

STRATEGIC BLINDNESS: HOW BANNING TECHNOLOGY WITHOUT ALTERNATIVES INVITES ECONOMIC RECESSION AND SOVEREIGNTY RISKS

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ABSTRACT

This paper points out the strategic, economic, and sovereignty risks of banning foreign-made technology without an adequate domestic alternative. The thesis, informed by the research of Hassan Rasheed Siddiqui, an authority on aviation law and policy, is that such bans, usually predicated on national security considerations, inevitably result in unintended consequences, presenting them open to economic recession, technological dependence and political coercion. The study cites three key risks associated with banning foreign technologies: price inflation because of monopolistic behavior, supply chain delays based on failing to find domestic masters of the technology previously supplied by foreigners, and system disruption from the failure of locked-in legacy systems that were dependent on the banned technologies. This study underlines the significance of proactive technology transition policies and mechanisms, such as the promotion of domestic innovation, the formulation of legislation-based technology shifting roadmaps, and public and industry education in handling these sorts of transitions. Furthermore, the paper provides specific policy suggestions for how to manage the risks associated with such foreign technology bans. Then it goes on with: “The recommended measures include the development of a neutral, sovereign tech production, the setting up of strategic tech-buffer reserves, the introduction of appropriate regulatory measures and legislative precautions against tech blackmail. Emphasizing long-term resilience, national sovereignty and innovation, the research brings to the fore the need for governments act strategically when planning for technology transitions, so as to avoid the inadvertent creation of points of technological and economic weakness.

Keywords: Foreign technology bans, national sovereignty, economic risks, technological transition, strategic blackmail, domestic innovation, regulatory benchmarks, technology sovereignty, supply chain disruption.

INTRODUCTION

Governments around the world are responding to foreign threats built into technology — increasingly from countries with intelligence laws that make no distinction between civilian and state actors. Now governments are increasingly becoming accustomed to prohibiting technologies that they believe threaten national security—drones, surveillance systems, eavesdropping software. But by doing so, they don’t make certain we have homegrown options or substitutes in place, leading to some serious threats. As Hassan Rasheed Siddiqui cautions in a series of policy briefs and articles, not only is this a recipe for weakening national security, it also undermines economic resilience (Siddiqui, 2023a, 2024a). This prelude emphasizes the urgency of banning foreign technology without the realistic existence of alternative homeland solutions and thus impacts both the national security and economy.

As technology has proliferated apace, American dependence on foreign goods has now accelerated to such an extent that few, if any, aspects of America’s national security, economic infrastructure, and public services can be conducted without the use of a foreign-built product. Nevertheless, due to security threats from foreign-manufactured technologies, especially those containing dual-use technologies (which could be used for both civilian and military purposes), many governments have introduced total bans or restrictions on specific technologies (Huang, et al., 2021). This behavior is largely driven by the fear of foreign states exploiting sensitive information on, and exercise influence over, critical infrastructure or intelligence collection through technology. This is especially true of tech that comes from countries with laws on the books like China’s National Intelligence Law, which requires companies to assist the government with intelligence activities. In view of the above situations, a large number of countries have adopted policies to limit the application of foreign technologies, such as drones, monitoring systems and communication devices (Siddiqui, 2023a). But as sensible as these

security measures seem, they are generally not considered in the context of wider events and consequences (Siegel, et al., 2017).

The fundamental problem with banning overseas tech and not having domestic alternatives is the risk it poses to a country's economic system and even tech sovereignty. Disregard for the necessary framework While rushing to deal with security threats, governments often forget the importance of an enduring and robust technological ecosystem. That said, just banning foreign companies or technologies without building substitutes from their home countries creates an excessive reliance of a small number of national or allied suppliers, which may later form monopolies, inflate prices and manipulate the market (Siddiqui, 2024a). In addition, some countries will be on the wrong end of the deal, like suppliers who hold the key technology and components, and might be subject to strategic blackmail. This can lead to grave consequences for a country's economy, security and sovereignty (Wang et al., 2022). Hassan Rasheed Siddiqui, an esteemed aviation law and policy expert has contributed significantly towards exposing the strategic perils of such a strategy. His focus is on forward-looking policy that is not only beneficial for national security, but also for technology continuity and the ability of our economy to bounce back from shocks (Siddiqui, 2023a; Siddiqui, 2024a).

