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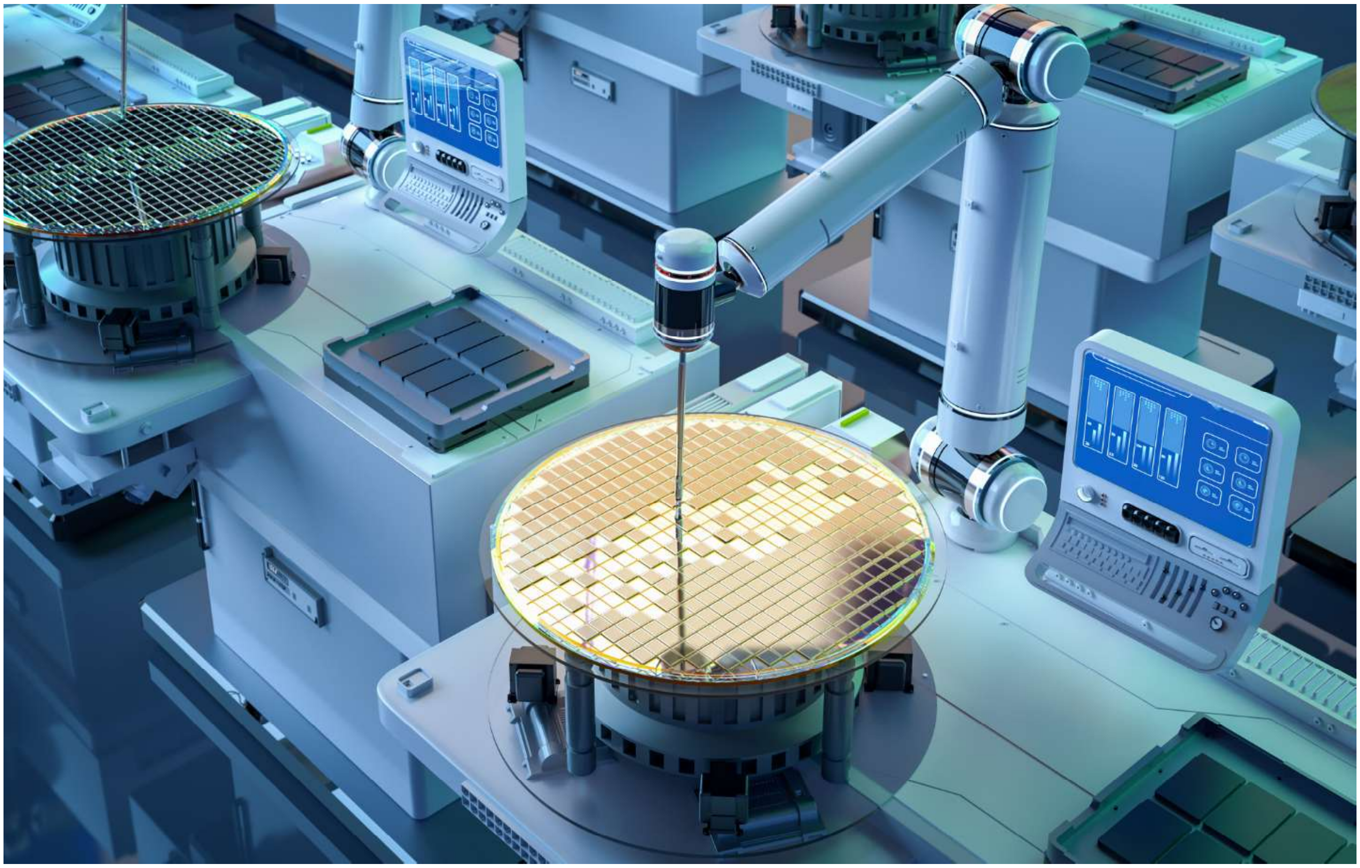
TSMC: The Tech Paradox

Taiwan Semiconductor (TSMC) is one of the most important companies in the modern economy. It manufactures the tiny silicon chips that act as the "brains" inside smartphones, data centres, electric vehicles and the fast-growing world of artificial intelligence. These chips are built on ultra-thin silicon wafers and contain microscopic circuits that allow devices to process information and make calculations. TSMC's ability to produce these chips reliably and at scale has supported strong earnings growth across a range of market conditions. It has also created an unusual concentration risk because large parts of the global economy now depend on TSMC's uninterrupted operations.

