Correlating Economic and National Security Under Intensifying Great Power Rivalry

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Abstract

Its proponents argue that geopolitics should take priority over economics uncompromisingly, since national security and free markets point in opposite directions. But a world that conducts industrial policy already takes as given that free markets don't guarantee optimal outcomes. In such a world, geopolitical concerns only add one more dimension to already-extant tradeoffs surrounding industrial policy. How should national security compare with other drivers of industrial policy? What evidence might help diagnose whether national security helps guide good economic policy or provides cover for unsound practice? This paper provides a simple analytical model to address these questions. The model shows how as national security concerns vary there is a tipping point below which their effects are quiescent, but above which such concerns have ever greater impact. In the model, a Prisoners Dilemma situation between nations emerges but other nations can help reduce the otherwise-resulting ("epic fail") gridlock and inefficiency. Near the tipping point, minimal efforts have higher than proportional impact, so that nudges, even by small states, can have significant effects on world order. Applying the model, the paper provides case study and statistical evidence that illustrate the degree to which national security concerns can inadvertently spill over with negative consequences into other domains.

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1 Introduction

Economic debates on national security traditionally take a textbook "guns vs butter" approach. In that framing, economic performance and national security trade off against the other: society can have more of one only if it has less of the other. The two might each be valued, but no society can simultaneously have more of both.

It is this same model that national security proponents draw on, implicitly, when they argue geopolitical considerations should take priority over economics. They accept there is a tradeoff but say that the urgency of geopolitics always dominates that of economics. Their argument becomes especially compelling when geopolitical rivalry intensifies and national security considerations heighten.

For economists the tradeoff between guns and butter resonates most when the assumed model happens to be one where free markets achieve the best outcome possible for economic well-being. Under these circumstances, national security disruption to markets would necessarily (and unacceptably) degrade economic performance.

This paper seeks a more calibrated approach to the question of balancing geopolitics and economics. It does so by situating the discussion in a world where industrial policy is warranted. By **industrial policy** (adapting Juhasz, Lane, and Rodrik (2023)) this paper means *government policy that is directed at some explicit public policy objective, and that works through altering the landscape of industrial activity*. Public policy objectives might include speeding up renewable energy transition; creating jobs for middle-class workers; promoting the digital economy; increasing exports; improving social mobility; raising supply-chain resilience; or strengthening national security. Altering the landscape of industrial activity might mean supporting infant industry; promoting innovation in (guesses for important) technologies of the future; kickstarting entire new lines of economic endeavours; scrutinizing and where necessary blocking foreign investment in specific security-sensitive industries; encouraging but also shielding dual-use technological development, where the same item of technology has both commercial and military application; and so on.

Obviously, these interventions all shift outcomes away from the free-market equilibrium. But many observers would consider justified several of these objectives. The global climate crisis is, after all, regarded as rep-

resenting the largest market failure in recorded history, due to the massive negative externalities from carbon emissions. Few observers would object to seeking to mitigate climate change, even if they might disagree about the best way to do so. By the same token, information incompleteness and missing markets confound optimal decision-making for new industries that don't yet exist, possibly because of the enormity of start-up costs.

In many cases, therefore, an economic argument is readily available that suggests government intervention in industrial activity can raise economic well-being, while concurrently it pursues other explicit public policy goals, including that of improving national security.

If there is an element of "picking winners" here, the criticism is partially blunted by suggesting it is not individual firms that would be favored in any specific industrial policy, but instead the entire industry, and that Schumpeterian "creative destruction" be allowed to take out the less efficient firms following the largesse of initial state intervention. Similarly, the challenges of the government's own imperfect information and of bureaucratic capture in rent-seeking activity mean the case for industrial policy is not automatic. Instead, as with all other public and economic policy, intelligence and care still need to be applied.

Within this industrial-policy framework, however, national security is no longer only an instrument that degrades economic performance with no other value. The world is no longer just "guns vs butter". At the same time, however, this doesn't mean national security actions can be arbitary or random. Policymakers still need to be mindful how such actions can self-harm even when justified in the name of national security.

This paper develops an analytical model and provides empirical evidence and historical examples to help identify tradeoffs when national security concerns activate in a world where industrial policy is legitimate. Section 2 describes the context and background underlying the assumptions that will be made in the analytical modelling of Section 3 that follows. The model will show how a tipping point emerges endogenously as national security concerns vary. At low levels of concern, national security actions remain quiescent. However, upon exceeding a specific threshold, national security concerns have a discrete, more than proportional impact on state actions taken in their name.

When competing Great Power nations behave according to the model, relations between them can easily devolve into a Prisoners Dilemma game,

where in equilibrium, national security concerns grow and thus heighten the probability of triggering national security actions. Other nations, however, (so-called Third Nations) can apply nudging strategies to help reduce the otherwise-equilibrium ("epic fail") gridlock. Because of the tipping-point nature of the equilibrium, minimal efforts can have higher than proportional impact. Thus, nudges even by small states can have significant effects on world order.

Sections 2–3 provide a framework that helps us address a number of empirical questions on national security and industrial policy. Across the different nations in the world, what justifications drive industrial policy? In those nations where national security concerns figure importantly, how do their industrial policies differ in comparison with those nations where other motivations are prominent? When national security concerns guide industrial policy, do nations follow rules or direction? That is, does national security target specific potential-antagonist nations or do they pursue general cross-country security capabilities? Section 4 analyzes a number of special-case answers to these.

Finally, Section 5 concludes.

2 Geopolitics and Economics

This section describes the geopolitical setting in which this paper will embed the analytical and empirical results to follow.

To help reduce the length of this section, it focuses on US national security concerns. The reasoning and forces are not dissimilar in other nations, but it would be of course valuable to analyse the same concerns and dynamics from the perspectives of yet other Great Powers. That, however, will have to be a different paper.

While the general notion of geopolitical rivalry is publicly familiar, less widely discussed—outside of specialised forums—are the specific nature and parameters of Great Power competition and how they affect economic analysis. For many observers, competition might be a relatively benign concept: Coca Cola and Pepsi *compete* over whose formula tastes better. Each has scientists who conduct research in a laboratory, and then serve up their latest discoveries, allowing the public to choose between them.