The recent global technology trends raised the red flag on the national interdependence amid the digital era. The European Commission, in a report in 2022, stressed that the growing complexity and interconnection of supply chains in the technology sector implies cascading impacts of a disruption in the system can have on whole industries (European Security Commission, 2022). This is especially important for industries from defense to telecommunications to healthcare, which can be vulnerable to technological disruptions that threaten both national security and public well being. Some countries, such as USA, India, and the European union, have already enacted regulations to stop or limit the access to particular foreign technology or favour local alternatives (Wang, et al., 2023). But, these efforts have been frustrated by the domestic production capacity that is either outdated or expensive, and can not compete with that of foreign rivals (Siddiqui, 2024c). Siddiqui's contribution in this area is helpful in challenging such policies, highlighting the potential long term risk of inadequate technological self-sufficiency, and the failure to plan for technological transitions (Siddiqui, 2024b).

Amid these nuances, this piece seeks to address the unintended effects of banning offshore technologies in the absence of developed solutions within country. It extends the work based on the theoretical foundation provided by Siddiqui et al, examining potential impacts of an economic downturn, supply chain vulnerabilities, and loss of sovereignty. It also provides specific policy suggestions for dealing with such risks by promoting innovation, establishing diversified technology supply chains, and introducing strategic protection against economic blackmail and dependence on monopolist technology suppliers (Wu, & Wang, 2019). This paper seeks to offer policy insights for a more balanced and sustainable approach to the governance of technology for governments by critically examining existing policies and global case studies.

PURPOSE OF RESEARCH

This study aims to explore the consequences of prohibiting technologies made abroad for which there is no developed technology at home. It seeks to show the economic, strategic, and sovereignty risks that come from a government imposing such bans in the name of national security. Informed by the writings of Hassan Rasheed Siddiqui the paper will consider how such poorly coordinated policies can result in inadvertent outcomes like economic disruption, technological interdependency, and reduced levels of national autonomy. The research has an additional goal where policy measures should be actionable and feasible and thereby allows governments to take proactive action in long-term resilience building, innovation capability and sovereignty. Through the promotion of domestic options, regulatory models, and strategic stockpiling, in the end, the goal is to give policymakers a complete toolset to manage the risks associated with bans on foreign technologies, so that countries are better able to manage technological transitions in a manner that protects national interests.

RESEARCH OBJECTIVES

1. To analyze the economic and strategic risks associated with banning foreign-manufactured technologies without preparing viable domestic alternatives, including price inflation, supply chain disruptions, and system failures
2. To examine the impact of foreign technology bans on national sovereignty, focusing on how such policies can lead to strategic blackmail and the erosion of control over critical infrastructure and data
3. To provide policy recommendations for governments to develop proactive technology transition strategies, including fostering domestic innovation, establishing strategic tech reserves, and implementing regulatory frameworks to mitigate the risks of economic dependence and security vulnerabilities

TECHNOLOGY BANS AND THE HIDDEN COSTS

Technology Bans and the Economics of the Hidden When it comes to banning foreign-made technology without building competitive domestic options, nations open themselves to a number of profound economic and strategic vulnerabilities, which in many cases can last for decades. Hassan Rasheed Siddiqui in this recent article, "Regulatory Gaps in U.S. and

Global Legal Frameworks: Countering China's National Intelligence Law" (Siddiqui, 2024b) has effectively identified three main perils of such bans. These dangers are not purely potential but have already occurred at a national level, with governments under-estimating the disruptions induced by sudden cutbacks in foreign technologies (Nie, et al., 2023).

The first of these hazards is inflation of price. If you take a number of foreign suppliers, often at more competitive prices, out of the market, and domestic industries do not have the capacity to replace them, competition is reduced within the market. Hence, the remaining suppliers, usually some of them domestic or cooperating suppliers, get monopolistic or oligopolistic power. Due to smaller players in the industry, it can raise prices on consumers significantly, knowing that consumers have less, or no, choice (Mozaffari, et al., 2016). Especially for the sectors such as logistics, defense, health and communication, which depend on low cost, leading technology to keep them competitive, this increase in price would be more harmful. As a result, not only do businesses and consumers face higher prices, but economic productivity may be compromised as companies are unable to afford inflated prices for technologies that are indispensable (Sun, et al., 2024).

