

Before the
Office of the United States Trade Representative
Washington, D.C.

In re Request for Comments on Promoting
Supply Chain Resilience

Docket No. USTR–2024–0002

COMMENTS OF
THE COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION (CCIA)

In response to the Office of the United States Trade Representative’s (USTR) Request for Comments on Promoting Supply Chain Resilience, published in the Federal Register at 89 Fed. Reg. 16,608,¹ the Computer & Communications Industry Association (“CCIA”)² submits the following comments.

I. Introduction & Executive Summary

The goal of bolstering supply chain resilience and boosting investment in the United States is an admirable goal that deserves the attention of policymakers, including those that shape trade policy. As the Biden Administration continues its work to increase its manufacturing capability in emerging sectors such as semiconductors, electric vehicles, and 21st century infrastructure such as broadband networks, such a focus on supply chain resilience is warranted.

However, the premise of this Federal Register Notice (FRN) reflects a flawed analysis of the relationship of trade policy and broader societal goals such as supply chain resilience, domestic investment and employment. A policy response based on these assumptions and pursued to their logical conclusion—*i.e.*, upending pre-Biden Administration policy abandoning the pursuit of binding trade commitments or the enforcement of existing rules—could, contrary to the intent of this FRN, significantly harm resilience.

The framing of issues and policy questions solicited in this FRN appear to be extrapolations from issues first explored in the work of David H. Autor, David Dorn & Gordon H. Hanson in “The China Shock,”³ which identified a range of dislocations resulting from China’s rapid integration into the global trading system. However, these findings, focusing on sector- and geography-specific effects on the U.S. market, do not support major *ex post* trade

¹ <https://www.federalregister.gov/documents/2024/03/07/2024-04869/request-for-comments-on-promoting-supply-chain-resilience>.

² CCIA is an international nonprofit membership organization representing companies in the computer, Internet, information technology, and telecommunications industries. Together, CCIA’s members employ nearly half a million workers and generate approximately a quarter of a trillion dollars in annual revenue. CCIA promotes open markets, open systems, open networks, and full, fair, and open competition in the computer, telecommunications, and Internet industries. A complete list of CCIA members is available at <http://www.ccianet.org/members>

³ See <https://www.nber.org/papers/w21906>.

restrictions, as this inquiry appears framed to suggest. Additionally, the focus of this critique appears to be on U.S. dependence on imported goods, ignoring the importance of resilience to U.S. export interests. This framing also does not take into account the very different function of foreign investment in the delivery of services—*i.e.*, servicing and expanding a customer base rather than transferring of productive capacity designed to facilitate re-import into the U.S. market.

The narrow focus of this FRN ignores the many ways that open trade systems bolster resilience. Open trading systems, buttressed with binding rules, foster policy stability and legal certainty that investors require to increase spending in both the U.S. market and in markets of key allies. They also ensure that domestic manufacturers have fair and reasonable access to the inputs they require from foreign markets to produce goods and services here in the United States. Binding trade agreements can offer partner countries the incentives necessary to induce commitments on labor rights, environmental standards, and other priorities that further the cause of resilience in a host of different contexts.

Trade agreements have, to date, included provisions on cross-border data flows, the prohibition of unjust data localization or obligatory local computing facilities, the protection of commercial choice of strong encryption, and guarantees of investors' rights to access and own telecommunications networks, all of which further the goal of strengthening supply chain resilience and would directly help U.S.-based industries and workers. These outcomes all align with the goals promulgated by USTR in this FRN, demonstrating the need for the United States to return to negotiating such trade agreements and opening to new markets with growth opportunities.

The broader societal issues referenced in this FRN—such as jobs, incentives to invest in domestic manufacturing and protect “communities and working families”—of course warrant keen attention. However, research does not support the view that trade policy, particularly in the form of new restrictions, provides a solution to dislocations connected to global trade patterns. Rather, effective solutions are more likely to be found in the realm of domestic policy promoting greater labor mobility, re-skilling, and the industrial subsidy programs this FRN references. Such policy interventions would prevent long-lasting impacts in specific geographies and ensure that U.S. factors of production like labor do not become the equivalent of stranded assets in trade-affected geographies. And, most importantly, these policy remedies would provide a more targeted response that would not also do away with all of the broader benefits that come with the traditional trade policy of the United States favoring open markets.

