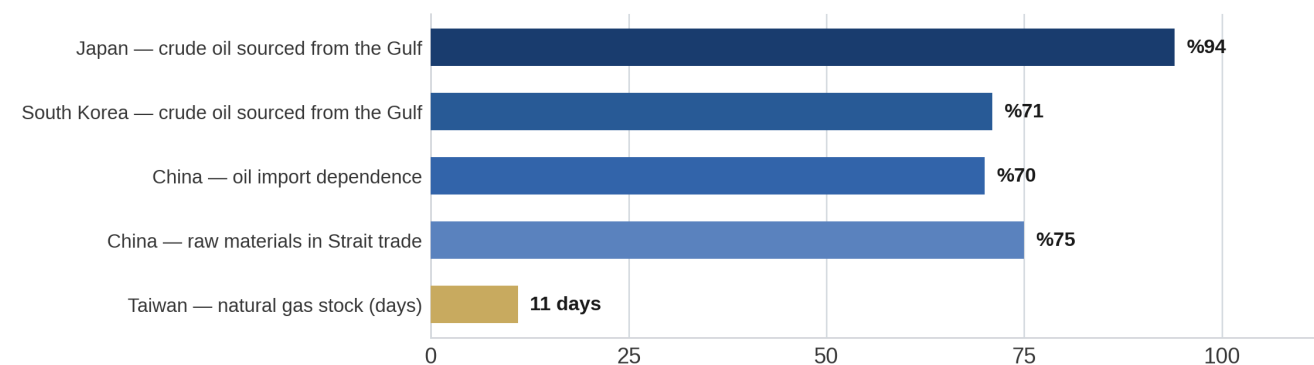


Source: diagram constructed by the author; numerical calibration from CEPR<sup>[12]</sup>, the IMF<sup>[13]</sup> and CSIS ChinaPower<sup>[3]</sup>.

**Takeaway:** The most critical link in this chain is the second: the insurance market can effectively close a corridor without a single ship being sunk.

### Exhibit 16 — Energy dependence: who is exposed, and how far

Indicators of dependence on energy flows through and around the strait · 2024–2025



Source: CSIS ChinaPower<sup>[3]</sup>; China's oil import dependence from a Heritage Foundation compilation<sup>[27]</sup>; Taiwan's gas stock from the CSIS blockade wargame<sup>[10]</sup>.

**Takeaway:** Taiwan's shortest fuse is not chips but natural gas: an eleven-day stock sets the pressure a blockade exerts on the island in energy terms rather than military ones.

Together these two exhibits show why a blockade is as much a question of timing as of force. In CSIS's wargames Taiwan's natural gas reserve lasts about ten days, its coal seven weeks and its oil twenty weeks.<sup>[10]</sup> A blockade therefore threatens the island's electricity generation within weeks — and a leading-edge fab without power cannot produce even if it is physically intact. The first link of Chain A is, in effect, lit by the energy leg of Chain B.

That connection also explains why modelling the two channels independently is misleading: the shipping channel does not merely make trade more expensive, it lights the fuse of the chip channel.

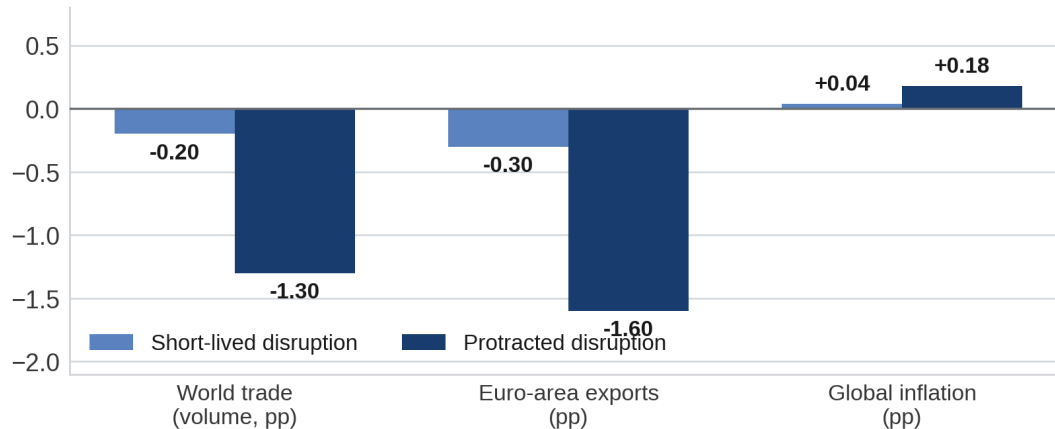
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## Scale-testing Chain B: what does the Red Sea tell us?