A systemically important company is one whose failure can disrupt many other parts of the market, with knock-on effects that are hard to predict. Modern supply chains and financial markets are highly connected, which means that when a supplier as essential as TSMC falters, few industries, countries or consumers remain insulated from the impact.

This article explains why TSMC matters, where the risks lie, how those risks are mitigated and how investors can think sensibly about a company that now plays a central role in the modern economy.



Silicon wafer manufacturing

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Why One Chipmaker Matters

TSMC is a dedicated foundry that manufactures the chips that power many of today's devices. Chipmakers etch tiny pathways into silicon so information can move at high speed. These structures are built at an atomic scale, fitting a vast network onto a surface no larger than a fingernail. The work is extremely sensitive. Even the vibration from a truck driving kilometres away can disturb equipment and ruin a batch of chips.

TSMC now manufactures about 60% of the world's microchips and close to 90% of the most advanced 2-nanometre and 3-nanometre generations[1] used in AI systems and high-end smartphones. This concentration gives it a pivotal role in the global technology supply chain. Over several decades, the company has built this leadership through sustained investment, deep technical expertise and early backing from the Taiwanese government. Today, it remains one of only two companies able to produce leading-edge chips at scale. The other, Samsung, accounts for roughly 10% of output and would be unable to meet global demand if TSMC were offline.

Chips as the "New Oil"

A useful way to understand TSMC's importance is to compare advanced chips today with oil in the last century. Oil-powered transport, manufacturing and global trade. When supply was disrupted, the effects flowed through economies and into everyday life. Chips now play a similar role in the digital economy. Every phone, payment, appliance, vehicle and AI tool relies on them. When advanced chip supply tightens, the disruption does not stay within technology. It moves outward into products and services people use every day. In that sense, advanced chips have become a modern equivalent of oil: a concentrated, critical input where interruptions create ripple effects far beyond the source.

A Deeper View of This Dependency

We have effectively moved from "just in time" manufacturing to "just at TSMC" manufacturing. When a company like Nvidia grows its market capitalisation by a trillion dollars, much of that value is physically sitting on TSMC's conveyor belts in Hsinchu, Taiwan. Large technology companies rely on TSMC for components and have, in practical terms, partially outsourced their ability to innovate to one company's engineering schedule. That level of reliance is unusual in global markets and helps explain why TSMC has become such a critical point of focus.

Why TSMC's Position Is So Hard to Replicate

Several factors reinforce its leadership today and explain why it is so difficult to replace:

- Financial barriers: a competitor would need to spend roughly US$56 billion a year on research and development to maintain the level of expertise of TSMC.
- Production efficiency: its manufacturing lines achieve about 80 to 90% yield output on leading-edge chips, compared with roughly 50% at competitors such as Samsung. This has a direct impact on profitability.
- Deep expertise: more than 50,000 specialised engineers and over three decades of accumulated intellectual property.
- Ecosystem dependence: major technology companies design their most advanced products specifically around TSMC's manufacturing processes, which strengthens TSMC's strategic position.

Together, these factors create a "monopoly of excellence" rather than a legal monopoly. TSMC is not the only chipmaker, but it is the only one able to produce the most advanced chips at the scale the world currently needs.

