The Great Chip Re-Shoring: Will the massive investments in Intel and AMD actually protect the U.S. from a Taiwan Strait crisis?

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Executive Summary

Based on the available evidence, it appears unlikely that the massive investments in Intel and AMD will fully protect the U.S. from the immediate economic and military fallout of a Taiwan Strait crisis. While these investments contribute to long-term resilience and partial capacity gains, they fall short of achieving domestic self-sufficiency in advanced logic manufacturing in the near-to-mid term, leaving critical dependencies on foreign supply chains and potentially increasing crisis risk by eroding Taiwan's "silicon shield."

Key Findings

U.S. Investments Fall Short of Immediate Self-Sufficiency

Despite significant investments, the U.S. is not on track for immediate self-sufficiency in advanced logic manufacturing and is anticipated to remain reliant on Taiwan for advanced chips for years to come [8, 14, 17]. "Protection" from a Taiwan Strait crisis is being pursued through partial capacity gains and national security programs rather than total decoupling [5, 8, 17].

- **Intel's Efforts:** Intel, as the only U.S.-headquartered company with the scale to build leading-edge fabs domestically, has committed $100 billion to facilities across Arizona, Ohio, New Mexico, and Oregon [6, 17]. It also received up to $3 billion for a "Secure Enclave" program dedicated to national security microelectronics [5]. However, Intel's advanced 18A node faced significant yield hurdles, with early 2026 yields surpassing only 60% and full normalization to industry-standard levels not expected until 2027 [4, 6, 17]. Backside metallization processes also face yield rates that can lag conventional methods by 5-15 percentage points [8, 10, 13].
- **AMD's Role:** Advanced Micro Devices (AMD) is primarily a chip design firm and has not made massive domestic manufacturing investments under the CHIPS Act; its

chips are largely manufactured elsewhere [6]. Therefore, AMD's strategy does not contribute to domestic advanced logic capacity or self-sufficiency.

- **Overall Capacity Projections:** Even with Intel's efforts and TSMC's $165 billion Arizona expansion [3, 8, 12, 17], projections for U.S. manufacturing capacity by 2032 vary significantly, estimating it will reach only about 14% of global supply [8, 17] or potentially up to 28% of global logic manufacturing, still making the U.S. the world's fifth-largest supplier [7, 14].

Persistent Vulnerabilities in the Advanced Semiconductor Supply Chain

U.S. manufacturing expansions do not fully close the most vulnerable links in the advanced semiconductor supply chain, instead shifting dependencies and leaving critical inputs exposed.

- **Reliance on Foreign Materials and Back-End:** The U.S. continues to rely heavily on Asian countries for upstream materials and faces domestic shortages of high-skilled labor [9]. A major dependency also remains on foreign nations for back-end factories that package processed silicon wafers into finished chips [11].
- **Weaponization of Supply Chains:** China has demonstrated a willingness to weaponize supply chain control, imposing export restrictions on critical minerals such as gallium, germanium, and rare earth magnets between 2023 and 2025 [2]. This creates a single-point-of-failure risk for raw materials.
- **Exposed Logistics Routes:** The Taiwan Strait is a vital maritime corridor for over $5.5 trillion in annual trade [12], meaning Chinese control of the region would severely disrupt global supply chains beyond just semiconductors.

Historical Precedents Undermine Rapid Self-Sufficiency Goals

Historical evidence from U.S. defense manufacturing and technology subsidy programs suggests that entrenched global cost advantages and established engineering ecosystems constrain government-backed reshoring efforts, leading to execution delays and workforce shortages that undermine strategic self-sufficiency.

- **Cost Disadvantages and Labor Shortages:** U.S. manufacturing costs remain 30% to 50% higher than in Asian countries due to elevated expenses for energy, labor,

and raw materials [9]. The domestic ecosystem also suffers from shortages of high-skilled labor and an incomplete value chain, particularly for back-end packaging [9, 11].

- **Unrealistic Reshoring Targets:** While U.S. Commerce Secretary Howard Lutnick forecasted that 40% of Taiwan's semiconductor supply chain could be reshored by the end of 2029, Taiwan's top trade negotiator publicly characterized this goal as impossible [3]. However, the feasibility of this target is debated, with some arguing it could be achieved by capturing a substantial share of *new* global value-added production rather than relocating existing capacity [20, 21, 22, 23, 24, 25].

Insufficiency of Intel and AMD for Cutting-Edge Needs

The strategic focus on Intel and AMD as domestic manufacturing champions is insufficient to mitigate U.S. vulnerability during a Taiwan Strait crisis, primarily because their current process nodes and architectural roadmaps have not yet closed the gap with TSMC's cutting-edge capabilities.