In 2024 the Red Sea effectively closed, ships rerouted around the Cape of Good Hope and transit times lengthened by 10–14 days. The measured effect on inflation came in far below expectations.

### Exhibit 17 — The modelled effect of the Red Sea disruption

Trade and inflation effects under short-lived and protracted disruption scenarios · percentage points, for 2024



Source: CEPR/VoxEU on the trade and inflation fallout of the Red Sea disruptions, 2024<sup>[12]</sup>; IMF PortWatch analysis for context<sup>[13]</sup>. The figures are model output, not realised outcomes.

**Takeaway:** One of the world's busiest corridors staying shut for a year adds less than a quarter of a point to global inflation — the shipping channel is real but macroeconomically second-order.

This result should be used to scale Chain B correctly, not to dismiss it. There are three differences between the Red Sea and the Taiwan Strait, and each makes Taiwan heavier.

**First, volume.** The Red Sea–Suez route carries 12–15 per cent of global maritime trade, while goods worth \$2.45tn — more than a fifth of seaborne trade — pass through the Taiwan Strait.<sup>[3]</sup> **Second, the alternative route.** Suez has a long but real alternative; the Taiwan Strait's alternative is east of the island and lies within the same threat envelope in a conflict scenario. **Third, cargo composition.** The Red Sea carries consumer goods; the Taiwan corridor carries intermediate goods, raw materials and energy — a disruption there enters the production function directly.

Taking the three together, a plausible range for the effect of a Taiwan scenario on global inflation through the shipping channel is **three to five times** the Red Sea's protracted case: roughly **0.5–1.0 percentage points**. (*author calculation; the Red Sea's +0.18pp protracted estimate scaled for the differences in volume and composition*)

#### WHY THIS NUMBER MATTERS

An inflation shock of 0.5–1.0 points does not on its own produce a recession, but it narrows the room a central bank has to ease. Chain B thins precisely the "policy response buffer" that sits at the sixth link of Chain A. The real danger of the two channels is not each on its own but the two **together**: one hits demand, the other makes it harder for monetary policy to support that demand.

This interaction explains why the "limited conflict" and "lasting control" rows of the scenario matrix are disproportionately heavier than the "blockade" row: a blockade runs one channel, a conflict runs both.

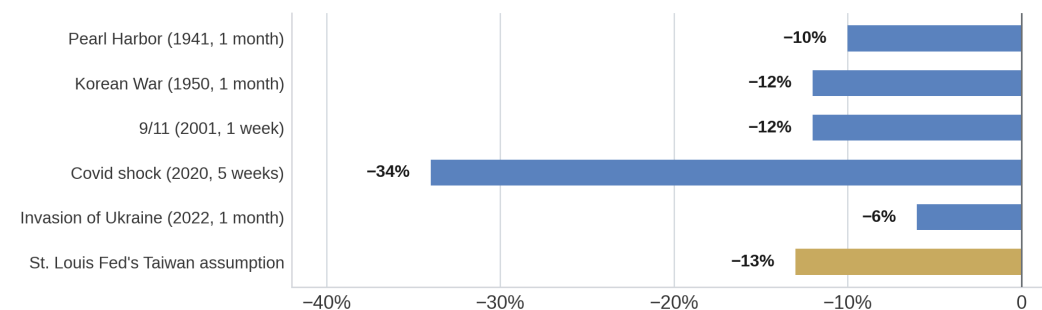
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## The third channel: financial contagion, collateral and the AI capex cycle

A third channel emerges from the research that does not appear in the standard framing of this question. Under 2026 conditions it works faster than the first two.

### Exhibit 18 — Equity response in geopolitical shocks

Post-shock decline in US equity indices during major shock events · initial response window per event



Source: the historical analogies compiled in the St. Louis Fed Review (February 2025) and the midpoint of the 10–15 per cent range it applies to a Taiwan scenario<sup>[7]</sup>; Covid and Ukraine figures compiled from market data (author compilation).

**Takeaway:** The typical equity response in geopolitical shocks sits in the 10–15 per cent band; Covid's 34 per cent was an economic-shutdown shock rather than a geopolitical one — the Taiwan scenario is better compared with the first group.

### A new vulnerability specific to 2026

This channel has a particular dimension in 2026. Over the past three years an unusually large share of US capital investment and equity valuation has rested on AI infrastructure. The physical input to that investment — data-centre accelerators — depends, as page 4 showed, on wafer and advanced packaging capacity in Taiwan. A Taiwan shock therefore enters the US economy not only through "electronics output falls" but through **halting the capital expenditure cycle**.