The other key risk Siddiqui points out is with supply chain delays. The international supply chain leans heavily on foreign-made technologies and supplies in many industries. When countries prohibit consumer products from other countries, and fail to make certain that domestic industries can meet the demand, there are large amounts of having to wait for production and distribution of services and products. This is especially important in industries with a strategic nature such as defense and telecommunications, where technology is not only a means of achieving operational supremacy, but also for national security (Xing, 2020). For instance, in times of war military may be unable to obtain or modernize critical surveillance and communications equipment, endangering the country. Likewise, sectors like logistics and infrastructure will get hit with bottlenecks, as necessary technology incumbently brought in is suddenly unavailable. If there is not a strong internal supply chain to satisfy these needs in effect, it is quite possible in many of these cases whole sectors of the economy to be shut down and possibly the economy as a whole to be slowed or in terms of national infrastructural servicing systems to be interrupted (Yang, et al., 2023).

Finally, system disturbance is a necessary result if a country chooses to depend on a banned foreign technology. Most governments and businesses have integrated foreign-made technology into their systems, from defense to communication to infrastructure. With the foreign technology suddenly banned, legacy systems that rely on it can break, wreaking havoc with vital services. These might be flaws in defence systems or networks, or in services such as municipal government that have become reliant on certain technological infrastructure. For example, when we're talking about critical infrastructure like the power grid or our transportation system, missing components or foreign-sourced software in the components can lead to severe operational disruptions that could lead to an entire region being left without power or transportation. Interference of such systems are not just an inconvenience, but may result in significant threats to national security, financial stability, and operation of a society on a day to day basis (Haarnoja, et al., 2018). As Siddiqui points out, these kinds of system failures can create massive disorder, effecting the operation of both government and private sectors, from the way the government behaves to the ability of private industry to function.

In sum, these three risks — price inflation, supply chain delays and system disruption — highlight the perils of technology bans without the forethought to develop realistic domestic alternatives. Instead of heightening national security and technology ownership, these bans introduce economic and operational fragility that leaves a country less capable for maneuvering its own technology and economic realities (Li, et al, 2023). Siddiqui's account, then, should be read as a timely warning about the dangers of reactionary policy design in a world that's growing ever more connected, and ever more dependent on technology.

STRATEGIC BLACKMAIL & SOVEREIGNTY LOSS

Strategic Blackmail & Sovereignty Loss Not regulating but banning foreign firms may also actually leave countries at the risk of strategic blackmail and significant loss of national sovereignty. Not addressing the root weakness in the technology, such bans rather open the door to foreign manufacturers to side step sanctions and return to the market disguised differently. As Siddiqui (2024c) has noted, Chinese drone companies, for example, have found means to re-infiltrate foreign markets following bans by some government. They do so by filing under new names or registering their products through foreign subsidiaries to escape curbs intended to protect national security. This loophole reveals a fundamental problem with legislation aimed at specific companies with respect to specific technologies rather than the technology itself: At times, the technology survives after the initial effort to protect national interests, typically in ways that defeat the purpose of the legislation to begin with (Haarnoja et al., 2018).

In cases where governments fail to prepare alternative domestic options or regulatory systems to handle banned technologies, foreign suppliers — especially ones which were formerly banned — can come to flex considerable muscle. That these foreign manufactures cannot face competitive alternatives means they are able to dictate the terms of the horse-trade and, according to Siddiqui, makes for strategic blackmail. This leverage can be invoked for a range of unfriendly demands — often, with severe consequences for national interest. They could, for example, require unfettered access to essential infrastructure or systems by foreign providers, which would create a direct line into pertinent data or operations

that compromises national security interests. In addition, patients are forced to pay high prices of those drugs that are not listed in the national medicine list because there are no other treatment options for these patients as a patients that require drugs not included in the NML are likely threatened by a life-threatening disease and/or a disease that affects the quality of life and/or disabling the patient's source of life through work (Almaw, 2018).⁴⁰Besides, this could lead to increases in the market prices of medicines and to impose a heavy burden on the country's economy so that essential technologies become unaffordable by any means or become unattainable (Liu, et al., 2019).

Other than price fixing, [29] "the alternative" is to set service objectives loosely so that suppliers can delay, and thereby continue trash-cycling when it is most needed. This flexibility can also imply that because of a lack of competition requiring that they live up to higher standards, the manufacturers can degrade their product or service. Most worrying of all, the overseas suppliers could have data use terms that run contrary to national sovereignty. For instance, data collected by drones or surveillance equipment could be transmitted or stored in foreign nations, subject to the laws of those countries. This erodes the sovereignty of a nation's data, subjecting it to foreign surveillance or usage and undermining the ability of a country to preserve the privacy and security of its citizens (He, et al., 2024).