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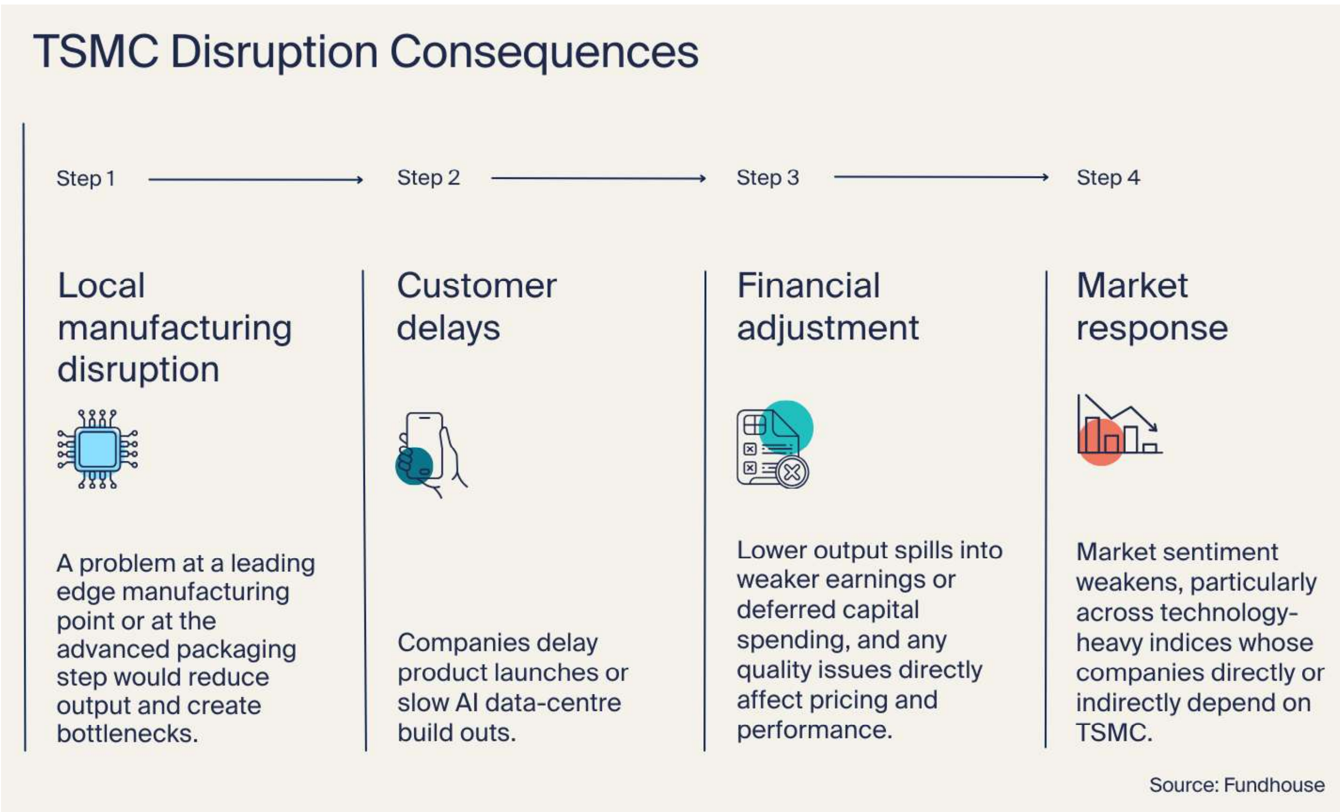
If TSMC Stumbles: A Simple Cascade

A disruption could arise from a production issue, a natural disaster, a shortage of inputs or geopolitical tension. The practical way to think about this risk is as a sequence of connected steps.



Nvidia's Blackwell B200 is a clear example[2]. It uses a specialised packaging process known as CoWoS L, which combines multiple chips into one high-performance module. At present, there is no near-term like-for-like alternative at scale to TSMC. A delay in Blackwell production would likely postpone AI infrastructure rather than eliminate demand. Even so, it could still affect near-term revenues and confidence among the large US technology companies relying on AI to deliver earnings growth or drive a competitive advantage.

What Could Go Wrong at TSMC

There are many scenarios, but we highlight several risk factors that face the company today and the mitigants to each to either reduce the likelihood, where controllable, or the impact, where the risk is uncontrollable.

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TSMC Risk Assessment and Mitigations

Sub-standard production quality on advanced chips

Initial yields about 70 to 80%, typically improving as processes mature. Falling below the 50% penalty threshold is unlikely.