This is a qualitative break from the 2021 precedent. In 2021 the chip shortage hit car production; the car industry is a small part of US GDP and is not at the centre of the capex cycle. In 2026 the severed input sits in the middle of the economy's fastest-growing investment line.

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**In 2021 a chip shock stopped car plants. In 2026 a chip shock stops America's largest investment cycle. That is the difference between sectoral and macroeconomic.**

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The argument cuts both ways, however. Capex stops because accelerators are unavailable; that is a supply ceiling, not a demand collapse. A supply ceiling pushes prices up, *raises* the value of existing assets and delays investment — it does not destroy it. The GDP effect of this channel is large but **timing-dependent and partly recoverable**.

The channel has an external dimension too: \$127bn of inward direct investment in Taiwan and over a trillion dollars of foreign portfolio positions in Chinese assets face simultaneous selling pressure in a crisis.<sup>[1]</sup> That mechanism is modelled as the "financial contagion" condition in the threshold analysis on page 23.

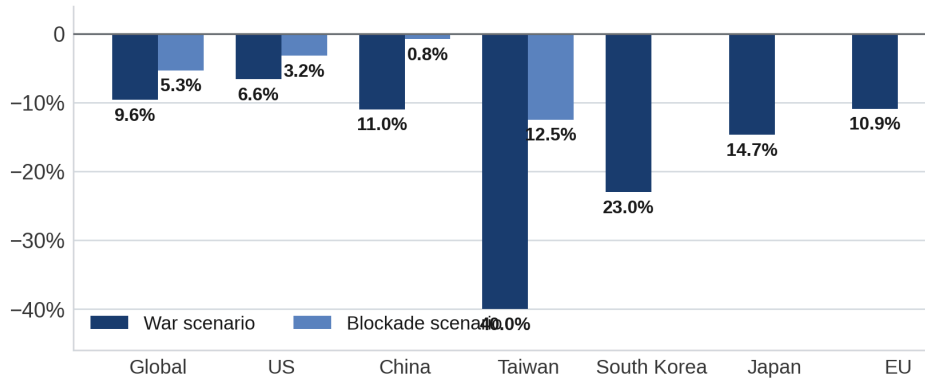
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## What the models say — and why they differ so widely

Three major studies answer the same question with three different magnitudes. The differences are not accidental: they follow from which channels each model opens.

### Exhibit 19 — Bloomberg Economics' scenario estimates

First-year GDP loss under war and blockade scenarios · model output, not realised data



Source: Bloomberg Economics, *The \$10 Trillion Fight*, February 2026<sup>[2]</sup>. Only four economies are reported for the blockade scenario. The figures are **model outputs** resting on a one-year conflict assumption.

**Takeaway:** Even within a single model the gap between blockade and war is twofold for the US and thirteenfold for China — the choice of scenario matters more than a country's structural position.

| Study                                     | Method                             | Headline result                                                                                                | What it excludes                                                                             |
|-------------------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Bloomberg Economics (2026) <sup>[2]</sup> | Global macro model, three channels | War: global -9.6% (\$10.6tn); US -6.6%; China -11%; Taiwan -40%. Blockade: global -5.3%; US -3.2%; China -0.8% | Second-year recovery; the full effect of the policy response                                 |
| Rhodium Group (2022) <sup>[1]</sup>       | Trade and exposure analysis        | Blockade: over \$2tn of activity at risk; \$1.6tn of corporate revenue at risk                                 | Does not compute GDP loss; sanctions and escalation excluded — the authors call it a "floor" |
| RAND (2016) <sup>[26]</sup>               | One-year conventional conflict     | Contraction of 25–35% in Chinese GDP and 5–10% in US GDP                                                       | Today's supply-chain geography; post-2016 export controls                                    |
| St. Louis Fed (2025) <sup>[7]</sup>       | Qualitative, channel by channel    | <b>Declines to give a GDP estimate.</b> Equities -10% to -15%, bonds 5–15bp                                    | Deliberately offers no point estimate                                                        |

Source: the studies named; comparison table compiled by the author.

**Takeaway:** The most cautious source — central bank research — refuses to give a number, which is the clearest sign that one should look at the assumptions behind the figures rather than the figures.

The dispersion is methodological. Bloomberg opens all three channels at once and lets them feed back on each other, which is why it produces the largest numbers. Rhodium uses only observable data and applies no multiplier. This report's assessment: Bloomberg's **blockade** scenario (global -5.3 per cent, US -3.2 per cent) is the most useful anchor; the -9.6 per cent is less a forecast than an upper-bound exercise. The -0.8 per cent given for China is, as page 21 shows, an underestimate.

