

Trade, Labor Conditionality, and Supply Chain Resilience

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Introduction	73
I. Trade Regulation as Supply Chain Regulation	75
II. Supply Chain Management and Supply Chain Resiliency	78
A. Supply Chain Management and the Rise of the Supply Chain Professional	78
B. Supply Chain Resiliency	79
C. Just in Time and Lean Manufacturing	81
D. COVID-19, China, and National Supply Chain Resilience Policy	83
III. Supply Chain Resilience and Labor Chapters	87
A. Trade and Labor Linkage	87
B. Supply Chain Resilience in the Indo-Pacific Economic Framework	90
C. How Labor Provisions Can Increase Supply Chain Resilience	92
1. <i>Labor Dispute Mitigation and Industrial Relations Stability</i>	92
2. <i>Anti-Trade Political Risk Reduction</i>	94
3. <i>Geopolitical Risk Reduction</i>	95
4. <i>Forced Labor Prevention Harmonization</i>	97
Conclusion	97

Introduction

The concept of supply chain resilience, and even the supply chain itself, has evolved from being a technical concern of individual firms and organizations to a high priority of national governments. For firms, supply chain resilience is a condition in which supply chains operate continuously and efficiently despite various shocks to the system. U.S. policymakers, most notably the executive branch, have actively advocated for domestic policies promoting supply chain resilience in strategically important sectors, and the United States government has undertaken a “whole of government” approach to building supply chain resilience at the national level. Its goal is to boost supply chain resilience in domestic supply chains in key industries that have significance for domestic economic stability and national defense. Nearly all secretaries and

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departments, including the office of the United States Trade Representative (USTR), which is charged with negotiating and enforcing trade agreements with foreign countries, have been implicated in this effort. However, supply chain resilience has not until recently been an explicit goal or charge of the agency. A question, therefore, is how U.S. trade policy should be constructed to achieve supply chain resilience, including but not exclusively in domains of vital concern.

This Article shines a light on one element of USTR's toolset, specifically labor chapters in free trade agreements (FTAs). I argue that trade-linked labor conditionality, as currently designed and potentially reformed, should be conceptualized and designed to increase supply chain resilience.

Heretofore, the justifications for and design of labor chapters have been oriented towards addressing, *inter alia*, "unfair competition" precipitated by a race to the bottom of labor standards, protection of domestic industries, protection of workers' rights in global supply chains, and satisfying domestic political interest groups to gain their support for trade liberalization. However, labor chapters have not been intentionally designed to achieve economic efficiency, national security, or business objectives.

There are several reasons for connecting labor chapters to supply chain resilience objectives. First, supply chain resilience is vital for both nation-states and individual firms. Governments need to ensure a steady supply of goods essential for national security, health, and energy, and firms require supply chain stability given the highly disaggregated nature of contemporary production. Second, supply chain disruptions are multi-causal. Supply chain shocks can come from many sources—not just pandemics or, for example, factories that catch fire. Labor chapters are well positioned to address the source of some types of supply chain disruptions, in this case, those related to labor issues and labor politics. Third, labor chapters are controversial. Labor chapters are often perceived as impediments to free markets that raise costs for businesses and consumers. At best, business interests frequently view labor chapters as necessary evils to pass FTAs through Congress. At worst, trading partners, businesses, and other skeptics view them as a blatantly protectionist add-on to FTAs. However, by demonstrating and explicitly explaining the relationship between trade and labor conditionality and supply chain resilience, advocates for trade and labor linkage will have a stronger case for including labor chapters in trade agreements.

Part I describes the development of the global economy into a supply chain economy, turning trade law into a form of supply chain regulation that helped shape the modern form of worldwide sourcing and manufacturing. Part II then describes the rise of supply chain management as a professional and academic field as a response to the new supply chain economy, the advent of supply chain resilience as a concept, and a discussion of how resilience became challenging when coupled with modern management practices of lean and just-in-time manufacturing. Further, it discusses how, with the shock of the 2020 COVID-19 pandemic, supply chain resilience became an issue for firms and national governments. Part III addresses the specific question posed by USTR in a request for comments on how US trade policy can advance goals of supply chain resilience and shines a light on labor chapters. The objective of

this Article is not to propose new designs for labor chapters to improve supply chain resilience but to provide arguments that labor chapters ought to be explicitly grounded in supply chain resilience objectives.¹

