How would the removal of export controls on AI chips fundamentally restructure global geopolitical power dynamics and systemic security risks by enabling unrestricted access to high-performance compute for adversarial state actors?

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Executive Summary

The removal of export controls on high-performance AI chips would fundamentally restructure global geopolitical power dynamics and systemic security risks by rapidly accelerating adversarial states' AI capabilities, thereby undermining U.S. national security. Evidence suggests that unrestricted access to advanced hardware, such as the NVIDIA H200, would allow adversarial states like China to immediately close the compute gap with U.S. frontier AI models within months, enabling the rapid integration of AI into military applications and cyber warfare [7, 9, 16]. While this policy shift could preserve U.S. semiconductor firms' revenue streams, it would simultaneously erode the strategic compute advantage that underpins American military and economic deterrence, compressing military decision-making timelines and enabling autonomous weapons systems that outpace traditional deterrence frameworks [7, 9, 14].

Key Findings

Compute Parity and Restructuring Thresholds

A fundamental restructuring of global power dynamics would occur when China achieves equal access to advanced AI chips, closing the current several-month lag in frontier AI models [7]. The primary threshold is a shift from the current U.S. advantage of roughly ten times more advanced AI chips to a state of "more or less equal access" for Chinese developers [3, 7]. This structural break is further marked by China's ability to domestically produce an H200-equivalent chip (projected by 2028) and eventually "dramatically better" chips within a decade [7]. Algorithmic efficiency breakthroughs, such as DeepSeek's competitive reasoning capabilities using fewer computational resources, demonstrate how software optimizations can already bypass some hardware deficits [6, 8, 12].

Strategic leverage thresholds include the People's Liberation Army (PLA) achieving full AI integration for military purposes by its stated goal to be prepared to invade Taiwan by 2027 [7]. If China reduces its dependence on Taiwanese chip production, it could lower the perceived threshold for military action against the island, posing catastrophic risks to global supply chains [6]. Economically, the U.S. loses systemic leverage if China's basic research investment, increasing at six times the U.S. rate, allows it to overtake the U.S. in total basic R&D spending by the end of the decade [4].

Impact on Adversarial Capability Trajectory

Unrestricted access to high-performance AI chips would primarily accelerate an existing domestic innovation trajectory for adversarial states rather than bypassing fundamental manufacturing bottlenecks [7, 9]. While importing advanced hardware like the NVIDIA H200 would substantially boost short-term frontier AI development-as China does not expect to produce an H200-equivalent chip domestically for at least two years-it does not resolve persistent capability ceilings imposed by restrictions on EUV lithography and advanced packaging [5, 6, 7, 12]. Chinese firms have already adapted to hardware constraints by pioneering algorithmic efficiency innovations, such as mixture-of-experts architectures, allowing competitive models like DeepSeek to be trained with substantially fewer computational resources [2, 8]. China is also projected to increase its basic research investment at six times the U.S. rate to overcome talent and semiconductor manufacturing equipment (SME) deficits [4].

Indigenous chip alternatives, such as Huawei's 7nm processors, exist but lag significantly in performance and military deployment speed compared to unrestricted Western hardware access [6, 8]. Huawei's own roadmap projects a decline in capability over the next year, with H200-level performance not expected until 2028 [7]. The NVIDIA H200 is estimated to be six times better than the best chip currently available to China and nine times higher than previous export controls allowed [7, 9]. Unrestricted access would provide immediate compute power, circumventing domestic manufacturing bottlenecks and accelerating military AI integration, which the PLA is actively pursuing for its 2027 Taiwan invasion timeline [7].

Alliance Cohesion and Standard-Setting

Unilateral easing of export controls risks fracturing Western alliance cohesion by undermining allied incentives to cooperate with the United States [3, 7]. This could force allies to rely on inferior Chinese alternatives if American chips become unavailable [12]. European firms face a trade-off between aligning with U.S. security policies and loosening their own controls to capture increased revenue from the Chinese market [15]. However, many allied nations, including France, Spain, Italy, and the Netherlands, have independently strengthened their export control frameworks on advanced semiconductor components and manufacturing equipment [8, 17].