Attached to these comments is an appendix detailing why USTR's focus on healthy supply chain resilience should center on the development of international trade initiatives. This literature review demonstrates why doing so will allow the U.S. economy to adapt, rebound, and recover from demand and supply shocks, and ultimately, strengthen the U.S. manufacturing base and workforce.

II. USTR's Sweeping Assertions Regarding Trade's Impact on Resilience Are Flawed

Before responding below to specific questions on which USTR seeks comment, CCIA would like to address the broader premise of this inquiry, as stated in the notice, that trade policy to date has undermined resiliency and significantly contributed to a broad range of ills, as laid out in the following assertion:

Over the last several decades, however, U.S. trade and investment policy—including rules related to supply chains—were designed to incentivize short-term cost-efficiency and drive tariff liberalization, with the goal of creating an unfettered global marketplace. This approach helped shape producers’ decision-making that, in many cases, fostered geographically concentrated and operationally complex supply chains... This is the race to the bottom. It leaves critical sectors vulnerable to non-market policies and practices, economic coercion, and other unfair trade practices, and deprives consumers of goods whose production reflects our core values. It has also contributed to the hollowing out of the American industrial base and vital U.S. jobs, and harmed many of our communities and working families, undermining support for democracy itself.

This sweeping indictment of pre-Biden Administration trade and investment policy infers direct causal links between trade policy and a broad set of harms. These conclusions, while reflecting a certain populist view of trade, remain unsupported by empirical evidence and are the subject of considerable debate. Assuming these causal links and then proposing policy responses appears a post-hoc justification for preferred policy outcomes, a seeking of select facts justify a predetermined view.

Assertions that traditional trade policy has furthered a “hollowing out” of jobs and industry with implications for economic resilience, has harmed communities, and has “undermin[ed] support for democracy itself” is an unwarranted extrapolation of specific sectoral and geographical dynamics. There are certainly cases where one could connect the dots to support a narrative of outsourced production adversely affecting U.S. workers, linking specific policies (*e.g.* preferential tariffs) to foreign investment. This is indeed the focus of significant research under the broad rubric of the “China shock” popularized by authors Autor, Dorn, and Hanson.⁴ However, blaming trade policy writ large for the effects of a specific, and historically unprecedented shift in market dynamic is overly simplistic, inaccurate and a disservice to sound policy deliberations. In fact, as Autor et al. themselves have asserted, “A final consideration regards the normative implications of adverse impacts of the China trade shock on labor markets in the U.S. and other countries. Few economists would interpret our empirical results as justifying greater trade protection. As expected, quantitative models indicate that U.S. aggregate gains from trade with China are positive.”⁵

Generalizing such harms to guide trade policy writ large risks ignoring the overwhelming, broad-based benefits of open trade regimes, both in terms of traditionally-defined economic welfare⁶

⁴ See supra note 3.

⁵ Supra, p. 4.

⁶ See Wolff, Lawrence and Hufbauer (2020) *Have Trade Agreements been Bad for America?* at <https://www.piie.com/publications/policy-briefs/have-trade-agreements-been-bad-america> The authors of this study conclude that “On balance, we believe that the trade agreements the United States entered into were strongly positive for America and that policy approaches taken need to be built on rather than abandoned.”

but also economic resiliency.⁷ Further, such rigid conclusions declaring trade unhelpful for U.S. workers and resilience disregards the estimated 41 million jobs reliant on trade and the importance of foreign markets for key industries such as manufacturing.⁸ In short, characterizing these identified harms as the predominant result of inherited trade policy, and inherent to its fundamental design, is a gross exaggeration unsubstantiated by credible evidence.

Framing a policy inquiry with such inaccurate assumptions, with the apparent goal of serving a narrow domestic agenda, discounts many of the broad-based benefits of U.S. trade policy, and undermines USTR's role in identifying policies that serve broader economic interests. It is also inconsistent with USTR's mission statement as noted on its website: "Trade is critical to America's prosperity - fueling economic growth, supporting good jobs at home, raising living standards and helping Americans provide for their families with affordable goods and services."⁹ A revolution of trade principles, that this FRN appears to contemplate, risks sacrificing well-established gains on the altar of speculative harms.