Risk likelihood	Low
Risk impact	Medium

Natural disasters

Factories use active vibration-damping systems, on-site water reserves and battery storage. Government investment in grid resilience lowers the risk of extended downtime.

Risk likelihood	Medium
Risk impact	High

Higher costs from offshoring production where costs are higher

TSMC charges a 10 to 20% premium for chips made outside Taiwan, partly offset by government subsidies and customer prepayments. The first 3-nanometre and 2-nanometre runs are already committed to major clients.

Risk likelihood	Low
Risk impact	Medium

Competition (Intel or Samsung)

Competitors are improving, but TSMC still leads advanced chip packaging at a scale required for AI-level performance.

Risk likelihood	Low
Risk impact	Medium

Geopolitical disruption

China's reliance on TSMC creates a partial "silicon shield". TSMC is expanding capacity in the United States, Europe and Japan to diversify risk.

Risk likelihood	Low
Risk impact	High

Customer failure

TSMC manages client concentration closely by securing prepayments or long-term commitments that shift some cash flow risk away from the business.

Risk likelihood	Low
Risk impact	Medium

Source: Fundhouse

These risks sit alongside a business that remains central to global technology, which is why many managers continue to own TSMC for very different reasons.

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Why Different Investment Styles Own TSMC

TSMC appears across a range of investment strategies:

- Value managers, such as Dodge & Cox, may see it as a relatively cheaper way to gain exposure to AI-driven earnings growth than owning the largest US technology companies.
- Quality managers, including Walter Scott, emphasise high returns on capital, resilient cash flow generation and durable competitive moats, while recognising the risk of future disruption.
- Growth managers, such as Baillie Gifford, focus on rising demand for AI-related chips and high-performance computing.
- Emerging market managers, for example, Lazard and Fidelity, view it as a standout global business headquartered in the developing world.

TSMC Holds the World's "Digital Oil"

TSMC's influence spans value, quality, growth and emerging market strategies for different reasons, yet the conclusion is broadly shared. Its risks are clear, but they sit alongside meaningful earnings power, deep industry relevance and a global dependency that is unlikely to unwind soon. There are scenarios where adverse geopolitical events or operational missteps can lead to serious repercussions, but the counter is that TSMC has become so central to the world's technology engine that it can make money in a range of scenarios. The fact that it often trades at a lower multiple than US mega caps, despite supporting a similar AI-driven demand theme, helps explain why so many portfolio managers continue to hold it and why we believe it could be an influential company driving global equity portfolio performance.

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[1] A nanometre is one-billionth of a metre. Smaller "nanometre nodes" mean more transistors packed into each chip, which increases speed and energy efficiency, which is essential for AI and high-performance computing.

[2] The Blackwell B200 is Nvidia's newest AI processor. It uses "advanced packaging", which means multiple chips are stacked and linked together to work as a single, faster unit. This process is only available at scale through TSMC.