This is not necessarily an inaccurate metaphor for Great Power com-

petition when that contest occurs between nations whose political systems are obviously different and geopolitical sentiments are determinedly set on peace. When Great Power competition intensifies, however, it becomes instead contending against a rival in order to maintain one's territorial integrity, to continue one's autonomous domestic political order, and to support one's domestic economic prosperity. Great Power competition is then not about having a better product for some demand side to choose; it is about denying rivals the ability to undermine one's territorial integrity and national autonomy.

It is against this setting of intensification that geopolitical rivalry and national security need to be understood. Drawing on that understanding, this section provides a context and background to help (a) inform the modelling of interaction between national security and industrial policy in Section 3; and (b) motivate the statistical and case study analysis on national security and industrial policy in Section 4. Section 2.1 provides an overview of broad trends in geopolitical and economic policymaking, with more detailed descriptions in Sections 2.2–2.3. Understanding this change in policymaking attitudes is, arguably, more revealing for the sustained long-term trends in globalization than, say, short-term fluctuations in data on trade volumes.

2.1 Broad Underlying Trends: Collinearity and Orthogonality Between Economic and Geopolitical Dynamics

With the end of the US-Soviet Cold War and over the quarter century that followed, three propositions characterized the principal contours of international economic engagement:

1. economic efficiency is the goal;
2. comparative advantage describes economic relations between nations—so that every nation gains from economic exchange; and
3. political convergence towards liberal democracy comes with economic development.

These ideas or subsets of them would drive policymakers in both advanced economies and many developing countries to undertake policies of economic openness and globalization (Quah, 2024a,b).

This paper will argue that, since approximately 2010, or two years after the Great Financial Crisis, a turn-around has occurred in thinking in policymaking attitudes. This change in direction is driven by two collinear but distinct counter-propositions, both working alongside the intensification of Great Power competition.

The first counter-proposition is that national security and foreign policy concerns had been inappropriately neglected. Even if greater uniformity in political systems across nations were genuinely to bring international peace, a prudent approach would hedge on the risks in that proposition: convergence might not occur, and even if it did, peace might not be the outcome. This counter-proposition is supported by how China, for instance, has displayed no measure of political convergence towards liberal democracy. But the counter-proposition itself does not hinge on what China actually does. For those observers and policymakers who work under offensive realism (e.g., Mearsheimer, 2014) what matters is that China now represents a competitor Great Power to the dominant hegemon, the United States. That by itself already suffices for alarm over America's national security and foreign policy. It does not matter for these observers that China is not a liberal democracy and is not converging towards become one.

Mearsheimer (2021) describes it this way:

> Most Americans do not recognize that Beijing and Washington are following the same playbook, because they believe the United States is a noble democracy that acts differently from authoritarian and ruthless countries such as China. But that is not how international politics works. All great powers, be they democracies or not, have little choice but to compete for power in what is at root a zero-sum game. This imperative motivated both superpowers during the Cold War. It motivates China today and would motivate its leaders even if it were a democracy. And it motivates American leaders, too, making them determined to contain China.

Put differently, the threat is the possibility of a different Great Power becoming regional hegemon as it rises. The actions undertaken and the political or economic features borne by that alternative Great Power are of secondary significance. As Colby (2021) describes the US perspective, "hegemony by any (other) state, of whatever political complexion, would

be a grave concern." Of course, at the same time, China shouldn't consider its political system entirely free of concern: "China's achievement of hegemony would pose a serious challenge to US interests under any circumstances; that it would do so while governed by the Chinese Communist Party exacerbates the threat." Having noted that, still, changing China's political system to democracy would not lower US concern over national security and foreign policy.

If the first counter-proposition resonates most powerfully with the last of the three propositions driving globalization, the second counter-proposition rejects the remainder of those ideas. In the words of those among the strongest and most influential of its proponents, the US needs a new economic philosophy, one that acknowledges that not "every trade deal is a good deal"; not everything "good for US-based multinational corporations is necessarily good for the US"; markets do not always do the right thing; not all growth is good growth; and "advocating industrial policy waks once considered embarrassing —now it should be considered something close to obvious" (Harris and Sullivan, 2020; Sullivan, 2023).

The consequences of such a change in economic policymaking attitudes are profound: economic competition is no longer a level playing field with parameters defined by open and free markets. Efficiency is no longer the sole objective. Increased trade is neither evidence for improved economic well-being nor an undisputed goal. Granular state intervention is no automatic flag for interference to national economic performance, but is just part of the everyday joint workings of states and markets.

But increased priority on national security and foreign policy concerns does not have to result in policies with only random or negative effects on traditional measures of economic performance. Some structure is still needed, obviously, to assess the success or failure of such policies. Moreover, that assessment needs to be based on clearly-specified criteria for which legitimate policymakers would themselves take responsibility. Section 3 provides a simple framework that allows such evaluation.

The remainder of this section provides more detail on the two counter-propositions just outlined, each taken up in Sections 2.2 and 2.3 respectively. Readers who are already convinced can skip ahead to Section 3.

2.2 Geoeconomics and Economic Statecraft: Economic Policy No Longer Serves its Foreign Policy Purpose

In Dec 2023 Gina Raimondo, US Secretary of Commerce in the Biden administration, suggested (Raimondo, 2023) the American business community gravely misunderstood the nature of geopolitical and economic tradeoff in the US:

> Newsflash: democracy is good for your business. Rule of law, here and around the world, is good for your businesses. It might make for a tough quarterly shareholder call, but in the long run, it's worth you working for us to defend our national security.

The US economy obviously engages in trade and investment transactions with many nations, among them, in turn, many that are officially democracies and obey rule of law. Thus, Raimondo's comments were not just about national security as an abstract general idea, but concerned a specific US antagonist, one that in Raimondo's view is obviously not a democracy and does not follow rule of law. So, if it were needed, Raimondo clarified:

> (China is) capable of doing very bad things, and we're gonna deny the entire country this class of equipment. We can't let China get these chips. Period.