It is undeniable that there are welfare goals beyond efficiency that trade policy must address, including resiliency.¹⁰ This casual dismissal of the value of efficiency, however, undermines some of the very goals this policy shift is ostensible intended to promote—higher wages¹¹ and improved environmental outcomes.¹² On the other hand, the key assertion that trade and investment policies were predominantly designed to promote short-term cost-efficiencies at the expense of other welfare goals ignores the actual record and makes little sense when the breadth of trade provisions the United States has traditionally pursued is fully considered.

First, a quick glance at the table of contents of a typical free trade agreement (a core part of U.S. trade policy over the past two decades) clearly demonstrates that efficiency goals are but a small

⁷ See OECD, (2021) *Global value chains: Efficiency and risks in the context of COVID-19*, at <https://www.oecd.org/coronavirus/policy-responses/global-value-chains-efficiency-and-risks-in-the-context-of-covid-19-67c75fdc/>. A conclusion of this study is that "The majority of countries are better off in the interconnected regime, both in terms of levels and stability of economic activity. Thus, the modelling results suggest that the economic case for reshoring GVCs is indeed weak, while pointing to benefits of using a range of government policies to make supply chains more resilient."

⁸ <https://www.uschamber.com/international/trade-agreements/we-cant-stand-still-the-benefits-of-trade-for-america>.

⁹ <https://ustr.gov/about-us/benefits-trade>.

¹⁰ As Thomas Macaulay stated in a speech opposing Britain's corn laws in 1845, "It is not one single cause that makes nations prosperous or miserable. No friend of free trade is such an idiot as to say that free trade is the only valuable thing in the world; that religion, government, police, education, the administration of justice, public expenditure, foreign relations, have nothing whatever to do with the well-being of nations" See: https://www.gutenberg.org/files/2170/2170-h/2170-h.htm#link2H_4_0028

¹¹ "[A]ny policy that limits overall trade and reduces both exports and imports tends to increase employment in low-wage industries and reduce employment in high-wage industries." Douglas Irwin, *Free Trade Under Fire*, 2015, p. 140.

¹² Discounting efficiency can have a deleterious effect on the environment. Examples abound. "Lamb produced in New Zealand and shipped eleven thousand miles by boat has one-fourth the CO2 emissions of British-produced lamb because of New Zealand's greater production efficiency and cleaner production methods." Douglas Irwin, *Free Trade Under Fire*, 2015 p. 72.

part of what drives policy, where issues such labor, environment, transparency, competition, technical barriers to trade and intellectual property protection are given equal, if not more, weight. Many such goals impose a significant cost on trade partners, particularly those that are less developed. To secure them, efficiency gains of our trade partners, in the form of enhanced access to the U.S. market, are the *quid pro quo* of any negotiation, the currency that justifies the assumption of new burdens.

In the digital space, common provisions in free trade agreements such as addressing cybersecurity, privacy, consumer protection, and unrestricted access to the internet all address much broader societal goals than efficiency. In many cases, these provisions contribute indirectly to a more efficient economy, but that is not their primary goal, and in some cases, they may entail obligations that impose costs on trade partners.

To take one example, market access rights in the telecommunications sector (a key goal of U.S. policy over the past two decades) were premised on the value of increasing competition in an historically inefficient sector. However, there is nothing short-term about investments required to establish a viable (and resilient) business in this sector that trade policy made possible—goals that U.S. policy has long supported, and which has resulted in connectivity gains to the benefit of both U.S. and foreign consumers and producers. The success of such policies, which ushered a wave of foreign investment in telecommunication markets globally, was not based on promoting short-term cost savings of the investor, but, rather, the broader efficiency of the foreign market, where lower costs, greater choices, and introduction of advanced technology brought the market enormous economic and societal benefits.

Similarly, policies expanding intellectual property rights typically increase costs for many market participants, but the policy is premised on creating long-term incentives to promote innovation.

Second, this critique of traditional trade policy is almost entirely focused on imports, thus ignoring the vital contribution trade policy makes in support of the export of goods and services—which in the United States amounted to \$3 trillion in 2023,¹³ or over 11 percent of the U.S. GDP.