I. Trade Regulation as Supply Chain Regulation

The global economy and the very nature of the firm have undergone a radical transformation over the last two centuries that, in recent decades, has rapidly accelerated.² Several significant technological, political, and economic trends have facilitated this shift. First, substantial political and economic integration between countries has led to reduced tariff levels and non-tariff barriers. David Irwin illustrates this shift in his analysis of U.S. tariff reductions, which tracks the general trends among developed countries. Average tariff levels in the United States between 1790 and 1860 vacillated between 20% and 60%. Between 1861 and 1833, what Irwin terms the “restriction period,” the average tariff on dutiable imports went up to 50%, where it remained until the 1930s. Then, starting in 1934, the average tariff fell to about 5%, with a slight uptick starting in 2018 when the Trump administration began instituting duties on steel imports and imports from China.³

In other words, tariff rates have been radically declining over the past century. These declines have also occurred in developing countries that understand that access to less expensive inputs and consumer goods is vital to their economies and citizens’ well-being. In 1983, developing countries’ average applied tariff rate was 29.9%, but by 2003, it had dropped to 11.3%, mainly through unilateral actions.⁴ By 2020, India’s simple average applied tariff had dropped to about 9.4%,⁵ and its trade-weighted tariff level had dropped to 4.9% by 2018.⁶ As India is traditionally one of the most tariff-protected

1. In prior work I have argued that the design of labor chapters ought to be grounded in a supply chain approach, although this work focused on methodologies of compliance and enforcement, not supply chain resilience. See Kevin Kolben, *A Supply Chain Approach to Trade and Labor Provisions*, 5 POL. AND GOVERNANCE 60 (2017).

2. While a subject of debate, some scholars argue that the significant date in which globalization, defined as integrated commodity markets, began to become global, was in the 1820s. Kevin H. O’Rourke & Jeffrey G. Williamson, *When Did Globalisation Begin?*, 6 EUR. REV. ECON. HIST. 23 (2002).

3. Douglas A. Irwin, *Trade Policy in American Economic History*, 12 ANN. REV. ECON. 23, 26 (2020).

4. Douglas A. Irwin, *Most Developing Economies Reduced Tariffs Voluntarily, Not Because of Trade Agreements*, PIIE, <https://www.piie.com/research/piie-charts/most-developing-economies-reduced-tariffs-voluntarily-not-because-trade> [https://perma.cc/R457-9B2E] (last visited Aug 7, 2024).

5. *Tariff rate, applied, simple mean, all products (%)*, WORLD BANK OPEN DATA, <https://data.worldbank.org/indicator/TM.TAX.MRCH.SM.AR.ZS?locations=IN> [https://perma.cc/CP39-J35M] (Last visited Aug. 7, 2024).

6. Robert Z. Lawrence, *Brazil, India, and China Have Reduced Tariffs since 2000, Approaching US and EU Rates*, PIIE, (2021), <https://www.piie.com/research/piie-charts/brazil-india-and-china-have-reduced-tariffs-2000-approaching-us-and-eu-rates> (last visited Aug 7, 2024). The trade weighted tariff level is the amount of tariff revenue collected divided by the total value of imports; thus, it is generally lower than the simple average duty because importers avoid importing high duty goods, thus reducing their impact on the trade weighted tariff levels.

economies, these are significant reductions. The founding of the World Trade Organization (WTO) in 1995 led to further progress in reducing bounded tariff rates and non-tariff barriers through facilitated negotiation between members and the establishment of a robust dispute settlement mechanism.

The second significant trend emerged in the 1980s. This was the revolution in information and communication technologies (ICT). Until then, the costs of communicating were high. Telephone calls and faxes were expensive, especially internationally, and the internet was not yet created. However, cheap satellite communications, email, and other computer-based communications have radically changed how business is conducted. By 2005, calling costs were .03% of what they were in 1930.⁷

The third trend, reductions in transport costs, is older still. Beginning with the advent of railroads and the steam engine, transportation costs have continually reduced over time, with the occasional exception of price hikes due, for example, to exogenous shocks such as the COVID-19 pandemic of 2020. To cite one, albeit significant, example, passenger air transport costs were 10.74% of those in 1930.⁸ Likewise, shipping costs of goods began a precipitous decline in 1820, and the advent of the ocean container and fast-moving container ships have exponentially increased the efficiencies of long-distance transportation.⁹ Even more significant in recent decades has been the dramatic decrease in air transportation costs for lighter-weight goods.¹⁰

What resulted was what Richard Baldwin has termed the “Great Unbundling.”¹¹ Whereas firms used to face significant costs if they imported finished or intermediate goods or contracted geographically distant suppliers, suddenly those costs were significantly reduced. The change in cost structure led to a recalculation of firms’ make-or-buy decisions, resulting in a radical shift in how firms organized themselves. In economically developed countries where firms had previously relied on vertical integration and manufacturing, successful firms now had to retool and reinvent. For companies whose business was to make and sell physical goods, the design, marketing, and retail functions were retained, and the manufacturing functions were outsourced to contractors located in countries with a comparative advantage in lower-skill labor.