## PART III · COMPANIES AND CHINA

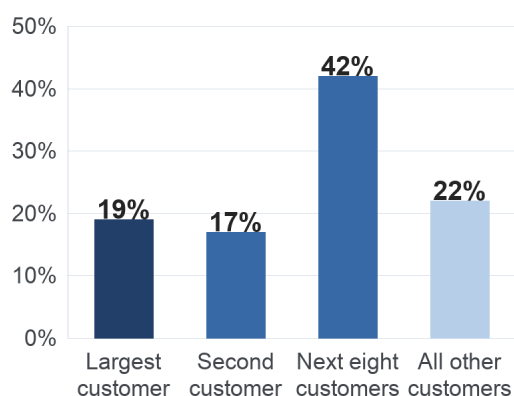
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# The exposure map: whose balance sheet sits in Taiwan?

Taiwan risk shows up in a handful of company income statements long before it shows up in macro tables.

## Exhibit 20 — TSMC's customer concentration

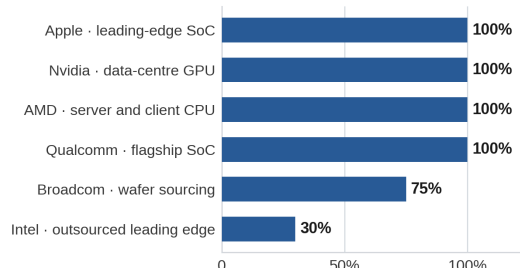
TSMC revenue by customer group · 2025



Source: TSMC, 2025 Form 20-F; group shares calculated by the author.

## Exhibit 21 — Company dependence on TSMC

Share of leading-edge production sourced from TSMC · 2025



Source: company disclosures and industry analysis <sup>[19][22]</sup>. "Leading edge" covers 5nm and below; mature-node production is excluded.

**Takeaway:** TSMC's top ten customers generated 78% of 2025 revenue; TSMC's share of those customers' leading-edge supply is, in most cases, 100 per cent.

| Company         | Vulnerability in a crisis                              | Mitigating factor                      | Net assessment                            |
|-----------------|--------------------------------------------------------|----------------------------------------|-------------------------------------------|
| <b>Nvidia</b>   | Data-centre GPUs depend on TSMC nodes and CoWoS        | High margins and pricing power         | Largest absolute exposure                 |
| <b>Apple</b>    | Every SoC generation on the newest node                | Can fall back to the prior node        | Delay manageable, margin pressure lasting |
| <b>AMD</b>      | Entire product line outsourced                         | Second-sourcing under discussion       | Substitution 18–24 months at best         |
| <b>Broadcom</b> | Three-quarters of its wafers from TSMC <sup>[19]</sup> | Cost sharing with customers            | Partly passed through                     |
| <b>Intel</b>    | Outsources some advanced products                      | <b>Owens its own fabs</b>              | The one large relative winner             |
| <b>Samsung</b>  | 7.2% foundry share; memory in Korea                    | A crisis shifts foundry demand its way | Mixed: foundry gains, demand falls        |
| <b>ASML</b>     | Taiwan is among its largest EUV markets                | Multi-year order book; capacity shifts | Demand relocates, does not vanish         |
| <b>Micron</b>   | Some HBM back-end sites in Taiwan                      | US and Japan footprint                 | HBM pricing turns in its favour           |

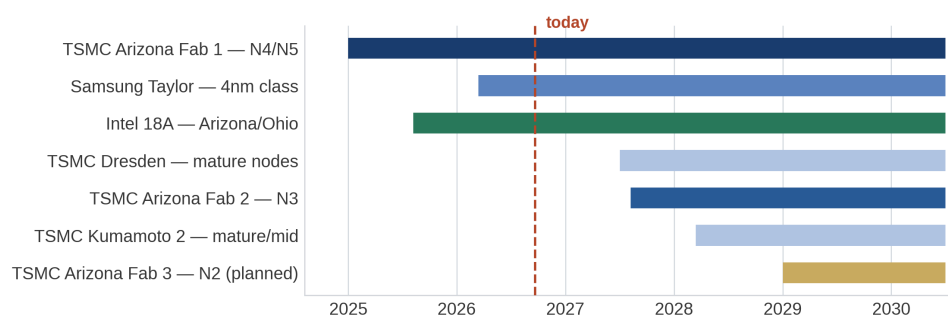
Source: company disclosures; foundry shares from TrendForce/Taipei Times <sup>[4]</sup>. Assessment by the author.