And now the situation in which we find ourselves is one where governments are in essence compelled to agree to these unfavorable terms, as they have no other real choice. This circumstance greatly reduces the level of national sovereignty concerning critical infrastructure and technology control. According to Siddiqui, such contortions work to undermine the sovereignty of a nation by allowing foreign interests to impact the nation's most vital and sensitive areas – like its defense, communication, and surveillance. Ultimately, an inability or failure to regulate technology effectively creates a kind of dependence in which a country is no longer in charge of its technological destiny. This erosion of sovereignty means that governments are less able to serve their own best interests because they are increasingly dependent on foreign suppliers who are in the position to set the terms of their engagement (Fang, et al., 2023).

THE NEED FOR TECH TRANSITION POLICIES

The Necessity of Tech Transition Policies In order to avoid the economic and strategic dangers of banning foreign technologies without taking adequate measures to facilitate domestic alternatives, Sid-diqui (2024d) strongly recommends proactive technology transition policies be developed. These policy instruments must not only alleviate current security worries, they must also ensure resilience in the longer term by identifying pathways to a seamless transition to indigenously-driven technologies. One of the key elements of these strategies, according to Siddiqui, is ensuring that domestic innovation is stimulated well before any decision to phase out foreign technologies. Through investing in R&D at home, countries can build a foundation of infrastructure and capability to replace vital foreign technology with local analogues. This preemptive stance allows countries to protect their technological independence and sovereignty and minimize the economic cost associated with being dependent on foreign suppliers. It also supports the development of national innovation ecosystems, which underpin sustainable economic growth and competitive advantage over the longer term.

It is also important to develop roadmaps for legislation to steer the transition towards technology, Siddiqui adds. These roadmaps must be prepared in cooperation with key stakeholders such as captains of industry, technology experts and the general population to achieve convergence and guarantee timely adaption across the board. Early involvement of stakeholders facilitates troubleshooting of likely problems and opportunities before they become barriers to ORR. Governments need to not only announce new policies but also effectively publicize how to transition, the politics behind them, and the time frames as well as possible costs and benefits of making the change. This partnership approach helps to ensure a sustainable transition, with wide support, and informed knowledge and capacity for industry to adjust to new regulatory and technology conditions.

In addition, public and industry understanding is critical to the success of technology transitions. As Siddiqui (2024d) maintains, educating the public and industries about the implications of technology bans/changes is essential to avoid unnecessary disruptions. Governments can increase consideration and acceptance of these changes by being open and transparent with information about why the transition is needed, what technologies are being discontinued, and what will replace them. Public information programs can also help minimize fear or opposition to technological change, particularly if people perceive it as endangering their economic security or jobs. Likewise, the industries require to be updated on the new regulatory regimes and the timelines for their implementation, and the resources made available to support them to adjust to this change. Training program, financial incentive, and the research program development could help future acceptance of new innovative technologies and, thus, reduce the operational hiatus and bottlenecks.

Without that sort of groundwork, bans on foreign tech could end up precipitating chaos and reliance rather than achieving the desired national security and economic protection, Siddiqui cautions. Without a blueprint or plan for technology transfer, countries can become locked in a state of technological inertial, in which they cannot create or commercialize the innovations which could substitute for foreign technologies. That might leave governments reliant on foreign suppliers for an essential component or technology that diminishes their sovereignty and security. Apart from this,

insufficient attention to a structured transition process can lead to ad hoc measures, and create unintentional side effects such as supply chain discontinuity, price inflation, and failure to fulfil the needs of vital sectors of the economy (defense, healthcare, and communications). At the end of the day, the promise of technology independence and security without good, common-sense tech transition policies, could prove to be too little too late, and the vagaries of the future will be more difficult to navigate.

CONCLUSION

Finally, a ban on foreign technologies that isn't followed by building domestic alternatives does not signal strength or security; rather, it is evidence of strategic folly. Such bans are invariably aimed towards protecting national security, however their undesirable outcomes include economic dislocation, technological vulnerability and loss of sovereignty. As emphasized in various parts of this paper, and mirrored in writings by Hassan Rasheed Siddiqui, long-term resilience, technological innovation and national sovereignty must take center stage in government policies.