Some business leaders and entrepreneurs were at the forefront of such strategies and built business plans on the outsourcing/contracting model. The shoe and apparel company Nike stands out. Early on, Nike focused on manufacturing its shoes in contractor factories around the globe, eventually centering on Asia. Its founder, Phil Knight, understood Nike’s comparative

7. *The decline of transport and communication costs relative to 1930*, OUR WORLD IN DATA, <https://ourworldindata.org/grapher/real-transport-and-communication-costs> [https://perma.cc/3SPS-KF7M] (last visited Aug 7, 2024).

8. *Id.*

9. David Hummels, *Transportation Costs and International Trade in the Second Era of Globalization*, 21 J. ECON. PERSPS. 131, 140–41 (2007).

10. *Id.*

11. RICHARD BALDWIN, *THE GREAT CONVERGENCE* (Harvard Univ. Press, 2016).

advantage was design and marketing, thanks to his college running coach Bill Bower and a freelance designer who dreamed up the iconic “swoosh.”¹²

On the other hand, Boeing is one of the many companies, some with more success than others, that had to pivot. Boeing was once a vertically integrated firm whose founder was renowned for walking the floor and inspecting every screw. But overtime that business model changed. For example, 70% of its flagship 787 Dreamliner’s development and production was outsourced to many of its estimated 20,000 suppliers around the world.¹³

However, as pressures to drive down costs and move to lean production mounted, Boeing’s make-or-buy decisions arguably came back to bite it. The massive complexity and decentralization of the operation meant that quality control over time suffered. In 2024, a door came off during a Boeing 737-9 Max flight. When the US government asked Boeing for records of who worked on the “door plug,” which was suspected of being the cause of the problem, Boeing couldn’t produce the records. One common critique is that Boeing became dominated by MBAs rather than engineers. Indeed, by many accounts, unlike Boeing’s founder, Boeing’s soon-to-be-fired CEO spent little time in Boeing’s manufacturing facilities. To address the problem of quality control in suppliers, Boeing announced in June 2024 that it was acquiring Spirit AeroSystems, which manufactured fuselages for Boeing, for \$4.7 Billion in stock. Notably, the company was created when Boeing sold off certain operations in 2005 and was created as a separate entity that would be a supplier to Boeing and other manufacturers, such as Airbus.¹⁴ The purchase thus marks a marked reversal in the typical outsourcing and de-verticalization trend.

The point here, however, is not to critique the supply chain business model—Boeing jets remain almost inconceivably safe—but rather the change in business models. Specifically, the global economy has radically altered in recent decades, leading to a wholesale transformation of businesses’ organizations, structures, and operations. Firms now source their intermediate goods globally, and trade primarily involves moving them across borders. Therefore, trade regulation and trade agreements can now mainly be conceptualized and defined as the regulation and governance of global supply chains.

The implications of this transformation of the economy for firms and regulatory policy are manifold. One implication is that trade regulation must explicitly address supply chains and their operation. A second implication is that with the rise of the supply chain model of business, work and employment in specific industries have also been outsourced, moving to other firms, and offshoring to other countries.¹⁵ The fissuring of the workplace, in the terminology of David Weil, has meant that the people who produce any given product

12. *Bill Bowerman: Nike’s Original Innovator*, NIKE, [HTTPS://ABOUT.NIKE.COM/EN/STORIES/BILL-BOWERMAN-NIKE-S-ORIGINAL-INNOVATOR](https://about.nike.com/en/stories/bill-bowerman-nike-s-original-innovator) [<https://perma.cc/MS8G-EZUB>] (last visited Dec. 28, 2024).

13. Roland Schmuck, *Global Supply Chain Quality Integration Strategies and the Case of the Boeing 787 Dreamliner Development*, 54 *PROCEDIA MFG.* 88, 90 (2021).

14. Niraj Chokshi, *Boeing Agrees to Buy Spirit AeroSystems, a Longtime Supplier*, *THE N.Y. TIMES* (Jul. 1, 2024), <https://www.nytimes.com/2024/07/01/business/boeing-spirit-aerosystems-acquisition.html> [<https://perma.cc/39Q4-WRR6>] (last visited Jul 11, 2024).

15. See generally DAVID WEIL, *THE FISSURED WORKPLACE: WHY WORK BECAME SO BAD FOR SO MANY AND WHAT CAN BE DONE TO IMPROVE IT* (HARV. UNIV. PRESS, 2014).

might be dispersed across the globe and work for firms that are not the retailers from which the end-consumer purchases the product. In addition to the affected unions, individual consumers have increasingly focused on the conditions under which their goods are made.¹⁶ These economic developments have resulted in firms engaging in social compliance efforts in their supply chains and, at the policy level, in the rise of labor chapters and labor provisions in free trade agreements.