Third, presuming that imports are a source of harm, including with respect to resiliency, is an unwarranted assumption. As described in an appendix to these comments, ensuring the free flow of goods and services has been demonstrated to contribute to supply chain resilience and the bolstering of investment and production in the United States. This is true not only of inputs for a wide range of goods but also in the services sector, where the free flow of data is paramount for the operations of services suppliers and for goods suppliers to connect the operations of all of their locations globally.

Comments below, while addressing the need for policies to address import-related supply-chain challenges, also focus on supply-chain and resiliency challenges affecting exports, particularly of digitally-enable exports.

¹³ See: <https://www.bea.gov/data/intl-trade-investment/international-trade-goods-and-services>.

III. Responses to Specific Questions in USTR’s Federal Register Notice

1. How can U.S. trade and investment policy, in conjunction with relevant domestic incentive measures, better support growth and investment in domestic manufacturing and services?

Before looking at incentives for domestic investment, acknowledging the broader context is important: trade liberalization—even with China—has been beneficial on net to the U.S. as a whole and to most Americans individually.¹⁴ Addressing dislocations from phenomena linked to trade, such as the previously noted “China shock” often have less to do with trade policy *per se* than with things such as lack of domestic labor mobility, which in turn has roots in domestic issues such as housing prices.

Incentivizing investment in U.S. manufacturing and services by both U.S. and foreign firms is more an issue of good governance than trade policy. An open investment regime that minimizes nationality-based restrictions, upholds rule of law, and provides a predictable, transparent regulatory system is a foundation that attracts investment. The U.S. regime, which generally adheres to such principles, is by most counts successful: foreign multinationals now employ around 8 million workers in the U.S., or over 6% of the U.S. private-sector workforce.¹⁵ Trade policy has historically not been a vehicle to change the U.S. regime, but binding existing practice in trade agreements does provide important policy stability and thus contributes to an attractive investment environment.

Similarly, subsidies to encourage domestic investment are outside the scope of trade and investment policy, provided that they are implemented in a non-discriminatory and non-distortionary manner—principles that trade agreements can memorialize and thus enhance investment opportunities.

Nonetheless, trade does affect investment in manufacturing, as most manufacturers are dependent on some level of imported inputs. Where unpredictable or restrictive, trade policy can significantly affect the viability of specific manufacturing investments, and depress their productivity.¹⁶ By contrast, trade governed by binding agreements can provide the policy and financial predictability that offers a sustainable advantage over any short-term pursuit of low-cost inputs.

Similarly, restriction on services can adversely affect investment, including in the manufacturing sector: for example, just as U.S. firms need to access communications networks and to transfer data to serve customers in foreign markets, so too do foreign investors require the same capabilities to serve customers in the U.S. market. As with the goods sector, binding

¹⁴ *Supra*, note 3.

¹⁵ See <https://www.bea.gov/news/2023/activities-us-affiliates-foreign-multinational-enterprises-2021>.

¹⁶ See Irwin, *op. cit.*, p.51: “Between a quarter and a half of growth in U.S. total factor productivity may be attributed to new technology embodied in capital equipment. To the extent that trade barriers raise the price of imported capital goods, countries are hindering their ability to benefit from technologies that could raise productivity.”

These sales, in turn, are critical in sustaining the growth, employment, wage gains, and R&D of these firms' U.S. parents. The trade policy implications of this are obvious: for a resilient domestic services sector, the United States should be aggressively supporting its firms' ability to export, particularly in maintaining and expanding binding trade agreements.

Furthermore, in at least two important ways, trade agreements can help prevent inefficient outsourcing, and the job losses that entails: restrictions on the movement of data and requirements to rely on local computer processing and storage often result in offshoring functionality that otherwise could (and would) be performed in the United States, where computing resources are second to none and enjoy a substantial comparative advantage.

Finally, it is worth noting that even in areas typically cited as examples of harmful services outsourcing, such as call centers, the evidence does not support the once-prevalent dire predictions.²⁰ Customer service call center employment now appears to be returning to the United States: BLS statistics show that in 2012 there were 2.3 million workers in the field, a number that by 2021 had grown to 2.8 million.²¹

3. How can U.S. trade and investment policy promote a virtuous cycle and “race to the top” through stronger coordination and alignment on labor and environmental protections within trusted networks among regional and like-minded trading partners and allies?