## Replacement capacity: how far has onshoring gone, and how far can it go?

Capacity outside Taiwan is genuinely being built — but not at the most critical node and not on the most critical timetable. This page is the numerical counterpart of the onshoring debate.

### Exhibit 22 — Timetable for advanced capacity outside Taiwan

Announced volume production starts, as of 2026



Source: Arizona and Kumamoto timetables from TrendForce<sup>[20]</sup>, others from company disclosures. The Arizona Fab 3 (N2) date is a plan.

**Takeaway:** In 2026 the most advanced node in the US is N4 and in Taiwan it is N2 — the onshoring gap is not closing, it is advancing at a constant distance.

### Three structural obstacles

**The first is legal.** Taiwanese rules restrict TSMC from manufacturing its most advanced node abroad; the island keeps one technology generation ahead for itself.<sup>[22][32]</sup> Even when the Arizona fabs come online they will not be running Taiwan's most advanced node of that day.

**The second is economic:** relocated capacity costs more than capacity that stays put, and that gap returns the sustainability question once subsidies end. **The third is the ecosystem:** rebuilding in Arizona the supplier density that took thirty years to form in Taiwan takes longer than the fab itself.

*"In the chip sector globalisation is almost dead; so is free trade."*

MORRIS CHANG, FOUNDER OF TSMC, DECEMBER 2022<sup>[23]</sup>

Chang's line is quoted as a statement of preference; it is in fact a cost forecast. A distributed supply chain is more resilient but more expensive: onshoring reduces Taiwan risk while permanently raising structural cost. That cost ultimately shows up in electronics prices.

| Duration of disruption | Advanced logic (N3/N2)                                        | Mature nodes (28–90nm)                 |
|------------------------|---------------------------------------------------------------|----------------------------------------|
| 3–12 months            | Severe scarcity; allocation and price rises                   | Chinese and European capacity steps in |
| 1–3 years              | Arizona Fab 2 and Samsung Taylor provide partial substitution | Largely substituted                    |
| 3–5 years              | Structural substitution possible; cost stays high             | Fully substituted                      |

Source: author's assessment; timetable assumptions rest on the sources in Exhibit 22.

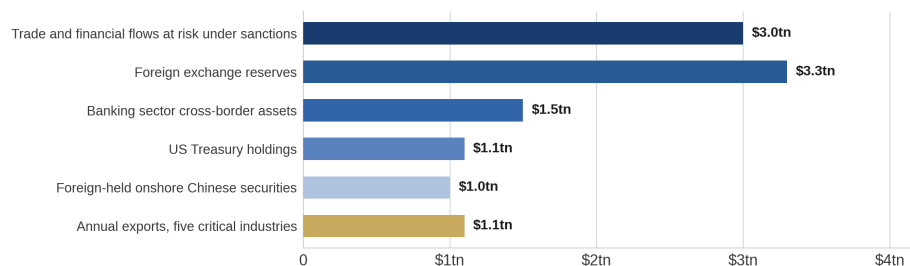
## 21

## The other side of the coin: the bill to China

Almost the entire debate turns on the question "what does America lose?" Yet the exposure data show the densest vulnerability sitting on the Chinese side.

### Exhibit 23 — China's external financial and commercial exposure

Amounts at risk under sanctions and crisis scenarios · \$tn, 2022–2024 data



Source: Atlantic Council–Rhodium Group, *Sanctioning China in a Taiwan Crisis* <sup>[8]</sup>; Rhodium Group <sup>[1]</sup>. The items refer to different dates and are not additive.

**Takeaway:** Some 77 per cent of China's external trade is settled in currencies other than the renminbi; that single figure is Beijing's largest opening to financial sanctions.

Some 77 per cent of China's \$6.8tn in goods and services trade is conducted in non-renminbi currencies. Under a maximalist G7 scenario targeting the four large banks and the central bank, at least \$3tn of flows would face immediate disruption. <sup>[8]</sup> Of China's \$3.3tn of reserves, 95 per cent is in foreign currency and at least \$1.1tn is US Treasuries. Energy compounds it: China imports 70 per cent of its oil and three-quarters of its imports through the strait are raw materials. <sup>[3][27]</sup> CSIS's 26 blockade wargames point the same way: a blockade is not a "low-cost, low-risk" option for China. <sup>[10]</sup>

#### FOUR HEAVY RISK ITEMS ON THE CHINESE SIDE

**Payments lock-out.** More than three-quarters of trade settles in dollars and euros; sanctioning the banks stops collections and payments at the same time.