II. Supply Chain Management and Supply Chain Resiliency

As supply chains became a central business function, the demand for supply chain professionals grew, and business schools created academic departments to study the phenomenon and address the need for managers trained in the subject. At the same time, as firms increasingly relied on supply chains, they, and the academics that studied them, paid greater attention to boosting the resilience of those supply chains. Supply chain resilience became more challenging and relevant in light of the broad acceptance of lean and just-in-time manufacturing methods, even more so when the 2020 COVID-19 pandemic effectively shut down the world economy.

A. Supply Chain Management and the Rise of the Supply Chain Professional

Supply chain management is an increasingly critical task. The Bureau of Labor Statistics predicts that there will be an 18% increase in the employment of logisticians, for example, between 2022 and 2032, as compared to a projected 3% overall growth rate in employment during that time.¹⁷ Project managers, a related field, and related manual labor, such as truck drivers, are also predicted to see above-average growth. A review of Amazon's job openings website shows openings for 445 supply chain and transportation management positions globally at the time of writing, with about a quarter in the United States and a fifth in India.¹⁸ In other words, logistics and supply chain remain a growing field of employment despite predictions of Artificial Intelligence making many kinds of work redundant.

Yet, supply chain as a field of study and management specialization is relatively new compared to other traditional management fields. According to some commentators, the consulting firm Booz Allen Hamilton coined the

16. TIM BARTLEY, SEBASTIAN KOOS, HIRAM SAMEL, GUSTAVO SETRINI & NIK SUMMERS, *LOOKING BEHIND THE LABEL: GLOBAL INDUSTRIES AND THE CONSCIENTIOUS CONSUMER* (IND. UNIV. PRESS, 2015); Kevin Kolben, *The Consumer Imaginary: Labor Rights, Human Rights, and Citizen-Consumers in the Global Supply Chain*, 52 *VAND. J. TRANSNAT'L L.* 839 (2019).

17. Purchasing Managers, Buyers, and Purchasing Agents, BUREAU OF LABOR STATISTICS, <https://www.bls.gov/ooh/business-and-financial/purchasing-managers-buyers-and-purchasing-agents.htm> [<https://perma.cc/23Q4-MKZV>] (last visited Aug 8, 2024).

18. *Supply Chain and Transportation Management*, AMAZON.JOBS, <https://www.amazon.jobs/content/en/job-categories/supply-chain-transportation-management?country%5B%5D=US> [<https://perma.cc/QL39-ZWQB>] (last visited Aug 8, 2024).

term “supply chain management” in the 1980s.¹⁹ It makes sense that a defense contracting firm would have come up with the phrase because the concept of supply chain management emerged from the field of logistics, which is defined as the movement, storage, and transportation of goods within the supply chain. Logistics was originally a military concept defined as the “practical art of moving armies and keeping them supplied.”²⁰ King Louis XIV of France illustrated the centrality of logistics to military operations when he created a special title, *le maréchal général des logis*, who, for all its extravagant styling, was charged with moving armies and setting up camps.²¹ Logisticians and supply chain managers continue to serve core functions in today’s military.

In the academic literature, one of the first uses of the term supply chain management appeared in 1985 in an article by J.B. Houlihan.²² Since then, the subject has become a field of its own, with many, if not most, business schools creating supply chain management departments, many of which have evolved from operations management departments. Notably, these departments are primarily constituted by engineers whose research is focused on optimization. That is, they seek to maximize efficiencies in the supply chain and root out inefficiencies to ensure that goods, services, warehousing times, distribution, and inventories are best placed to derive maximum value from the supply chain. This remains the dominant focus of academic research in this area, although not the only one.

B. Supply Chain Resiliency

As the Great Unbundling unfolded and firms vertically de-integrated, a central problem facing managers and supply chain professionals was ensuring their supply chains operated smoothly and reliably. That is, they needed to be sure that their supply chains were resilient when exposed to external shocks or other disruptions to the supply of intermediate and finished goods.

The idea of resilience itself is certainly not new. Parents raising children have been instructed to build their children’s resilience to help them succeed and have positive psychological outcomes. For children, “resilience refers to achieving positive outcomes despite challenging or threatening circumstances, coping successfully with traumatic experiences, and avoiding negative paths linked with risks.”²³ In physics, it refers to the ability of an elastic material to release the energy that it absorbs during a blow and recover its shape—essentially

19. Rafaela Alfalla-Luque & Carmen Medina-López, *Supply Chain Management: Unheard of in the 1970s, Core to Today’s Company*, 51 BUS. HIST. 202, 204 (2009).