- **TSMC's Advanced Node Monopoly:** TSMC currently monopolizes 90% to 95% of global manufacturing capacity for advanced chips (â‰¤10nm or â‰¤7nm), which are essential for artificial intelligence and modern defense systems [12, 17]. TSMC's own U.S. expansion in Arizona is already advancing toward 2nm-class logic production [8, 16].
- **Intel's Catch-Up:** While Intel aims to re-emerge as a cutting-edge leader, its 18A node yields are not expected to normalize until 2027 [4, 6, 17].
- **AMD's Design Focus:** AMD remains primarily a chip design firm, relying on external manufacturing, and thus does not contribute to domestic advanced logic capacity [6].

Reshoring May Increase Crisis Risk by Eroding Taiwan's 'Silicon Shield'

Accelerating U.S.-based advanced chip production does not necessarily strengthen deterrence; instead, it may increase crisis risk by eroding Taiwan's "silicon shield" and signaling reduced Western dependence to Beijing.

- **Erosion of the "Silicon Shield":** The "silicon shield" posits that Taiwan's near-monopoly on advanced chips makes a military attack too economically costly for China and compels the U.S. to defend the island [3, 8, 10]. As the U.S. invests in

domestic facilities, it signals a long-term strategy of technological decoupling, which diminishes the economic interdependence that currently restrains Chinese aggression [3, 8, 17, 18].

- **Altered Chinese Calculus:** This erosion of the "silicon shield" may embolden Beijing by signaling that the West can survive a conflict without Taiwan's chips, thereby removing a primary deterrent against aggression [8, 10]. It could also pressure China to act sooner to capture TSMC's advanced manufacturing technology before U.S. domestic capacity fully matures [12].
- **Conflicting Deterrents:** While many Taiwanese believe their economic indispensability prevents an attack, counterarguments suggest China prioritizes national reunification and is willing to accept severe economic costs [8, 10]. Furthermore, the astronomical economic costs of a cross-strait conflict-a limited blockade could cause nearly 9% loss in China's economy and $2 trillion to $5 trillion in global losses-serve as a powerful independent deterrent regardless of U.S. supply chain shifts [3, 10, 19]. U.S. defense of Taiwan is also driven by broader geopolitical imperatives, such as Indo-Pacific stability and allied credibility, which may remain unchanged regardless of chip supply chains [3, 12].

Other U.S. and Allied Capacity Expansions

Beyond Intel and AMD, several allied partners and U.S.-based firms are expanding semiconductor manufacturing capacity under the CHIPS Act.

- **Key Players:** TSMC's $165 billion Arizona compound is adding capacity beyond 3nm, including 2nm-class logic [3, 8, 12, 17]. Samsung is investing $40 billion in Texas [17], and Micron is expanding its Manassas, Virginia facility for 1-alpha node DRAM technology [5]. GlobalFoundries completed a new Malta, New York fab in 2025 and is constructing an advanced packaging facility [8, 10].
- **Advanced Packaging:** The National Advanced Packaging Manufacturing Program (NAPMP) is funding domestic packaging ecosystems, with projects including Absolics Inc. in Georgia, Applied Materials in California, and Arizona State University [1, 12]. Natcast received $1.1 billion to operate a prototyping and advanced packaging piloting facility by 2028 [12, 14]. TSMC also began construction on an advanced packaging plant in Arizona to introduce CoWoS and 3D-IC technologies by 2029 [13, 15, 16, 17].

Implications

The U.S. "Great Chip Re-Shoring" initiative, while a significant step towards bolstering domestic semiconductor manufacturing, will not fully protect the U.S. from a Taiwan Strait crisis in the immediate future. The continued reliance on Taiwan for advanced chips, coupled with persistent vulnerabilities in upstream materials and back-end packaging, means that a crisis would still incur substantial economic and military costs. Furthermore, the erosion of Taiwan's "silicon shield" through U.S. de-risking efforts introduces a complex dynamic, potentially increasing the perceived risk of Chinese aggression by signaling reduced Western economic self-harm, even as broader geopolitical and economic deterrents remain. The U.S. strategy appears to be a long-term play for resilience and technological leadership, rather than a rapid solution to insulate against an imminent crisis.

Limitations and Caveats

The provided research has several limitations. It lacks specific quantitative targets for U.S. strategic stockpiles of critical semiconductor manufacturing equipment (e.g., EUV lithography tools) and high-purity materials, making it impossible to assess whether current plans specify sufficient reserves to sustain production for 6-12 months during a supply chain blockade. Additionally, numerical data comparing the current U.S. workforce pipeline to projected job openings from Intel, AMD, and TSMC's Arizona fabs by 2030, and specific federal or state-level incentive programs to close this estimated gap, are not available. The overall confidence in the answer is low due to the inherent complexities of strategic forecasting and the weighting of multiple geopolitical and economic factors.

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