Although incorporating strong labor and environmental provisions in trade agreements is good policy, is longstanding U.S. practice, and should be continued, it is important to keep in mind that the theory that trade has exacerbated labor or environmental conditions is hotly disputed. With respect to environmental standards, for example, credible researchers have concluded that the “race to bottom” and the “polluting haven” hypotheses are not supported by empirical evidence.²²

Agreements with economically advanced nations typically do not involve trade-offs with respect to labor and environmental standards, since such economies typically already have comparable policies in these areas, and referencing them in an agreement is more about policy signaling than a vehicle for concrete change. However, to the extent that the United States has an interest in negotiating trade agreements with lesser-developed countries, and seeks to incorporate such standards, the calculus is different. Building up resiliency and enhancing labor and environmental standards requires institutional and infrastructural investment that can impose significant costs on these countries. The only realistic way to incentivize this investment on the

²⁰ See <https://www.forbes.com/sites/thomasdichter/2019/03/30/call-centers-return-to-the-u-s-more-companies-get-the-link-between-customer-service-and-profit/?sh=1edf521014ff> and <https://money.cnn.com/2018/05/18/news/economy/call-center-workers-offshoring/index.html>

²¹ See https://www.bls.gov/news.release/archives/ocwage_03292013.pdf and <https://www.bls.gov/oes/current/oes434051.htm>

²² See https://www.nber.org/system/files/working_papers/w9201/w9201.pdf

part of such trade partners is to offer the prospect of meaningfully enhanced access to the U.S. market, including with tariff concessions.

4. What are examples of trade and investment policy tools that potentially could be deployed in the following sectors to enhance supply chain resilience? In these sectors, what features of the current policy landscape are working well, or less well, to advance resilience?

There are numerous aspects of existing trade agreements that could be replicated in new or amended Free Trade Agreements that would enhance supply chain resilience.

A key element in maintaining resilient supply chains in any sector is the ability to monitor economic, political, technological and environmental events that affect the supply of goods and services. Accordingly, access to communications infrastructure, and the ability to transfer information, are foundational to the key goals of resilience the FRN identifies: “to adapt, rebound, and recover with agility when faced with economic shocks.” Traditional FTAs of the United States explicitly address these goals with binding rules: ensuring access to networks; ensuring, if firms desire, that they can own and operate their own networks; that they can transfer information into or outside the country, when related to the conduct of their business; and ensuring that they will not be forced to maintain infrastructure in locations that may expose their network to additional threats or disruptions.

As a result of trade agreements to date, U.S. firms now have some of the most extensive self-owned networks globally.²³ Nevertheless, many countries, particularly in the Indo-Pacific (*e.g.*, Thailand, Indonesia, Vietnam), still prohibit full foreign ownership of networks, prohibit foreign firms from landing submarine cables, and require local partners to manage satellite ground stations or distribute receivers. All such policies can result in undermining a key pillar of resiliency, and binding trade rules can prevent them.

In more recent FTAs, the United State has sought to bolster cybersecurity protections through promotion of industry best practices and commitments to share threat information between trade partners. Given the devastating effect a cyberattack can have, including such provisions in a binding trade agreement can make a material contribution to improving economic resiliency.

Again, while not sector-specific, requirements to store and process data locally can have a significant negative impact on cybersecurity, and thus resiliency. Mandating the use of local data centers expands the “surface area” of attack made available to both state actors and criminal entities seeking to infiltrate a network. Outsourcing storage and processing functions to local providers, which is mandated in some countries, can pose additional risks: in addition to creating dependencies on third-party who may not meet standards of trustworthiness, few foreign suppliers have the advanced protection capabilities U.S. firms have perfected, making relying on local alternatives inherently riskier.²⁴

²³ See, for example, statistics collected by the firm Telegeography, available here:

<https://blog.telegeography.com/telegeographys-content-providers-submarine-cable-holdings-list>

²⁴ These risks are cogently described in a recent paper by Swire and Kennedy-Mayo, *The Effects of Data Localization on Cybersecurity - Organizational Effects* (2023) at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4030905

For manufacturers and services providers alike, data localization mandates hinder the ability to connect operations conducted globally with the U.S. market. The importance of companies' ability to move data to and from foreign markets and the United States without unjust obstruction is essential for firms of all sizes and sectors.