20. JOHN A. LYNN, FEEDING MARS: LOGISTICS IN WESTERN WARFARE FROM THE MIDDLE AGES TO THE PRESENT 10 (John A. Lynn, ed., 1993) (quoting Martin Van Creveld); *Id.*

21. Jean-Philippe Cénat, *Les fonctions de maréchal général des logis à l’époque de Louis XIV*, 257 REVUE HISTORIQUE DES ARMÉES 2 (2009), available at <https://journals.openedition.org/rha/6874> [<https://perma.cc/U7B5-WYUZ>].

22. See Alfalla-Luque & Medina-López, *supra* note 19.

23. Staci M. Zolkoski & Lyndal M. Bullock, *Resilience in Children and Youth: A Review*, 34 CHILD. AND YOUTH SERVS. REV. 2295, 2296 (2012) (“resilience refers to achieving positive outcomes despite challenging or threatening circumstances, coping successfully with traumatic experiences, and avoiding negative paths linked with risks”).

maintaining its original form after being stressed.²⁴ Natural systems are evaluated based on their resilience to environmental damage. Communities are evaluated on their level of resilience when exposed to various shocks, such as natural disasters or economic crises.²⁵ These and other definitions are commonly known and used by academics, policymakers, and the general public.

However, the notion of resiliency in supply chains is a more recent topic of discussion, and its definition is still being developed. From the perspective of the firm, which has been the primary focus of both scholarship and industry, one definition concerns its ability “to prepare for and/or respond to disruptions, to make a timely and cost-effective recovery, and therefore progress to a post-disruption state of operations — ideally, a better state than before the disruption.”²⁶ Another widely adopted definition is “the capacity for an enterprise to survive, adapt, and grow in the face of turbulent change.”²⁷

While supply chain resilience might be a relatively recent subject of academic and policy focus, the concept is not new for firms. Henry Ford relentlessly tried to prevent supply slowdowns in his manufacturing operations. For instance, his Rouge River facility, one mile long and one-and-a-half wide, included 93 buildings, docks, 100 miles of interior railroads, a steel mill, an electricity generation plant, a sawmill, a cement plant, and rubber processing operations.²⁸ He owned timber farms, railroads, and ships to control transportation disruptions and coalmines to power production. To ensure a steady rubber supply, Ford famously tried and failed to build a town in the Brazilian Amazon forest called “Fordlandia.” Rubber was native to Brazil, but to profit from the commodity, British botanists smuggled seeds out in the late 19th century to transplant them to British colonies in the tropics. The British Colony Sri Lanka subsequently became a key rubber producer, and Britain could charge high prices. Ford wanted to cheaply produce rubber for his cars and ensure a steady supply under his control. However, the effort at deep vertical integration down to the commodity level failed as a fungus decimated Brazil’s crop.²⁹

24. *Resilience Definition & Meaning*, MIRRIAM-WEBSTER DICTIONARY, <https://www.merriam-webster.com/dictionary/resilience#> [<https://perma.cc/L8WC-ETV6>] (last visited Aug 8, 2024).

25. Maria Koliou et al., *State of the Research in Community Resilience: Progress and Challenges*, 5 SUSTAINABLE AND RESILIENT INFRASTRUCTURE 131, 132 (2020).

26. Benjamin R. Tukamuhabwa et al., *Supply Chain Resilience: Definition, Review and Theoretical Foundations for Further Study*, 53 INT’L J. PROD. RSCH. 5592 (2015).

27. See, e.g., Timothy J. Pettit et al., *The Evolution of Resilience in Supply Chain Management: A Retrospective on Ensuring Supply Chain Resilience*, 40 J. BUS. LOGISTICS 56, 57 (2019) (citing Fiksel, Joseph Fiksel, *Sustainability and Resilience: Toward a Systems Approach*, 2 SUSTAINABILITY: SCI., PRAC. AND POL’Y 14 (2006)); Ford Rouge Factory Tour: History & Timeline, THE HENRY FORD, <https://www.thehenryford.org/visit/ford-rouge-factory-tour/history-and-timeline> [<https://perma.cc/HR2F-X8F2>]; Austin Weber, *Ford’s Rogue Assembly Plant Turns 100*, ASSEMBLY MAGAZINE (Mar. 14, 2019), https://www.assemblymag.com/articles/94799-fords-rouge-assembly-plant-turns-100?utm_source=chatgpt.com [<https://perma.cc/8WG4-HKKT>].

28. PETER S. GOODMAN, *HOW THE WORLD RAN OUT OF EVERYTHING: INSIDE THE GLOBAL SUPPLY CHAIN* 46–47 (Mariner Books 2024).

29. Drew Reed, *Lost Cities #10: Fordlandia—the Failure of Henry Ford’s Utopian City in the Amazon*, THE GUARDIAN (Aug. 19, 2016), <https://www.theguardian.com/cities/2016/aug/19/lost-cities-10-fordlandia-failure-henry-ford-amazon> [<https://perma.cc/WCE7-8MLQ>]; Weber, *supra* note 27.