Two specific guiding principles follow from these pronouncements. First, urgency and directedness matter. Raimondo's statements referred to a specific geopolitical rival and reflected an urgency increasing in time. Second, the private sector has not sufficiently internalised the positive spillover impact of heightened concern on national security. If it had, then the private sector would be working more to help the government's actions on strengthening national security.

In line with Raimondo's sharp admonition, Blackwill and Harris (2016) suggest that the economics profession too has failed to appreciate the importance of working for national security and foreign policy. They propose returning to conceptualisation of geoeconomics organised around **economic statecraft**, *the use of economic instruments to accomplish geopolitical objectives*. In their view, since the end of the Cold War between the US and the Soviets, an unfortunate divergence has surfaced:

> International economic policymaking emerged as the near-exclusive province of economists and like-minded policymakers. No longer was it readily available to foreign policy practitioners as a means of working the US's geopolitical will in the world. (Blackwill and Harris, 2016, p. 99)

Whatever the effects on economic well-being, Blackwill and Harris (2016) argue that this separation has been a clear loss to the nation's geopolitical position. For the US, in particular,

> The consequences have been profound (...). China (...) and other countries now routinely look to geoeconomics as a means of first resort, often to undermine US power and influence. The United States' reluctance to play that game weakens the confidence of U.S. allies in Asia and Europe. It encourages China to coerce neighbors and lessens their ability to resist and gives Beijing free rein in vulnerable states in Africa and Latin America. (Blackwill and Harris, 2016, pp. 99–100)

In this view, that economists and like-minded policymakers have, post Cold War, retreated from helping advance America's geopolitical interests is particularly perfidious at a time when those interests are progressively under threat. Colby (2021), Mearsheimer (2021), and other scholars and writers warn that the rise of China, will, in their analysis, constrain America's prospects and freedom of actions in the Indo-Pacific.

A key feature in such thinking is that the US sacrificed its geopolitical interests when it followed the economists-favored policies of trade openness and globalization. Mearsheimer (2021) spoke for many when he charged those policies with helping strengthen China through the 1990s and early 2000s, when America should have instead been seeking to "slow China's rise":

> Beguiled by misguided theories about liberalism's inevitable triumph and the obsolescence of great-power conflict, both Democratic and Republican administrations pursued a policy of engagement, which sought to help China grow richer. Washington promoted investment in China and welcomed the country into

> the global trading system, thinking it would become a peace-loving democracy and a responsible stakeholder in a U.S.-led international order.

Mearsheimer (2021) concluded of that hope, "Of course, this fantasy never materialized." In this thinking, economists and like-minded policymakers inadvertently decoupled economic goals from geopolitical objectives, failing to understand the consequentiality of national security.

To be clear, the facts are not in dispute regarding the nature of US economic policymaking in the immediate aftermath of the end of the Cold War seeking economic rather than geopolitical priorities. Chin, Skinner, and Yoo (2023) apply qualitative knowledge and quantitative text analysis to the series of *National Security Strategy* communications issued by successive White House administrations since 1987. They find

In opposition, some writers argue that the policies promoting trade and globalization, or emphasising economic gains generally, never lost contact with geopolitical priorities. As evidence, Bergsten (2016) cited how the 1993 North American Free Trade Agreement was "mainly to prevent Mexico from becoming a failed state"; how the US government supported China's 2001 admission to the World Trade Organization because of the belief that "China's integration into the world economy would reduce the risk of geopolitical conflict"; how the Obama administration undertook Trans-Pacific Partnership negotiations to "avoid ceding the Asia-Pacific region to China". Even writers who suggest that America can best serve its geopolitical interests by accepting China's co-equal status—in sharp contrast to the American primacy propositions in Blackwill and Harris (2016), Colby (2021), and Mearsheimer (2021)—nonetheless argue that the best way forwards is through economic statecraft: "The big strategic game in Asia isn't military but economic" (Mahbubani, 2021).

2.3 But Economic Policy Seeks Alignment As Well

In the preceding, regardless whether post-Cold War US economic policy advanced or hindered America's geopolitical objectives, the maintained hypothesis is that that policy of trade openness and globalization achieved its goals of efficiency and comparative advantage, and that those goals were indeed the right ones. But this too is now challenged. Economic interdependence is a liability, not a strength. Increased trade does not show

improvement in economic circumstances but instead the opposite, a risk to resilience and economic security. In particular, in contrast to standard comparative advantage propositions, China trade has been disadvantageous for the US.

The poster-child of this view is the so-called "China Shock" (Autor, Dorn, and Hanson, 2016): In political discourse this idea is rendered as the proposition that trade with China has stolen American jobs, dismantled American industry, and turned into ghost towns what were once thriving American middle-class communities. Whatever the ongoing debate, nuance, and qualification it continues to attract in scholarly work, the China Shock has become firmly part of Washington policy discourse, with a conclusion that assumes away ambiguity. Thus, while researchers agree (Kennedy and Mazzocco, 2022) US manufacturing job losses prior to 2010 resulted from import competition with China, no convincing evidence has shown that effect to remain after 2010, despite China's continued increasing exports to the US. Certainly, some US regions failed to recover economically, but this was for reasons other than the China Shock, which had leveled off from 2010. Moreover, estimates suggest that even prior to 2010 service sector jobs in the US West Coast and Northeast rose in response to imports from China by more than the decline in manufacturing jobs, resulting in a net national gain of jobs overall. Finally, the overwhelming majority of research finds that better-educated, more economically-diverse regions within the US have done better than their opposite, suggesting that the successful response to the China Shock lies in longer-term structural, productivity reforms, rather than in protectionism.

The evidence is far from definitive, therefore, of the negative impacts on American jobs and industry of trade in the China Shock. Despite this, however, as Kennedy and Mazzocco (2022) point out "much of the Washington policy community now believes that the benefits of trade with China are far outweighed by the negative effects". Whatever the empirical reality in bilateral trade deficits, however, what might warrant such strong belief?