**Reserve freeze.** 95 per cent of reserves are in foreign currency; the Russian precedent showed that freezing is technically feasible.

**The energy artery.** A 70 per cent oil import dependence carried overwhelmingly by sea creates strategic fragility in a protracted conflict.

**Technology supply.** Export controls already limit leading-edge access; in a crisis mature-node equipment and software access closes too.

Against that picture, the **−0.8 per cent** Bloomberg's model assigns China under a blockade is, in this report's assessment, an underestimate: the model internalises only the Taiwan-side effect, whereas a blockade automatically triggers sanctions risk and with it the payments channel. The −11 per cent in the war scenario is more consistent with the Atlantic Council's exposure table. <sup>[2][8]</sup> The G7 side does not get off free either: its exports to the targeted Chinese industries support about 1.3 million jobs, 25 per cent of G7 imports in those sectors come from China, and comprehensive export controls would disrupt at least \$378bn of flows. <sup>[8]</sup> Sanctions generate mutual cost.

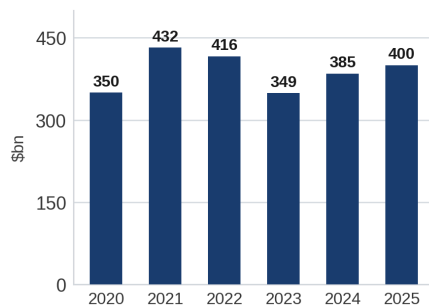
22

## China's technology sector: the equation control would not solve

The most commonly cited economic rationale for taking Taiwan is that it would close China's chip gap. The data say it would not work.

### Exhibit 24 — China's annual chip imports

Integrated circuit imports · \$bn, customs data



Source: industry compilations of Chinese customs data<sup>[22]</sup>; the 2025 figure is an estimate.

China spent more on importing chips than on oil for years. Despite localisation programmes and SMIC's expansion at mature nodes, the import bill has settled into a \$350–430bn band.

The reason is that the gap is not in capacity but in **equipment**. SMIC has shown it can produce at 7nm class using DUV scanners; scaling that without EUV is unsustainable on yield. The EUV monopoly belongs to ASML.

**Takeaway:** China's chip gap is not a production gap but a gap in access to equipment and software — and Taiwanese territory does not close it.

### Why seizing TSMC would not work

The layer analysis on page 4 yields a concrete result here. Even if a TSMC fab were captured intact, continuing production would require uninterrupted access to five external inputs: ASML servicing, maintenance of US-origin process tools, US-based EDA licences, Japanese photomasks and chemicals, and South Korean HBM. All five are subject to export control and all five sit outside Taiwan.

Industry literature accepts that a leading-edge fab can run for **months** after servicing stops, after which yields fall away quickly. Taking Taiwan would therefore not give China leading-edge capacity; it would only **take** that capacity from everyone else.

| Chinese company           | Direct effect in a crisis                                                                       | Second-round effect                                                                                          |
|---------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Alibaba, Tencent</b>   | Advanced GPU access for cloud and AI is already limited; a crisis closes the remaining channels | Selling pressure on Chinese equities listed in the US and narrowing access to foreign capital <sup>[1]</sup> |
| <b>SMIC, Hua Hong</b>     | Demand rises at mature nodes; equipment spares are cut off                                      | Short-term winner, medium-term maintenance crisis                                                            |
| <b>Huawei</b>             | Already under controls; its relative position improves                                          | Gains domestic share, closes out of foreign markets                                                          |
| <b>CATL, BYD</b>          | Automotive microcontroller supply hit by the global shortage                                    | Access to export markets narrows under sanctions                                                             |
| <b>COSCO and shipping</b> | Fleet mobility and insurance access restricted                                                  | Logistics cost of Chinese exports rises permanently                                                          |

Source: Atlantic Council–Rhodium<sup>[8]</sup>, Rhodium Group<sup>[1]</sup>, trade press<sup>[22]</sup>; assessment by the author and not investment advice.