While many firms emulated the Ford model of deep vertical integration, over the decades, the Great Unbundling's economic logic of specializations and focus on core competencies became too compelling for firms, even for Ford Motors.³⁰ The transformation to a supply-chain economy and production model was underway in earnest by the 1980s.

C. Just in Time and Lean Manufacturing

The Supply Chain revolution took place when the business world, by and large, adopted the modern lean manufacturing system (Lean). Developed by Toyota Motor Company in the 1950s and referred to as the Toyota Production System, Lean was a response to problems managers Kiichiro Toyoda and Taiichi Ohno observed in large manufacturing Taylor-Ford production methods.³¹ The philosophy of Lean is to make “organizations more efficient and responsive by using fewer resources (human, inventory, time, space), contributing at the same time to increasing the quality of products.”³² It sought to improve upon systems of large batch production that depended on fixed systems, little employee input, and minimal product variety.³³ Lean also focuses on quickly adjusting to changing customer demand, preferences, and expectations through reductions in the times necessary to set up machines and reducing inventory levels and waste.³⁴

The system promotes partnerships with suppliers and requires that companies work closely with their partners to implement another related production concept, also developed by Toyota, as part of the Lean system, Just-in-Time-Production Systems (JIT).³⁵ JIT gained particular traction during the 1973 oil embargo and the resulting supply shocks,³⁶ and is a “production system for making and delivering what is needed, just when it is needed, and just in the amount needed.”³⁷ Whereas lean manufacturing is a complete system that focuses on value to the customer, JIT is a specific production practice that centers on a “pull system” of production, whereby production only takes place once a customer order is received.³⁸ The assembler only receives intermediate stocks when it needs them, thus reducing inventory and other upfront costs. Indeed, in the contemporary environment, where warehousing and inventory can be among the most significant business expenses, reducing the need for those can be a welcome advantage.

This is not to say that JIT or Lean are dependent on a supply chain outsourcing model of production. Indeed, one could adopt those systems while

30. GOODMAN, *supra* note 28, at 53.

31. MARC HELMOLD ET AL., LEAN MANAGEMENT, KAIZEN, KATA AND KEIRETSU: BEST-PRACTICE EXAMPLES AND INDUSTRY INSIGHTS FROM JAPANESE CONCEPTS 5–8 (2022), available at <https://link.springer.com/10.1007/978-3-031-10104-5> [<https://perma.cc/R68W-5F38>] (last visited Jul 31, 2024).

32. JOSÉ LUÍS QUESADO PINTO ET AL., JUST IN TIME FACTORY 2 (Springer Int'l Publ'g, 2018).

33. *Id.*

34. *Id.* at 6–13.

35. *Id.* at 2.

36. *Id.* at 26.

37. *Id.* at 2.

38. *Id.*

being vertically integrated and geographically compact. However, as Henry Ford himself recognized, not being vertically integrated can leave little room for error or to account for exogenous shocks like natural disasters, wars, or global pandemics if the planning does not sufficiently consider the risk of those events occurring. Firms must, therefore, balance competing goals of efficiency (lean production) with resilience (less efficient backup systems and risk mitigation).³⁹ Indeed, Henry Ford implemented a form of JIT production, but to realize it, he owned the production and transportation infrastructure. As he put it, “We have found in buying materials that it is not worthwhile to buy for other than immediate needs . . . if transportation were perfect and an even flow of materials could be assured, it would not be necessary to carry any stock whatsoever.”⁴⁰

Lean and JIT, however, were developed under assumptions of geographic proximity of suppliers and reliable supply lines.⁴¹ Unlike at Ford Motor Company, vertical integration was not the guiding principle, and resilience was not the central objective. Instead, the central objective was the elimination of waste and inefficiencies. Toyota’s suppliers, therefore, were generally located close to its primary assembly plants, as is the case with many auto manufacturers.⁴²

This kind of geographic proximity is unusual, however, in other industries.⁴³ Lean manufacturing and JIT thus potentially pose risks to supply chain resilience,⁴⁴ especially during “black swan” events like the COVID-19 pandemic of 2020. Even before the pandemic, commentators and analysts recognized that there could be tension between lean manufacturing processes and supply chain resilience.⁴⁵ When it arrived, the pandemic tested even the most seasoned supply chain managers, who supposedly worked resilience into their lean processes.⁴⁶ It challenged the ability of Ford and many other supply chain-dependent firms to procure the goods and parts they needed for production. This led many commentators to conclude that the global economic order was broken. Firms were too dependent on offshored supply chains located in countries, such as China, that were in political tension with the United States and were thus subject to significant political risk. Henry Ford’s obsession with supply chain independence and vertical integration made sense again to many businesses and policymakers in the face of increased threats (both geopolitical and natural) and industrial disasters.⁴⁷

39. Thomas Y. Choi et al., *Just-in-Time for Supply Chains in Turbulent Times*, 32 *PROD. AND OPERATIONS MGMT.*, 2331, 2335 (2023).