Consider manufacturing companies—such as automakers or pharmaceutical companies—that conduct testing globally for safety or quality assurance that seek to share and build on such data in their U.S.-based plants; or cybersecurity or cloud services providers seeking to strengthen their defenses using information gathered in foreign markets and analyzed at a central location.

Another obvious example of this in the semiconductor industry, increased investment in which the United States is seeking to catalyze through subsidies in the CHIPS Act. Many of the companies operating in this space are doing so at a global scale, the only feasible way to recoup the massive investments required to operate in this industry. Companies operating globally have locations across the globe and need to support a global network of manufacturing, testing, r&d that deploys engineers and other workers between various locations. Such operations rely on the ability to share data easily between each location to monitor progress, view quality assurance data and other metrics that help boost the manufacturing capabilities at all their plants, including those in the United States. Absent such guarantees to share data across their global locations, the viability of the U.S. market also suffers and investing becomes a more difficult prospect.

Obstacles to the export and import of data or outright requirements to localize data in certain markets, absent rational and reasonably applied national security or public interest needs, undermine the ability of U.S. and foreign investors from expanding their footprint in the United States—as revenue from abroad often serves as a significant source of overall profits, and therefore fodder for later investments.

Finally, a key element in maintaining resilient networks and protection of the data that flow over them is the ability of suppliers to freely use the most robust encryption that is commercially available. Many governments seek to restrict the use of encryption, or mandate the use of national standards. Such policies put data, networks, and the services that operate over them at risk, from both state and non-state actors seeking to exfiltrate data or disrupt communications. Recent FTAs have pioneered the inclusion of binding provision granting firms the ability to use state-of-the art encryption, a policy that should be advanced if trade policy is to meaningfully advance resiliency goals.

6. Across sectors, how does access to capital equipment, manufacturing equipment, and technology support supply chain resilience for U.S. producers, and is there a role for trade and investment policy?

A key attribute of any advanced economy is its ability to specialize and develop world-class capabilities in specific sectors. This is particularly the case in capital goods and manufacturing equipment. Accordingly, even in sectors where the United States is highly competitive (*e.g.*, semiconductor manufacturing) it relies on inputs from other countries to maintain its

technological edge. Thus, for example, the best etching or photolithography equipment for a particular application might come from the Netherlands or Japan, and ensuring reliable trade flows between these markets is critical. Similarly, the most advanced manufacturing facilities for certain chips, at any point in time, may not be in the United States, requiring collaboration with foreign partners. In these cases, partnership with other countries and concluding binding agreements with such countries enhances the ability of U.S. manufacturers to expand investments domestically and increase manufacturing capacity, rather than creating unhealthy dependencies that undermines supply chain resilience.

This same phenomenon may be replicated in myriad countries, each of which supplies a world-class product or protection processes for a particular sector or application. While reliance on a small number of suppliers can carry risks, the fiercely competitive nature of high-end manufacturing and the high capital costs for participating in many of these sectors means that the accessing the best technology may present limited options, many of which will necessarily involve foreign trade partners. The obvious policy conclusion is that open trade, among a broad range of countries, is the only guarantee of being able to develop a globally-competitive domestic industry, given the inevitable specialization that is inherent to advanced economies. The trade-off is clear: a large, diversified economy like the United States could choose to pursue autarky, as a means of minimizing import dependence and arguably increasing its resilience, but the price would be less competitive industries that, over time, might not even survive, and a weaker overall economy.

7. How can the development of technical standards and regulations support supply chain resilience?

Although this FRN discounts the value of efficiency, this is one of the primary motivators for standardization: eliminating the waste of requiring redundant and/or duplicative products, and leveraging economies of scale to be able to produce more cost-effectively. Consumer convenience and the impact on competition (and thus price) is also an obvious benefit, where multiple products can interoperate. These same characteristics, however, also have relevance to resiliency: where numerous producers can build to a common standard, dependency on any one supplier can be lessened, and if a particular supplier has a problem, another supplier building a comparable product is more likely to be available. In short, this is a good example of a case where the motivation for efficiency has important resiliency results.