## PART IV · JUDGEMENT

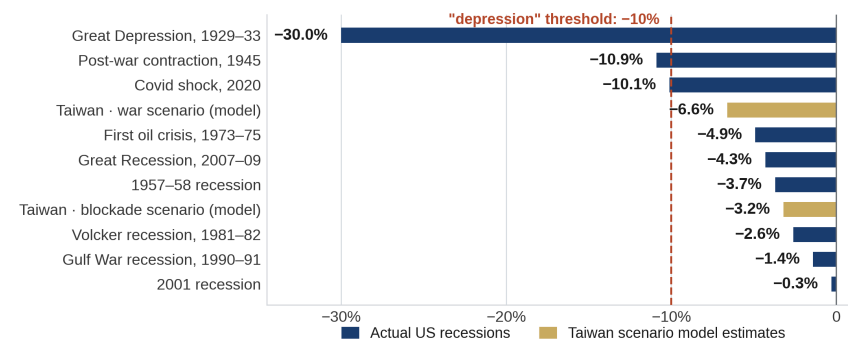
23

## "Recession" or "depression"? An analysis of thresholds

Does the word "depression", used so freely in the Taiwan debate, have a real counterpart? The answer becomes clear once the model estimates are set beside actual recessions.

### Exhibit 25 — Taiwan scenarios alongside actual US recessions

Peak-to-trough decline in real GDP · navy: actual US recessions; gold: published model estimates



Source: compilation of US recessions based on NBER dating and BEA real GDP series<sup>[40]</sup>; St. Louis Fed<sup>[41]</sup>; Bloomberg Economics<sup>[2]</sup>. The model estimates rest on a one-year conflict assumption.

**Takeaway:** The -6.6 per cent the heaviest Taiwan scenario produces for the US sits below the 1945 and 2020 contractions and at a fifth of 1929–33 — squarely in the serious-recession band, not the depression band.

Only three episodes in US history saw real GDP fall by more than 10 per cent: 1929–33, the post-war demobilisation of 1945 and the Covid shutdowns of 2020.<sup>[40][41]</sup> All three were either a multi-year financial collapse or an administrative halt to the economy; none of the Taiwan scenarios produces those mechanisms.

Reaching that band requires five conditions to hold simultaneously: a lasting-control scenario; leading-edge capacity rendered unusable; a disruption running beyond six months; the shock turning into financial contagion; and an inadequate policy response — the last of which is the least likely after 2008 and 2020.

**Depression** is a concept of duration rather than magnitude: a collapse of more than a tenth of GDP, spread over several years and resistant to policy intervention. The only episode in US history that meets that definition is 1929–33, and even Bloomberg's heaviest scenario gives the US a one-year -6.6 per cent.<sup>[2]</sup>

| Concept        | Threshold                       | Historical precedent           | Taiwan scenario                                      |
|----------------|---------------------------------|--------------------------------|------------------------------------------------------|
| Slowdown       | Growth falls, no contraction    | 2011–2012 European debt crisis | Most likely under status quo and a short blockade    |
| Recession      | GDP contraction of 1–4%         | 2001, 1990–91                  | Plausible under limited conflict                     |
| Deep recession | GDP contraction of 4–10%        | 2008–09, 2020                  | Possible under lasting control and a long disruption |
| Depression     | 10%+ contraction, several years | 1929–1933                      | <b>No serious model produces it</b>                  |

Source: threshold definitions from standard literature; scenario mapping is the author's assessment; model band from Bloomberg<sup>[2]</sup> and RAND<sup>[26]</sup>.

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## The scenario matrix: four states, six dimensions

Gathered into a single table, the whole report makes visible why the difference between scenarios is one of kind rather than degree.

### Exhibit 26 — Scenario × impact matrix

Relative impact of the four scenarios across six dimensions · author's assessment, ordinal scale

|                       |                      |             |               |            |               |                |
|-----------------------|----------------------|-------------|---------------|------------|---------------|----------------|
| Status quo            | none                 | none        | none          | none       | none          | low            |
| Blockade / quarantine | high                 | medium      | medium        | medium     | low           | medium         |
| Limited conflict      | very high            | high        | high          | high       | high          | very high      |
| Lasting control       | very high            | very high   | high          | very high  | very high     | very high      |
|                       | Semiconductor supply | World trade | Energy prices | US economy | China economy | Global finance |

Source: author's assessment; inputs from Bloomberg Economics<sup>[2]</sup>, Rhodium Group<sup>[1]</sup>, Atlantic Council–Rhodium<sup>[8]</sup>, CSIS<sup>[10][11]</sup> and the analysis on pages 13–18 of this report.