Historically, unilateral export control shifts, such as the UK's departure from COCOM's unanimity rule in 1957 and the U.S.'s extraterritorial controls during the Trans-Siberian Gas Pipeline Dispute in the 1980s, consistently triggered fractures and strategic realignments among Western allies [18, 19]. The Wassenaar Arrangement, which replaced COCOM, operates on "national discretion," weakening multilateral consensus and allowing nations like Germany to pursue high-tech exports to China despite U.S. concerns [1, 14, 20].

Despite these risks, entrenched diplomatic, financial, and intellectual property networks provide a buffer for U.S. strategic dominance. The global semiconductor supply chain remains heavily concentrated and dependent on U.S. chip design, Dutch lithography equipment, and Taiwanese manufacturing [15].

Systemic Security Risks and Deterrence

Near-parity in AI compute directly amplifies systemic security risks by accelerating military AI integration and enabling decentralized autonomous capabilities. Unrestricted access to advanced chips allows adversarial states to rapidly close the frontier AI model gap and integrate these technologies for military purposes, with the PLA actively seeking such hardware to meet invasion timelines for Taiwan by 2027 [7]. This compute parity facilitates "precise mass" warfare, empowering state and non-state actors with autonomous systems like drone swarms and suicide drones [14]. Intense strategic competition in AI introduces significant risks of accidents, failures, and unintended escalation, including potential disasters related to AI-enabled nuclear command and control [4, 13].

Established command-and-control protocols and emerging arms control norms are unlikely to effectively contain these escalation pathways. A broad regulatory consensus on AI governance remains elusive, with the U.S., China, and Russia expressing skepticism toward new international conventions for AI, arguing that existing humanitarian laws are sufficient [14]. The dual-use nature of AI makes end-use controls extremely difficult to enforce once chips enter a country, as shell entities can easily obscure military beneficiaries and blur commercial-military distinctions [9, 17].

Economic vs. Strategic Advantage

The debate involves a fundamental tension between commercial imperatives and national security objectives. Proponents of unrestricted global sales argue that the semiconductor industry requires billions in R&D, heavily funded by global revenue, and that treating chip exports as commercial transactions ensures American companies retain market dominance [7, 11].

However, evidence indicates that unrestricted access to high-performance compute irreversibly cedes the strategic advantage that underpins American military and economic deterrence. The United States currently holds its largest AI advantage over China in computing power, but equalizing hardware access allows Chinese firms to rapidly close the gap with U.S. frontier models [7]. Once advanced chips enter China, end-use controls become unenforceable, blurring the lines between commercial cloud services and military applications [9, 16]. This unrestricted compute directly accelerates China's military AI integration and fuels sophisticated cyber warfare capabilities [7, 16]. While global sales sustain corporate R&D cycles, they simultaneously empower adversarial state actors to achieve compute parity, fundamentally restructuring geopolitical power dynamics by eroding hardware bottlenecks [7, 9]. Projections from one analysis suggest that if broad restrictions persist, U.S. firms could lose an estimated $50 billion in global semiconductor sales, diverted to South Korean ($21 billion), EU ($15 billion), and Taiwanese ($14 billion) competitors [11].

Specific Chip Models and Time-to-Parity

The United States has restricted the export of advanced GPUs to China, targeting models such as the NVIDIA H100, A100, H800, and frontier Blackwell-class chips [6, 8]. While the Trump administration recently approved conditional exports of the NVIDIA H200 chip to China, broader controls remain on top-tier hardware [7, 9, 16]. The H200 is estimated to be six times more capable than the best chip currently available to China and nine times higher than previous export control thresholds [7, 9]. A January 2026 U.S. licensing policy imposes a 25% export fee on NVIDIA H200 sales to China [16].