Siddiqui's study clearly demonstrates the significance of laying out a strategic and proactive plan during the process of adopting new technology. This means that in addition to worrying about immediate security threats foreign technologies pose, governments also need to anticipate the downside of the inevitable economic and logistical effects of banning foreign products that do not have viable domestic alternatives. Only by nurturing domestic technological alternatives—via local innovation, strategic reserves, and effective regulation—can countries secure their future and ensure they are not vulnerable to the dangers of too much dependency on foreign suppliers.

To withstand the economic and strategic perils of uncoordinated bans, countries must prioritize technological sovereignty by investing in long-term preparedness, strategic investment in innovation, and regulatory forethought. In this way, they are able to secure a sustainable and secure technology future - while also enhancing national security and economic prosperity. It is only through such holistic and proactive measures that governments may avoid the negative impacts of stifling technologies and preventing the evolution of the inevitable transitions to come.

RECOMMENDATIONS

Implications Siddiqui's study provides practical insights for technology transition management with a risk-bass approach to prohibiting foreign technologies. His suggestions are designed to protect countries' technological sovereignty, their economic stability and their national security from the trap of responding with bans and narrow-sighted measures. These are long-term resilience, readiness, and proactive reformation-type strategies that confront the fundamental problems of technology reliance.

One recommendation (emphasis added) 1_ Develop sovereign tech manufacturing through substantial investment in local research and development (R &) and production. Governments can decrease dependence on imported technology and enhance their technological self sufficiency and independence by building up the domestic technological industrial base. It is this style of self reliance which lays the foundation for innovation a long the lines of the country, making the most critical technologies accessible and controllable domestically. A strong proponent of local R&D, he elaborates on the fact that focusing on R&D locally not only leads to the development of new technologies, but also bolsters the local economy by generating high-tech jobs, fostering the creation of intellectual property, and inspiring competitive industries. Nations who can access and create vital technologies for themselves on their own shores, without reliance on foreign markets - potential national security or economic distortion risks in times of geopolitical tension or trade disagreements - are much more secure.

The other recommendation Siddiqui makes is the creation of strategic tech reserves. Similar to the way in which countries store essential resources—including oil and food—for times of emergency, Siddiqui proposes that governments should also implement a strategy to stockpile essential infrastructure and components for critical technologies. This will be a buffer for any disturbances in the supply chain, or the removal of foreign technology suppliers from the market. For instance, defense and communication systems frequently depend on particular technological elements that would be difficult to obtain if suppliers from other countries were barred or hampered. With reserves of such vital tools, governments can ensure that essential services — in defence, logistics and health — continue to function and prevent a collapse. Such reserves would serve as a cushion to prevent the countries from suffering in times of crises or tech warfare.

Another suggestion is to establish regulatory litmus-tests that look at the technological soundness and security level of systems, rather than flat-out banning companies. Siddiqui says governments need to also move beyond targeting individual companies and regulate the technologies themselves. Governments can do this by setting standards for assessing security, reliability and integrity of technologies, which would itself prevent the use insecure or unverified foreign technologies without closing doors to foreign technology markets. This, at least, would ease a more flexible nuanced solution, where individual technologies (if they can be judged against a specific set of security/ethical principles) can still be adopted. Such regulatory thresholds would allow a conclusion that national security is protected, while also allowing for innovation

and the ability to work with foreign suppliers as long as they meet the thresholds, thereby avoiding the economic and strategic consequences of a blanket ban on foreign companies.

Finally, Siddiqui calls for the passage of laws to make tech blackmail illegal. Governments need to enforce supply-chain transparency and demand that national audits of critical technologies are carried out to ensure the suppliers can't use their status for economic or political purposes. Requiring transparency of the movement of goods, services and data will help to ensure that governments have the information they need to oversee and regulate technologies that underpin their national security and economic prosperity. It would also act as a deterrent to the uses of technology as a bargaining chip for political or economic purposes by other nations, who would be subjected to more robust scrutiny and to more consequences. In addition, national audits would provide the peace of mind that countries are not inadvertently dependent on compromised or unethical technologies with the inherent potential for undue foreign leverage or control. In this way, governments can protect against the dangers of strategic blackmail, so their key national infrastructure can be kept in domestic hands and not held to ransom by foreign interests. To sum up, Siddiqui's suggestions give a strategic approach to moving out of foreign technologies to maintain the preservation of national interests. Through investing in homegrown technology, strategic reserves, regulatory benchmarks and transparency in supply chains, governments can also reduce the dangers of banning foreign technology providers, the report said. In so doing, these forward-looking strategies would safeguard national security while boosting innovation, economic adaptability, and autonomy in an increasingly crowded global technology landscape.

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