**Takeaway:** The only "low" cell in the status-quo row sits in the finance column — risk premia are priced even when nothing happens; the crisis starts generating cost before it occurs.

| Dimension                   | S1 · Status quo                                    | S2 · Blockade                                                   | S3 · Limited conflict                                      | S4 · Lasting control                                                               |
|-----------------------------|----------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>Semiconductor supply</b> | No disruption; risk premium and dual-sourcing cost | Shipment halts, production continues; existing stocks buffer    | Production halts; prolonged disruption at the leading edge | Facilities intact but without equipment; structural disruption at the leading edge |
| <b>World trade</b>          | No effect                                          | Partial disruption in the strait; routing and insurance cost    | Corridor effectively closes; marked fall in global volumes | Permanent redrawing of trade geography                                             |
| <b>Energy prices</b>        | No effect                                          | Regional premium on LNG and oil                                 | Broad-based increase; Japan and Korea most exposed         | High but partly normalising as new routes settle                                   |
| <b>US economy</b>           | No effect                                          | Bloomberg: –3.2%; this report: sectoral, not macro              | Recession band; the financial channel is decisive          | Bloomberg: –6.6% upper bound; deep recession possible, depression not              |
| <b>Chinese economy</b>      | No effect                                          | Bloomberg –0.8%; this report finds that an <b>underestimate</b> | Payments and energy channels engage                        | Bloomberg –11%; consistent with the exposure data                                  |
| <b>Global finance</b>       | Risk premium rises permanently                     | Single-digit equity correction                                  | 10–15% decline; collateral pressure                        | Contagion risk; the real uncertainty lies here                                     |

Source: Bloomberg Economics<sup>[2]</sup>, St. Louis Fed<sup>[7]</sup>, Rhodium Group<sup>[1]</sup>, CSIS<sup>[10]</sup>; synthesis and assessment by the author. Not investment advice.

## Conclusion: the right question, the right measure and seven indicators

What remains is a three-sentence core — and that core carries a warning about how the question is posed.

Taiwan is the most concentrated node in the world economy, but *where* the concentration sits determines *how* a shock spreads. The island holds flow rather than value added; the interruption is large but duration-dependent; and the macroeconomic outcome is settled in the financial channel.

For the United States: a Taiwan-sourced shock could push the country into recession under lasting control with a long disruption, but that requires financial contagion to engage and the policy response to fall short. For China, the conclusion runs in the direction the debate neglects: exposure through the payments system, reserves and energy makes Beijing's cost markedly higher than Bloomberg's blockade scenario implies.

*"Unlike oil, which can be bought from many countries, our production of computing power depends fundamentally on a series of choke points: tools, chemicals, and software that are often produced by a handful of companies — and sometimes only by one. No other facet of the economy is so dependent on so few firms."*

CHRIS MILLER — *CHIP WAR*<sup>[42]</sup>

### THE THREE-SENTENCE SUMMARY

Taiwan is not a monopoly but a node; breaking it halts global production without destroying nine-tenths of global value added. The size of the shock is settled in the financial channel, not the chip channel. Even in the heaviest scenario the result is a deep recession, not a depression.

### Seven indicators to watch

Rather than estimating probabilities, it is more productive to watch indicators that signal scenario transitions early.

| # | Indicator                                         | What it signals                              | Where to watch it                                 |
|---|---------------------------------------------------|----------------------------------------------|---------------------------------------------------|
| 1 | War-risk insurance premium in the strait          | Chain B's second link; the fastest indicator | Lloyd's and the P&I clubs                         |
| 2 | Container movements at Kaohsiung                  | A quarantine actually beginning              | Port data; IMF PortWatch <sup>[13]</sup>          |
| 3 | Days of natural gas stock in Taiwan               | The island's shortest fuse; an 11-day buffer | Taiwan's energy ministry; CSIS <sup>[10]</sup>    |
| 4 | Changes to TSMC's Arizona N2 timetable            | How fast the onshoring gap closes            | Quarterly disclosures; TrendForce <sup>[20]</sup> |
| 5 | Geography of CoWoS capacity                       | The chain's second chokepoint                | Company investment announcements                  |
| 6 | Renminbi share of China's trade settlement        | How fast sanctions exposure is being reduced | SWIFT and PBoC data                               |
| 7 | Duration of PLA exercises; any quarantine element | Signal of a transition from S1 to S2         | CSIS ChinaPower monitoring <sup>[30]</sup>        |

Source: selection of indicators by the author; data sources are the institutions named.

**Takeaway:** The first three move on a scale of weeks and the last four on a scale of years; watched together they read scenario transitions earlier than any single probability figure.

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**Scope.** Four scenarios (status quo, blockade/quarantine, limited conflict, lasting control); three transmission channels (semiconductor supply, shipping–energy, finance); the United States, China, Taiwan and the global economy.

**Method note.** Every figure marked "author calculation" is a derived quantity obtained from observed data in the sources and is not an estimate published by the institutions cited. The scenario matrix and the comparative assessments are the author's interpretation. Institutional model outputs rest on the assumptions those institutions publish and are not realised outcomes. This report contains no investment advice.