Unrestricted access to these models would significantly narrow the AI capabilities gap in the short term, allowing Chinese companies to close the performance deficit with U.S. AI models that are currently several months ahead [7]. However, domestic hardware parity remains distant: China does not expect to produce an H200-equivalent chip for at least two years, or a "dramatically better" chip for a decade [7]. Huawei's domestic chip roadmap projects a decline in capability over the next year and indicates it will not reach H200 performance levels until 2028 [7].

Operational Mechanisms for Accelerated Decision-Making

Military programs provide documented evidence of how unrestricted chip access directly compresses strategic decision timelines and accelerates autonomous weapons deployment. U.S. military programs like Joint All-Domain Command and Control (JADC2) illustrate how AI and compute compress strategic decision timelines from multi-day processes to hours or seconds [23]. JADC2 integrates AI algorithms to identify targets and recommend optimal weapons, accelerating the decision cycle [10, 12]. Operation Epic Fury (Iran Strikes) demonstrated these mechanisms, where AI-enabled planning tools allowed warfighters to identify and engage targets at the "speed of thought," with an initial wave of 900 strikes planned and executed within a 12-hour window using LUCAS drones [21].

For adversarial states, China's PLA procurement initiatives directly link unrestricted chip access to accelerated autonomous weapons deployment. The PLA is actively pursuing "Intelligentized Warfare," relying on AI to accelerate the Observe, Orient, Decide, Act (OODA) loop and enable human-machine collaborative decision-making [5, 9]. PLA procurement documents reveal explicit requests and acquisitions of advanced U.S. chips (such as H100, H20s, V100, and A100 GPUs) and AI models trained on U.S. compute for military applications between 2023 and 2026 [22]. For example, a PLA unit requested a DeepSeek-enabled system for flight path analysis and an unmanned vehicle cluster command and control system to coordinate drone swarms [22]. These capabilities demonstrate that unrestricted access to high-performance compute directly enables adversarial states to bypass traditional decision-making bottlenecks, rapidly fielding autonomous systems [24].

Implications

The removal of export controls on AI chips would have profound implications for global geopolitical power dynamics and systemic security risks. Adversarial states, particularly China, would experience an immediate and substantial acceleration in their AI capabilities, directly enabling their military modernization goals and potentially compressing timelines for strategic actions, such as a potential invasion of Taiwan [7]. This shift would erode the U.S.'s current technological asymmetry, which is a cornerstone of its military and economic deterrence [7, 11].

While U.S. semiconductor firms might benefit from increased revenue, this commercial gain would come at the cost of national security, as the dual-use nature of AI chips makes end-use controls largely unenforceable once the hardware is in an adversary's possession [9, 16]. This would empower adversarial states to develop and deploy advanced autonomous weapons systems and sophisticated cyber warfare capabilities, increasing the risk of accidents, unintended escalation, and challenges to global stability [4, 14, 16]. Furthermore, unilateral easing of controls by the U.S. could strain alliances, as partners might perceive a lack of commitment to collective security, potentially leading to fragmentation of the global AI ecosystem and a shift in influence away from Washington [3, 7, 11].

Limitations and Caveats

The available evidence, while extensive, involves future predictions and complex trade-offs between security and economic factors, leading to a moderate level of confidence in some conclusions. Direct quantitative figures on the percentage of U.S. semiconductor R&D budgets funded by sales to restricted markets are limited. While projections exist for potential revenue losses to U.S. firms if controls persist, these are estimates from a commentary source [11] and may vary. The effectiveness of emerging arms control norms in containing AI-driven escalation pathways remains largely theoretical, as a broad international regulatory consensus on AI governance is currently elusive [14]. The long-term impact of indigenous innovation and algorithmic efficiency breakthroughs by adversarial states on their self-sufficiency, even without unrestricted access, introduces an element of uncertainty regarding the ultimate efficacy of export controls over a decade-long horizon [6, 7, 8].

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