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REDFIN WEALTH

INVESTMENT - RETIREMENT - FINANCIAL PLANNERS

February 2026

MARKET REPORT

31/01/2026

		3m	YTD	1yr	3yr pa	5yr pa	10yr pa	5yr Vol1	10yr Vol1
LOCAL MARKET INDICES									
SA Equity	ZAR	10.1%	3.6%	43.3%	18.1%	17.6%	12.2%	12.8%	14.0%
SA Listed Property	ZAR	8.7%	0.9%	34.2%	23.0%	20.9%	4.9%	16.2%	21.5%
SA Bonds	ZAR	8.2%	1.9%	25.4%	15.9%	12.2%	10.6%	7.3%	7.7%
SA Cash	ZAR	1.7%	0.6%	7.4%	8.0%	6.7%	6.8%	0.5%	0.4%
Balanced Benchmark	ZAR	6.0%	1.9%	27.5%	15.8%	14.6%	10.9%	8.6%	9.6%
SA Inflation (1 month lag)	ZAR	0.2%	0.2%	3.6%	4.0%	5.0%	4.8%	1.6%	1.7%
GLOBAL MARKET INDICES BASED TO USD									
Global Equity	USD	3.4%	1.6%	19.7%	19.4%	13.0%	13.3%	14.3%	14.6%
Emerging Markets Equity	USD	9.7%	9.1%	43.6%	16.5%	5.1%	9.9%	16.0%	16.7%
Global Property	USD	4.6%	3.1%	11.7%	4.9%	3.7%	4.1%	17.2%	16.8%
Global Bonds	USD	1.4%	0.9%	8.4%	3.1%	-1.8%	1.2%	7.8%	6.5%
US Cash	USD	1.0%	0.3%	4.3%	4.9%	3.3%	2.3%	0.6%	0.6%
MAJOR INDICES BASED TO RANDS									
SA Equity	ZAR	10.1%	3.6%	43.3%	18.1%	17.6%	12.2%	12.8%	14.0%
Global Equity	ZAR	-4.4%	-1.8%	2.8%	16.2%	14.4%	13.4%	14.2%	15.5%
Emerging Markets Equity	ZAR	1.5%	5.6%	25.5%	13.4%	6.4%	10.0%	12.7%	13.6%
Global Property	ZAR	-3.2%	-0.4%	-4.0%	2.0%	5.0%	4.2%	16.1%	16.8%
SA Bonds	ZAR	8.2%	1.9%	25.4%	15.9%	12.2%	10.6%	7.3%	7.7%
Global Bonds	ZAR	-6.2%	-2.3%	-6.9%	0.3%	-0.6%	1.3%	10.5%	13.4%
COMMODITIES									
Gold (US Dollars)	USD	24.2%	15.6%	77.0%	37.2%	21.6%	16.0%	15.7%	14.7%
Gold (Rands)	ZAR	14.9%	11.9%	52.0%	33.4%	23.1%	16.1%	15.0%	17.1%
CURRENCIES									
Rand / Dollar	ZAR	6.8%	2.6%	13.2%	2.5%	-1.3%	-0.1%	11.7%	14.4%
Rand / GBP Pound	ZAR	2.9%	0.8%	4.6%	-1.0%	-1.2%	0.3%	9.6%	14.0%
Rand / Euro	ZAR	4.2%	1.6%	1.3%	-0.3%	-0.8%	-1.0%	9.4%	12.5%

KEY

Asset Class	Represented By:
SA Bonds	Satrix Bond Index Tracker
SA Cash	STeFi
SA Equity	Satrix ALSI Index Tracker
SA Listed Property	Satrix Property Index Tracker
Emerging Markets Equity	iShares Emerging Markets Equity Index Tracker
US Cash	Fidelity Institutional Liquidity The United States Dollar
Global Bonds	iShares Core Global Aggregate Bond ETF
Global Equity	iShares Developed World Index Tracker
Global Property	iShares Developed Real Estate Index Tracker

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FUNDHOUSE
investment clarity

Spot Rates		31-Jan-26	Latest Quarter	1 Year Ago	5 Years Ago	10 Years Ago	20 Years Ago
CURRENCIES							
Rand/US$	Rand	16.0	16.6	18.7	15.1	15.9	6.1
Rand/GBP	Rand	22.0	22.4	23.2	20.7	22.6	10.8
Rand/EUR	Rand	19.1	19.5	19.4	18.3	17.2	7.4
RATES							
SOFR 6m $	US$	3.7	3.9	4.4	0.1	0.6	4.4
Repo Rate	Rand	6.75	6.75	7.50	3.50	6.75	7.00
Prime	Rand	10.25	10.25	11.00	7.00	9.75	10.50
All Bond Index Yield	Rand	8.4	8.5	11.6	11.6	9.6	9.7
COMMODITIES							
Gold ($/oz)	US$	5,030.4	4,324.7	2,809.8	1,858.0	1,117.2	569.9
Platinum	US$	2,300.0	2,027.0	975.0	1,110.0	866.0	1,072.0
Oil (Brent Crude) $	US$	70.7	60.9	76.8	56.0	34.2	65.5
INFLATION							
SA Inflation	%	3.6	3.5	3.2	3.2	6.2	9.4

data provided by FE Analytics