40. HENRY FORD & SAMUEL CROWTHER, *MY LIFE AND WORK* 143 (1922).

41. Choi et al., *supra* note 39, at 2334. (“JIT encourages colocation and close relationships with suppliers”)

42. *Id.* at 2332.

43. *Id.*

44. Timothy J. Pettit, Joseph Fiksel, & Keely L. Croxton, *Ensuring Supply Chain Resilience: Development of a Conceptual Framework*, 31 *J. BUS. LOGISTICS* 1, 3 (2010).

45. *Id.*

46. GOODMAN, *supra* note 28, at 65-81.

47. Choi et al., *supra* note 39, at 2236. Theoretically, there need not be a tension between supply chain resilience and lean supply chains because lean supply chain managers theoretically consider resiliency in their lean planning.

D. COVID-19, China, and National Supply Chain Resilience Policy

While businesses might make individual and even concerted efforts to plan around supply chain risks and contingencies, broken and unreliable supply chains also affect national security, political stability, and their own capacity to meet consumer (and voter) demand for the goods those populations need and desire.

The 2020 COVID-19 pandemic focused the attention of policymakers on the perils of the new supply chain economy's agnosticism about supply chains' geographic dispersion, particularly in domains that affect critical sectors. The pandemic was utterly predictable and yet wholly unexpected. As the journalist Peter Goodman describes in his book on the subject, extant supply chains and production systems were not designed to work when faced with a severe, albeit unpredictably short, shock to the economy followed by a radical shift in consumption patterns.⁴⁸ The unprecedented acute economic shock caused by the cessation of manufacturing and in-person economic activity was met with an equally acute withdrawal of supply capacity by producers. Workers who could work from home then created a significant demand for goods consumed at home. These developments resulted in manufacturing facilities worldwide working at a much lower capacity while also having to retool to produce and package goods for households instead of commercial applications.

While news reports might have focused on the panic consumers experienced about lacking sufficient toilet paper and milk, a far more serious crisis menaced hospital procurement managers and public health officials: the woeful lack of personal protective equipment (PPE), such as masks, surgical gowns, gloves available to medical providers, pharmaceutical ingredients, and access to critical medical technology and components, such as ventilators.

Accordingly, many governments, including the U.S. Executive Branch, developed policies to address supply chain resiliency related to national security and policy aims. Policymakers recognized that certain domains of national significance could not be left solely to the market. While the private sector might have optimized its supply chains to minimize cost, minimize inventory, and maximize profit, governments recognized it was imprudent to rely on the private sector to plan for so-called "black swan events,"⁴⁹ because planning for such events is costly, their likelihood of occurring hard to calculate, and the potential costs to society extremely high. The pandemic made this market failure all too evident. It is one thing to have a contingency plan if a disruption occurs in one of your supplier factories. It is quite another to plan for a complete breakdown of the global economy and its transportation channels.

Addressing these issues was one of the Biden administration's priorities upon taking power. It quickly issued Executive Order 14017, "Executive Order on America's Supply Chains," which called for a cross-agency review of supply chain risks coordinated by the President's advisors on national

48. See generally GOODMAN, *supra* note 28.

49. See, e.g., U.S. TRADE REPRESENTATIVE, REQUEST FOR COMMENTS ON PROMOTING SUPPLY CHAIN RESILIENCE 89 FR 16608 (2024), available at <https://www.federalregister.gov/documents/2024/03/07/2024-04869/request-for-comments-on-promoting-supply-chain-resilience> [<https://perma.cc/XG9B-ET46>].

security economic policy.⁵⁰ The E.O. declares, “The United States needs resilient, diverse, and secure supply chains to ensure our economic prosperity and national security.”⁵¹ It also articulated a strategy to increase supply chain resilience: “Resilient American supply chains will revitalize and rebuild domestic manufacturing capacity, maintain America’s competitive edge in research and development, and create well-paying jobs. They will also support small businesses, promote prosperity, advance the fight against climate change, and encourage economic growth in communities of color and economically distressed areas.”⁵² Specified department Secretaries, including the Secretaries of Commerce, Energy, Defense, and Health and Human Services, were individually tasked with identifying risks in the supply chain for specific goods and products. For example, the Department of Commerce was charged with identifying risks in semiconductor and advanced packaging supply chains; the Department of Energy with identifying risks in high-capacity batteries; the Department of Defense with critical minerals and strategic materials; and the Secretary of Health and Human Services with supply chains related to addressing the COVID-19 pandemic.