My conjecture is that that perception comes not from aggregate economy-wide or even local economy variation in quantity but instead from price perceptions (Quah, 2024b). Fig. 1 shows the large change in relative prices due to trade with China. Over the two decades since 2003, US import prices—for imports from its largest trading partners Canada and Mexico—have risen in approximate tandem with the US CPI. US domestic prices, as

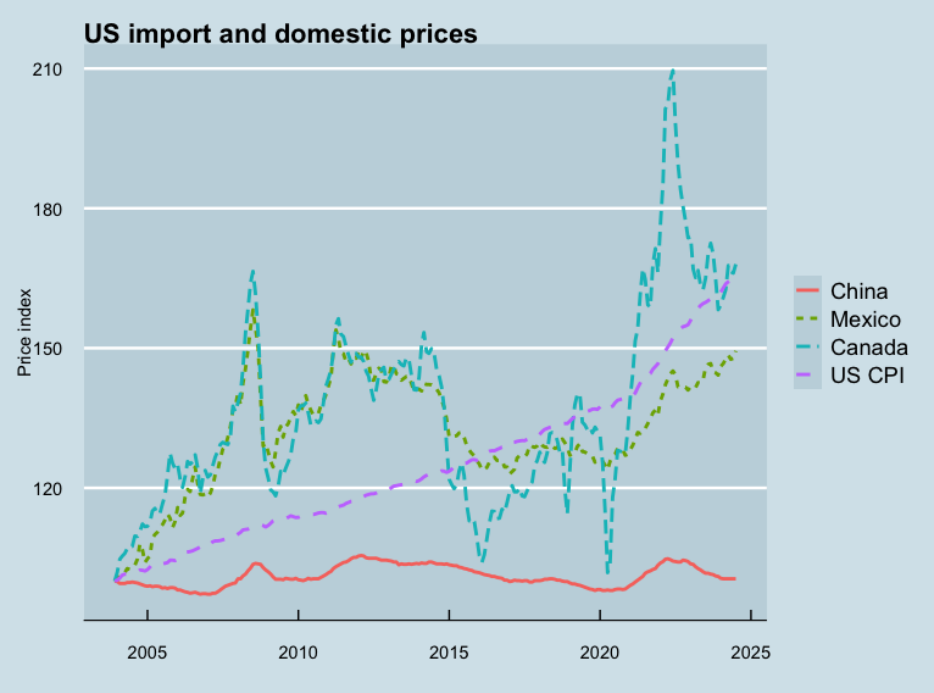

Figure 1: US import and domestic prices. The graph shows, from 2003 to 2024, prices of imports into the US from China, Mexico, and Canada, alongside the US Consumer Price Index. In the two decades graphed, China's import prices into the US have remained flat, ending 0.5% higher than at the beginning. In contrast, imports from Canada have at times seen price inflation higher even than in the US Consumer Price Index, ending the two-decade period with prices 68% higher than at the beginning. Imports from Mexico, similarly but not as extreme, had prices ending 49% higher than at the start. The US CPI inflated 65% over this sample.

captured in the CPI, ended this 20-year period with a 65% rise. Canadian import prices rose 68%; Mexico import prices, lower at 49%. Obviously, such aggregate price indicators hide changing technological composition. From China, however, the prices of imports into the US increased 0.5%! This is over a period as Chinese exports to the US rose in levels of technology and sophistication. Now ask, what is the perception of any worker employed in any branch of the US industrial landscape that even vaguely competes with Chinese imports.

Certainly, US consumers benefited. But the point is, trade with China severely disrupted price ratios in the US economy, and in such event, those for whom prices moved unfavorably will be the more concentrated and see incentive to be politically pivotal. Unlike fluctuations in trade balance, the price impact shown in Fig. 1 is consistent and enduring.

3 Economic Statecraft and Industrial Policy

In the conventional perspective, economic performance achieves its optimum under free markets: any activist policy disrupts economic optimality.

In that view, national security is only part of a textbook "guns versus butter" tradeoff Policy choice comes down to either strengthening national security or improving economic performance. The choice is binary, either/or: having more of both simultaneously is infeasible.

The "not all growth is good growth" proposition, described in Section 2.1, points to value in departing from the conventional view. However, it does not prescribe which particular direction to take. This paper, similarly, does not take a stance on the specifics of that proposition. Instead, it works with only the hypothesis that state actions are consequential. Conditional on that then the challenge of economic performance and national security needs to be recast away from the simple guns-vs-butter perspective.

Following Juhasz, Lane, and Rodrik (2023) consider industrial policy, i.e., the set of "government policies that explicitly target the transformation of the structure of economic activity in pursuit of some public goal".[1] Policy instruments here might include subsidies, tariffs, and increased investment targeting and scrutiny. Policy goals might include creating middle-class jobs; addressing the global climate crisis through renewables transition; advancing sector centrality and internalizing externalities; kickstarting technologies for the future; and promoting resilience and greater self-sufficiency in critical minerals and chemicals. Dual-use technologies occupy an interesting space: when they are increasingly deployed for national security, they also raise economic performance, and so provide immediate counterexample to "guns vs butter' thinking. More generally, depending on the objective, policy instruments might be effective, ineffective, or even having negative effects. For a good proportion of such relations between instru-

[1]The conventional perspective also applies, of course, to industrial policy, namely, industrial policy distorts the optimal calculations of market-sensitive agents. It interferes with the correct entrepreneurial instincts, replacing those with relatively uninformed attempts by policymakers to pick winners. Such efforts by the state end up captured by rent-seeking agents, distancing even further the social outcome from an efficient allocation. Set against this are the hypotheses that coordination failures occur, increasing returns matter and are not internalized by private agents, and information asymmetries lead to socially inferior outcomes.

ment and objective, the structural connections are engineering in nature, and therefore the analyses are likely best conducted by scientists and engineers. At the same time, however, for all of them, economic analysis at an appropriate level of abtraction can help clarify the informational requirements for improved policy.