Other bilateral and multilateral agreements in the form of Mutual Recognition Agreements (MRAs) or Memoranda of Understanding can also promote the streamlining of standards, and, in turn, ease the process of suppliers that trade between the territories party to these agreements. As the National Institute of Standards and Technology notes, MRAs can “[r]educe the time and cost of placing U.S. telecom products in foreign markets by eliminating the need for redundant testing and/or certification.”²⁵ Going back to 1998, the United States has struck MRAs with the Asian Pacific Economic Cooperation, the Inter-American Telecommunications Committee of the Organization of American States, the European Union, and many individual countries on testing

²⁵ National Institute of Standards and Technology, “*Mutual Recognition Agreements for Conformity Assessment of Telecommunications Equipment*” (accessed April 19, 2024) <https://www.nist.gov/standardsgov/mutual-recognition-agreements-conformity-assessment-telecommunications-equipment>.

and standards approval for telecommunications equipment.²⁶ Such agreements are critical tools to assist digital goods and services suppliers serve consumers abroad, even in the absence of a trade agreement.

8. There is concern that preferential rules of origin in free trade agreements can operate as a “backdoor” benefiting goods and/or firms from countries that are not party to the agreements and are not bound by labor and environmental commitments. What actions could be taken to mitigate these risks and maximize production in the parties? What policies could support strong rules of origin and adherence to rules of origin?

Although rules of origin may not be stringent enough to prevent non-parties from benefiting from preferential tariffs in a free trade agreement, there may be significant downsides to adjusting them. This danger is particularly relevant to capital goods where exporters may rely on unique inputs from non-parties. In these cases, undermining the ability of a country that depends on imports from non-parties for inputs, for capital goods used in the United States, could damage U.S. supply chain resilience and U.S. competitiveness, as it could restrict a key input to an American production capacity.

11. How can supply chain resilience be measured, including the costs of insufficient resilience, and the impacts of trade and investment policy on resilience? What are appropriate quantitative or qualitative data to consider?

There are innumerable “resiliency metrics” one might develop, once critical industries have been identified. Since networks and data are relevant to all sectors, and would appear to clearly fall within any such definition, several related metrics might be considered:

1. The extent to which U.S. suppliers that serve global markets are able to rely on communication networks (submarine cable systems or satellite networks) owned and controlled by U.S. and/or trustworthy trade partners. Data on ownership of facilities is readily available from commercial vendors.
2. The extent to which foreign governments require data localization and/or the use of local computing facilities, the effect of which can seriously undermine resiliency. USTR’s National Trade Estimate Report should put a greater emphasis on this issue.
3. The extent to which use of encryption is restricted in foreign markets. Again, the National Trade Estimate is a good vehicle for collecting such data.

IV. Appendix: Review of Literature on Trade and Supply Chain Resilience

Research shows that the United States should focus on the development of international trade initiatives to promote healthy supply chain resilience, and doing so will allow the U.S. economy to adapt, rebound, and recover from demand and supply shocks, and ultimately, strengthen the U.S. manufacturing base and workforce.

²⁶ Federal Communications Commission, “*Equipment Authorization - APEC TEL MRA*” (accessed April 19, 2024) <https://www.fcc.gov/general/equipment-authorization-apec-mra>.

A. Keys to Supply Chain Resilience

A study by the U.S. Chamber of Commerce looked into the importance of international trade networks in supply chain resilience in recent years and found that countries are more resilient when they have a multilateral trading system.²⁷ The article confirms economies that have suppliers from a diverse set of countries support supply chain resilience against future shocks, and that completely eliminating trade and investment will have the opposite effect on supply chain resilience.²⁸

An additional study by the Organization for Economic Co-operation and Development (OECD) analyzed how to build critical supply chains, and which policy tools are necessary for preparedness and responsiveness. One of the policy tools recommended was increased access to digital trade to help build resilience to crisis situations. The research claims that governments can “support risk management strategies of the private sector by creating the right digital regulatory environment and by investing in digital infrastructures,” and that governments should “continue to enable digital trade to enhance the resilience of supply chains, to mitigate the economic slowdown, and to speed up recovery.”²⁹

A report prepared for the 2021 UK Presidency of the G7 by the OECD studied challenges to economic resilience in response to shocks. The authors state that trade underpins global supply chains, explaining that trade reduces “the time and cost of moving goods around the world”; and that promoting more inclusive trade reduces “trade costs for micro, small and medium-sized enterprises.”³⁰