This section provides an abstract, aggregate model of economic performance and national security. In the model, policy instruments affect both but can have differing effects. Under standard smoothness and convexity assumptions, the model predicts not a simple "guns vs butter" tradeoff but intricate dynamics as national security concerns rise. We will see that there is a tipping point below which increasing national security concerns appear to not affect economic performance. Beyond that, however, continued rising national security concerns can draw down economic performance.

3.1 The Model

Let y denote economic performance and ω economic capability, where economic performance varies positively with capability but shows decreasing marginal returns:

$$y = y(\omega),\ \omega \geqslant 0; \quad \text{with } y' > 0, y'' < 0. \tag{1}$$

Economic performance y might conventionally be viewed as per capita GDP. More generally, however, as in Harris and Sullivan (2020) or Sullivan (2023), y might also be taken as, say, a trimmed average GDP, excluding the very richest so that the measure of economic success is then focused on improving the well-being of the middle- and lower-income classes. Or, along the same lines, economic performance y might adjust for environmental impact, jobs creation, income inequality and social immobility, and so on. Defining economic performance y flexibly in this way shows that the conclusions that follow are not tied to standard (what Harris and Sullivan (2020) call *neoliberal*) assumptions.

Economic capability ω is a summary of the productive capabilities of factor inputs in the economy. If there were, for instance, market failures, ω would be their converse or reciprocal. The human capital of the work force would be included in ω. With market failures, industrial policy can potentially reshape landscape of economic activity to improve capability ω, and thus raise economic performance y.

Measure national security S as a scalar, and denote by state policy x the vector of state policies that affect both national security and economic performance:

$$x = (x_0, x_1), \quad x_0, x_1 \geqslant 0.$$

Assume national security is always strengthened by state policies:

$$\begin{aligned} S(x_0, x_1) \text{ has } S_0 = \frac{\partial S}{\partial x_0} > 0 \text{ and } S_1 = \frac{\partial S}{\partial x_1} > 0; \text{ with} \\ S_{00} = \frac{\partial^2 S}{\partial^2 x_0} < 0, \ S_{11} = \frac{\partial^2 S}{\partial^2 x_1} < 0, \ S_{01} = \frac{\partial^2 S}{\partial x_0 \partial x_1} > 0. \end{aligned} \tag{2}$$

The second row of equation (2) describes standard curvature conditions so that marginal diminishing returns set in for policies affecting national security.

In this model, as given in equation (2), national security is determined entirely by domestic variables. A richer model would have S affected further by foreign settings for *their* national security, as in, e.g., any kind of security dilemma model. That richer analysis is left for subsequent work.

While x policies always strengthen national security, assume that they can have both negative and positive effects on economic capability. Thus, one component x_0 always draws down economic capability, while the other x_1 always strengthens it:

$$\begin{aligned} \omega(x_0, x_1) \text{ has } \omega_0 = \frac{\partial \omega}{\partial x_0} < 0 \text{ and } \omega_1 = \frac{\partial \omega}{\partial x_1} > 0; \text{ with} \\ \omega_{00} = \frac{\partial^2 \omega}{\partial^2 x_0} > 0, \ \omega_{11} = \frac{\partial^2 \omega}{\partial^2 x_1} < 0, \ \omega_{01} = \frac{\partial^2 \omega}{\partial x_0 \partial x_1} < 0. \end{aligned} \tag{3}$$

Call x_0 **industry-disrupting** and x_1 **industry-enabling**. An example of industry-disrupting state policy might be imposing import tariffs and then diverting the proceeeds to national defense, i.e., to take resources away from industry to use them in munitions manufacturing. This would be the textbook "guns versus butter" example. Another example is slightly more subtle: policy scrutiny that prevents foreign investment and thus, somehow, ends up shrinking the pool of domestic manufacturing jobs, while arguing that that foreign investment would undermine national security. The US Treasury's Committee on Foreign Investment in the United States (or CFIUS, to be considered again in Section 4 to follow) is an example of a policy body that holds such power. Yet others might be sanctions on electric

batteries, that end up reducing the clean-energy profile of a nation, on the basis that those batteries are critical parts of a military tank, and so need to be developed domestically, even if it is more expensive to do so. Thus, while there might be social gain in deploying such industry-disrupting x_0, from the perspective of industry and the economy, these will appear as self-harm.

An example of industry-enabling state policy might be subsidies for so-called dual-use technologies, i.e., technologies that see both civilian and military use. Then strengthening national security also boosts domestic industrial productivity. Another might be climate change mitigation by subsidising clean-energy industrial activity that also increases the stock of good, middle-class jobs. The class of industrial policy actions described in Juhasz, Lane, and Rodrik (2023) that internalize externalities (e.g., in renewables), overcome coordination costs, and reduce information failures are all examples of industry-enabling state policy. Finally, state subsidies that seek industrial dominance in critical technologies of the future—while targeting winning over a geopolitical rival—can inadvertently drive global industry to improved efficiency, and thus constitute further examples of industry-enabling state policy.

Economic policy effects (3) together with economic performance (1) provide a hybrid model capturing both the traditional view that state national security policies always harm economic performance (represented by x_0) with an alternative view that says policies that strengthen national security can also be good industrial policy (represented by x_1).

Policies are costly, varying with the price vector $p = (p_0, p_1)$, so that total state spending is:

$$C(x) = p \cdot x = p_0 x_0 + p_1 x_1, \quad p_0, p_1 > 0. \tag{4}$$

Assume that total state spending is bounded from above by $\overline{C}$, so that the state budget constraint is

$$C(x) \leqslant \overline{C}. \tag{5}$$

Finally, denote the index of national security concern by λ in $[0, 1]$ where a rising λ measures increasing concern over national security.

3.2 National Equilibrium

Social equilibrium with industrial policy and national security is a state policy $x = (x_0, x_1)$ that solves:

$$\max_{x=(x_0,x_1)} (1-\lambda)y(\omega(x)) + \lambda S(x)$$
$$\text{s. t.} \begin{cases} C(x) = p_0 x_0 + p_1 x_1 \leqslant \overline{C}; \\ x_0 \geqslant 0, \ x_1 \geqslant 0. \end{cases} \tag{6}$$

Program (6) says, subject to a cap on total policy spending, society and state together seek to maximise a weighted average of economic performance y and national security S, where the weights progressively favour the latter whenever national security concerns λ rise. For convenience, define society's **integrated performance function** as that λ-weighted average of economic performance and national security, i.e.,

$$V_\lambda(x) = (1-\lambda)y(\omega(x)) + \lambda S(x). \tag{7}$$

At an interior optimum with $x_0, x_1 > 0$, i.e., with both state policies active, first-order conditions imply:

$$\frac{(1-\lambda)y'\omega_0 + \lambda S_0}{(1-\lambda)y'\omega_1 + \lambda S_1} = \frac{p_0}{p_1}. \tag{8}$$

Figures 2–5 depict the solution to program (6). To understand this solution consider first the related special case when the state has no spending constraint, but society and state together maximise integrated performance V_λ net of total cost C. Suppose further there are no national security concerns $\lambda = 0$. Then industry-disrupting x_0 is optimally set to zero, and industry-enabling x_1 sets marginal benefit equal to marginal cost. This is depicted in Fig. 2.

Fig. 3 shows the solutions as national security concern λ approaches either of its extreme values 0 or 1. When national security concern falls $\lambda \downarrow 0$ the solution converges towards one that resembles Fig. 2, where industry-disrupting $x_0 = 0$ and industry-enabling x_1 has all state spending going to it, $\overline{C}/p_1$. When national security concern is low, the integrated performance function V_λ is close to economic performance y and so has level curves that are upwards sloping, just as does y. Thus, for all national security concern levels in a neighborhood of 0 the optimumm solution is

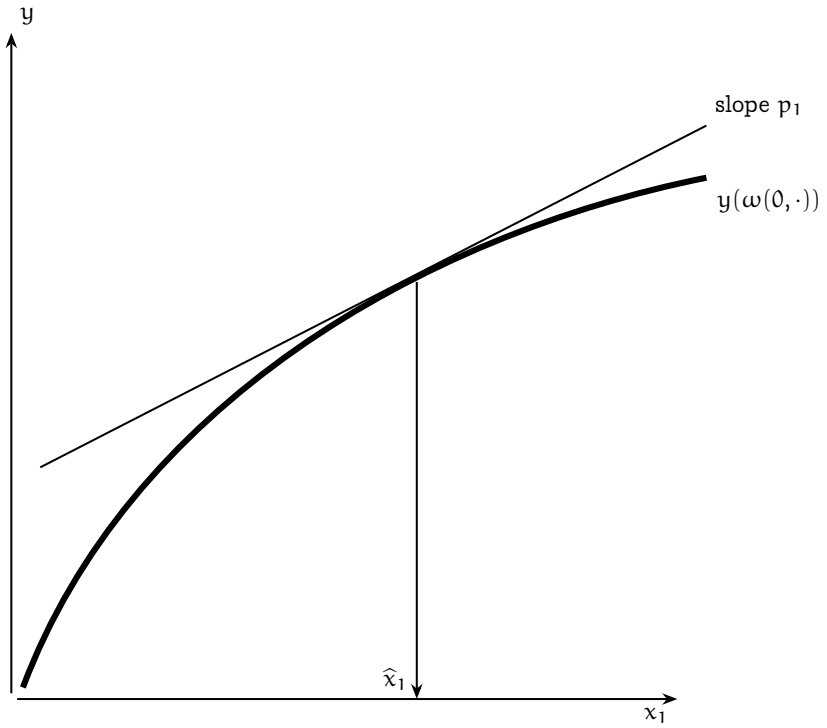

Figure 2: Industrial Policy optimum. With neither spending constraint nor national security concern, industrial policy is set optimally when the disrupting policy x_0 is fixed at 0, and the enabling policy x_1 sets marginal benefit equal to marginal cost.

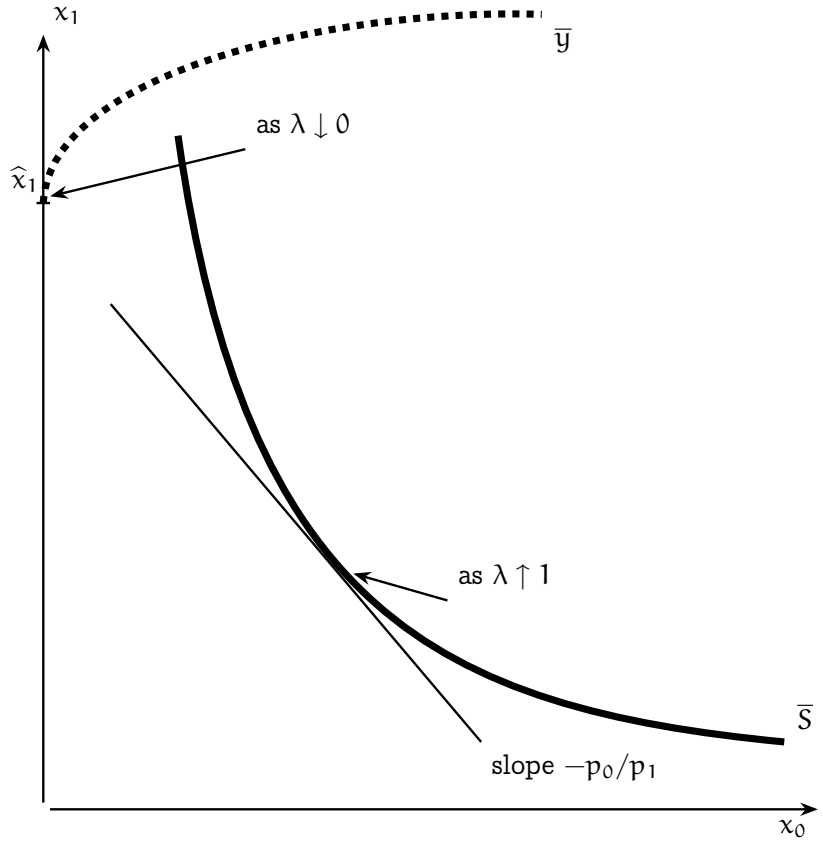

Figure 3: Industrial Policy and National Security optima. If only national security concern were present $\lambda = 1$, optimum policy is interior with industry-disrupting x_0 and industry-enabling x_1 both positive and determined by the tangency between the cost-ratio p_0/p_1 and a level curve $\overline{S}$ for national security S. Conversely, absent national security concern $\lambda = 0$, optimum policy has industry-disrupting x_0 fixed at zero with industry-enabling $x_1 = \widehat{x}_1$ determined by $\overline{C}/p_1$, and so resembling but not exactly that in Fig. 2.

invariant to λ but instead sets industry-disruption x_0 at 0 and industry-enabling x_1 at the fixed value $\overline{C}/p_1$.