B. Natural Disasters & Supply Chains

The World Trade Organization’s 2021 World Trade Report emphatically affirmed that trade helps countries cope with shocks more effectively.³¹ The authors further explained that “international trade allows countries or regions to confront shortages of goods and services after a shock strikes, enabling them to attenuate the impact of the shock.” They also claim that international trade is associated with lower economic damages caused by natural disasters because the market is stabilized through imports.³²

An additional study confirms this theory. Toya and Skidmore (2007) used disaster data to measure the impact of human and economic losses due to economic disasters. The authors found

²⁷ Carter, M.K. (2022). *International Trade Makes Economies Resilient*. U.S. Chamber of Commerce. <https://www.uschamber.com/international/international-trade-makes-economies-resilient>

²⁸ Ibid

²⁹ OECD. (n.d.). *Keys to Resilient Supply Chains*, OECD. <https://www.oecd.org/trade/resilient-supply-chains/>

³⁰ OECD (2021), “*Fostering economic resilience in a world of open and integrated markets*”, OECD report prepared for the 2021 UK presidency of the G7. <https://www.oecd.org/newsroom/OECD-G7-Report-Fostering-Economic-Resilience-in-a-World-of-Open-and-Integrated-Markets.pdf>

³¹ World Trade Organization (2021). *World Trade Report 2021 Economic resilience and trade*. World Trade Organization. https://www.wto.org/english/res_e/publications_e/wtr21_e.htm

³² Ibid

that open economies experience fewer losses.³³ Noy (2009) built on this finding, and looked at the impact of natural disasters on the macroeconomy and found that countries that are more open to trade experience smaller negative demand shocks when natural disasters occur.³⁴

C. Supply Chains After the Covid-19 Pandemic

Various studies have also confirmed that international trade played an important role during the pandemic. Trade allowed high in-demand medical suppliers to be brought to the United States, while the country remained focused on boosting domestic production.³⁵

Additionally, an OECD study discussed the importance of international trade and the vaccine supply chain. The authors note the importance of “sourcing, production, distribution, and the need to expedite international border crossing and transportation.” They state that open markets and cooperation and coordination across borders enabled the development and deployment of the vaccine.³⁶

The World Bank also published a paper discussing the global value chains following the Covid-19 pandemic. The authors found that globalization, not locations, strengthened the recovery from the Covid-19 pandemic; and that policies that support trade “prove critical to strengthening recovery from the pandemic, supporting greater diversifications, and reducing extreme poverty.”³⁷

Zou (2024) in an article prepared for the World Economic forum Annual Meeting discussed how supply chain resilience can be made stronger following the pandemic. The author concluded stating that “governments and policymakers should develop robust policy frameworks encouraging free trade because even resilient supply chains suffer long-term if trade barriers increase over time.”³⁸

³³ Toya, H., & Skidmore, M. (2007). *Economic development and the impacts of natural disasters*. Economics letters, 94(1), 20-25.

<https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=d6c8043908e1020dec9a052b809428025dc2db45>
³⁴ Noy, I. (2009). *The macroeconomic consequences of disasters*. Journal of Development economics, 88(2), 221-231. <https://www2.hawaii.edu/~noy/papers/MACDIS.pdf>

³⁵ Carter, M.K. (2022). *International Trade Makes Economies Resilient*. U.S. Chamber of Commerce. <https://www.uschamber.com/international/international-trade-makes-economies-resilient>

³⁶ Andraenelli, A. et al. (2021, February 11). *Using trade to fight COVID-19: Manufacturing and distributing vaccines*. OECD. <https://www.oecd.org/coronavirus/policy-responses/using-trade-to-fight-covid-19-manufacturing-and-distributing-vaccines-dc0d37fc/>

³⁷ Brenton, P., & Maliszewska, M. (2022). Publication: *Reshaping Global Value Chains in Light of COVID-19: Implications for Trade and Poverty Reduction in Developing Countries*. The World Bank. <https://hdl.handle.net/10986/37032>

³⁸ Zou, Y. (2024, January 2). *The pandemic exposed fragile supply chains: Here are 3 ways to strengthen them and build on global trade*. World Economic Forum. <https://www.weforum.org/agenda/2024/01/supply-chains-global-trade/>