On the other hand, when national security concern is high, the integrated performance function V_λ is now close to national security S and so has level curves that are downwards sloping and convex from below. In this case, the solution x varies smoothly with variation in national security concern λ.

Thus, as national security concern λ rises from 0 to 1, there is an interval of inaction $\lambda \in [0, \overline{\lambda}]$ where policies are unchanging even as λ varies. Upon exceeding the threshold value $\overline{\lambda}$, however, a discrete change mani-

fests: industry-disruption x_0 jumps discontinuously from 0 to a positive value x_0^*, and industry-enabling x_1, similarly, falls discontinuously from $\overline{C}/p_1$ to $x_1^* = (\overline{C} - p_0 x_0^*)/p_1$.

Fig. 5 shows the graph of industry-disrupting and industry-enabling state policies as national security concern increases. Until concern λ rises sufficiently to threshold level $\overline{\lambda}$, state policy remains simply supportive of industry, with industry-enabling x_1 set at the optimum and industry-disrupting x_0 set to zero.

3.3 Cross-national Implications

The analysis thus far has varied the value of λ to illustrate its impact on national equilibrium in industry-disrupting and industry-enabling policies x. Variation over time in λ can be take input from news media, public perception, policymaker narratives, the state of world order, and so on.

A leading application for this model is when two Great Powers are in direct confrontation with each other. Suppose each is endowed with its own model of industrial policy and national security as in section 3.1, and that in each Great Power, national security operations are targeted against the other.

For simplicity suppose that each Geat Power considers it optimal to set λ to match its opponent. If concerns rise in one Great Power, the other escalates to match, i.e., the so-called security dilemma is activated. Either Great Power pushing λ above the threshold value $\overline{\lambda}$ results in both activating x_0 and thus reducing industrial capability but heightened security alert. With both Great Powers at heightened security alert, however, neither is more secure. This is a Prisoners Dilemma outcome or so-called *epic fail*, using language from Armstrong and Quah (2023). All other nations—not just the two protagonists—would benefit from lowering λ below the threshold $\overline{\lambda}$. Behaving optimally, however, neither Great Power will unilaterally lower λ.

In summary, once the threshold concern is exceeded by any one Great Power, both end up caught in a gridlock security dilemma. In that equilibrium, each targets the other in a way that helps neither one become more secure, but instead only economically poorer.

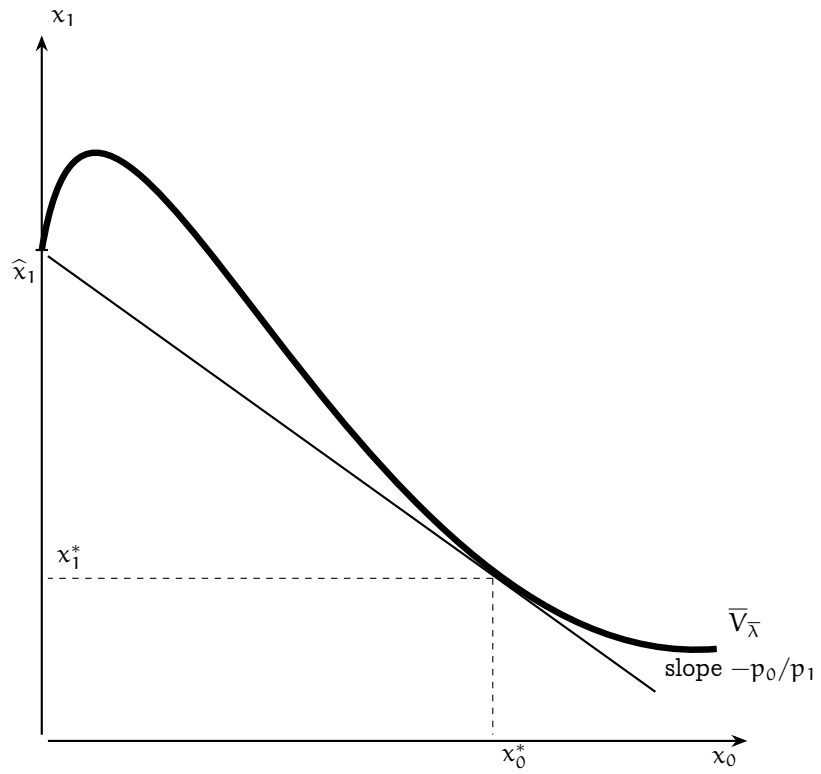

Figure 4: Integrated Performance optimum switching. For reduced national security concern $\lambda \downarrow 0$, the level curve of integrated performance $\overline{V}_\lambda$ resembles the upwards sloping level curve $\overline{y}$. For a given price ratio p_0/p_1, the optimum mix of industrial policy and national security then has only industry-enabling policy x_1 active at level $\widehat{x}_1$ while industry-disrupting policy x_0 is fixed at zero. In the general case when national security λ in $[0, 1]$, the indifference curves for V_λ are approximately a convex combination of an upwards-sloping $\overline{y}$ schedule and an $\overline{S}$ indifference curve that is conventionally downwards-sloping and concave from the origin, with the approximations progressively better as λ approaches either endpoint 0 or 1. Thus, as national security concern rises, $\lambda \uparrow 1$, the level curve $\overline{V}_\lambda$ grows convex to the origin, following the level curve $\overline{S}$. At some threshold level $\overline{\lambda}$ national security concern the optimum policy mix switches discretely from the fixed $(0, \widehat{x}_1)$ to $x^* = (x_0^*, x_1^*)$. Optimum policy is, therefore, endogenously discontinuous in national security concern λ. When national security concern is low $\lambda \leqslant \overline{\lambda}$, even if positive, its exact setting does not matter for observed policy.

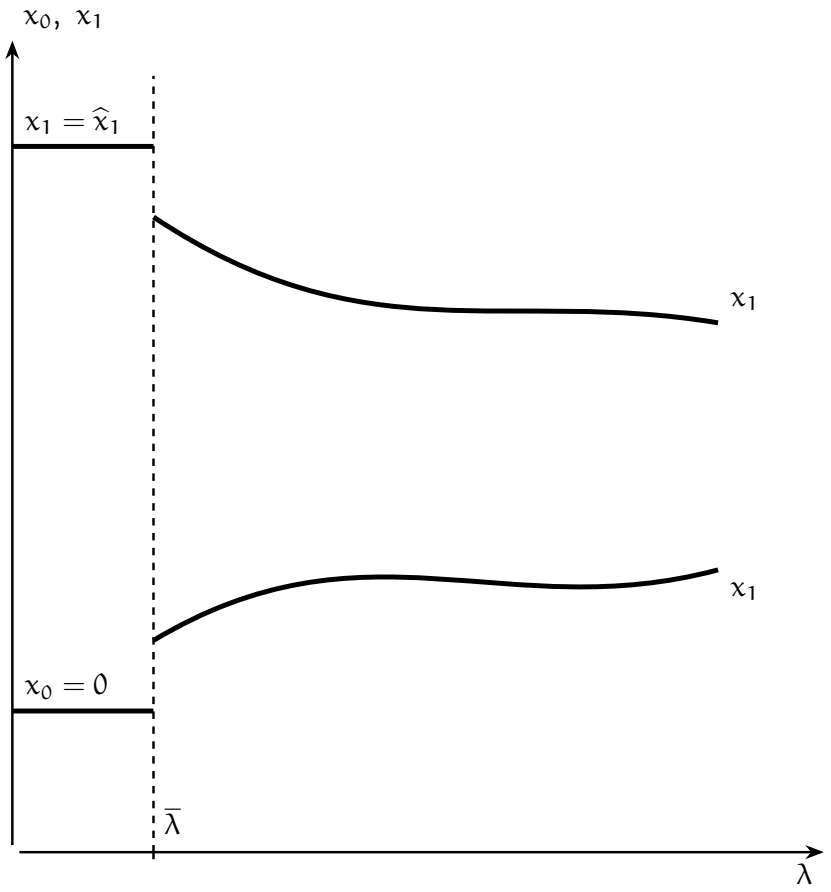

Figure 5: Industry-disrupting and industry-enabling policies as national security concern rises. For a range of national security concern λ in $[0, \overline{\lambda})$, optimum policy remains focused only on industry-enabling policy $x_1 = \widehat{x}_1$, with industry-disrupting policy x_0 fixed at zero. However, at threshold concern $\lambda = \overline{\lambda}$, industry disruption policy jumps discretely into activity, with corresponding retreat on industry-enabling policy x_1.

3.4 Normative and Positive Consequences

The derived threshold effect in inaction of Fig. 5 has two consequences of interest. First, in terms of normative impact, it shows how small actions can have large consequences. When national security concern has reached the threshold level $\overline{\lambda}$ there is a large payoff to reducing that level of concern. Economic performance sees a discrete improvement. Similarly, in the opposite direction, drumming up concerns over national security, once that national security level reaches its threshold value will be seen to have a large discontinuous impact on both the economy and national security preparedness.

The second consequence is a question of empirical analysis. Is this predicted discreteness around national security concern levels λ around a threshold $\overline{\lambda}$ observable in data? If so, it shows that nations can potentially act sensibly. That discontinuity suggests ways where nations might be able to evade the security dilemma, where escalation in national security concerns in one leads to corresponding escalation in the other.

Section 4 turns next to examining empirical evidence on the effects predicted in this section.

4 Evidence

Even if.

4.1 Japan and China

To.

4.2 CFIUS and Nippon Steel 2024–2025

The.

"CFIUS is an interagency committee authorized to review certain transactions involving foreign investment in the United States and certain real estate transactions by foreign persons, in order to determine the effect of such transactions on the national security of the United States."

Instrument	Occurrence
x_0 import barriers	Developing countries 40%
x_0 subsidies	China 89%, EU 73%, US 46%
x_0 export subsidies	Japan 45%, ROK 28%

Table 1: Industrial policy distribution across nations.

Official reason	USD bn
Strategic competitiveness	545
Climate change	318
Supply resilience	167
National security; geopolitics	102
Digital transformation	9
Other	...
Total	1720

Table 2: Industrial policy and national security ($n = 24,000$). Announced subsidies 2024 by official reason, across all national origins. Rows don't include all records; some announcements give multiple reasons for their proposed actions. From NIPO, Global Trade Alert.

4.3 Statistics

Tables 1–2 show ....

5 Conclusion

Strengthening national security need not degrade economic prosperity. But that doesn't mean national security actions can be arbitrary or random. Policymakers still need to be mindful how such actions can self-harm even when justified in the name of national security. This paper has provided an analytical model and historical examples to help identify the tradeoffs that matter.

In the model, a tipping point emerges endogenously as national security concerns vary. Near that tipping point, minimal efforts have higher than proportional impact, so that nudges, even by small states, can have significant effects on world order. Thus, the model is suggestive on how small states can help Great Powers evade gridlock.

Applying the model, the paper provides case study and statistical evidence on the directedness and negative spillovers in historical episodes where national security concerns have been evoked. The paper thus highlights the importance of clearer and more precise descriptions of what national security actions seek to achieve.

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