A key point is that the E.O. linked supply chain resilience with national security interests and economic policy. This was a new development and an unusual object of focus from the top levels of government on a topic that had previously been the purview of firms and relatively unglamorous corners of management.

Pursuant to the E.O., the Executive Branch promulgated a cross-government report on supply chains that highlighted risks, vulnerabilities, and resilience in four critical sectors: semiconductors, large capacity batteries, critical minerals and materials, and pharmaceuticals.⁵³ The report stated that it was necessary to strengthen domestic supply chains and de-emphasize international supply chains to increase resiliency. The report focused on promoting American work and American workers who would earn high wages with union representation. These are arguably worthy goals, and such a workforce could theoretically be more stable and less likely to cause work-related supply chain disruptions. However, the White House strategy implies that there needs to be tariffs and other barriers to promote American manufacturing and to de-couple from China. A second implication is that the U.S. government should complete FTAs only with trading partners selected based on favorable political and geographic considerations.

Indeed, the Biden administration has continued, and in some respects expanded, the Trump administration’s trade and international economic strategies. As of 2024, the Biden administration has negotiated no new trade agreements, and tariffs on electric cars from China were boosted to 100% under

50. America’s Supply Chains, 86 Fed. Reg. 11,849 (2021). The agencies specified were the Departments of Commerce, Energy, Defense, Health and Human Services. Each were tasked with examining the identifying risks in specific products.

51. *Id.* at § 1.

52. *Id.*

53. THE WHITE HOUSE, BUILDING RESILIENT SUPPLY CHAINS, REVITALIZING AMERICAN MANUFACTURING, AND FOSTERING BROAD-BASED GROWTH 6 (2021) [hereinafter Building Resilient Supply Chains].

Section 301 of the Trade Act to promote and protect domestic manufacturing capacity.⁵⁴ According to most economists, protecting domestic manufacturing through tariffs is a fool's errand, while for others, it is a valiant effort to starve off economic and technological domination by an adversary.

Yet, as even the White House Report acknowledges, it is unrealistic to expect supply chains to be significantly re-shored or "friend-shored."⁵⁵

The IMF, on the other hand, takes a different perspective on the relationship between re-shoring and supply chain resilience. It argues that further domestic consolidation of manufacturing would, in fact, increase supply chain risk. It notes, for example, that in the Western Hemisphere countries, approximately 82% of intermediate goods are domestically sourced.⁵⁶ However, these data do not separate sourcing concentration by category of goods. Thus, it does not specify the risk specific industries face, such as those the United States has identified as key economic and defense industries.

While the E.O. called on the largest cabinet-level departments to identify the primary supply chain risks, the relatively tiny United States Trade Representative (USTR), which negotiates trade agreements and litigates disputes when there are alleged violations, was also charged with incorporating supply chain resilience into its negotiations. It works adjacent to two other government agencies, the US International Trade Commission (USITC),⁵⁷ and the International Trade Administration (ITA).⁵⁸

National policy and the United States trade institutions have thus ordered a whole-of-government approach to increasing supply chain resiliency, primarily through tariffs, promoting domestic unionization as per the administration's "worker-centered trade policy," and promoting domestic manufacturing through various legislative efforts and subsidies, including the Inflation Reduction Act and the CHIPS Act.

In March 2024, USTR issued a Request for Comments on Promoting Supply Chain Resilience, soliciting commentary on how the agency could

54. FACT SHEET: PRESIDENT BIDEN TAKES ACTION TO PROTECT AMERICAN WORKERS AND BUSINESSES FROM CHINA'S UNFAIR TRADE PRACTICES, THE WHITE HOUSE (May 14, 2024), <https://www.whitehouse.gov/briefing-room/statements-releases/2024/05/14/fact-sheet-president-biden-takes-action-to-protect-american-workers-and-businesses-from-chinas-unfair-trade-practices/> [https://perma.cc/Q4E6-VA9H].

55. THE WHITE HOUSE, BUILDING RESILIENT SUPPLY CHAINS, *supra* note 53, at 8.

56. *World Economic Outlook (April 2024) - Real GDP Growth*, INT'L MONETARY FUND, https://www.imf.org/external/datamapper/map/NGDP_RPCH@WEO [https://perma.cc/56XU-4FYE] (last visited May 26, 2024).

57. The USITC's predecessor, the United States Tariff Commission was formed under Woodrow Wilson in 1916. Its primary task is to conduct investigations and adjudicate proceedings concerning alleged injuries to domestic industry or violations of US intellectual property by foreign importers, provide analysis and information on tariffs, trade and competitiveness, and maintain the US tariff schedule. See *About the USITC*, U.S. INT'L TRADE COMM'N., https://www.usitc.gov/press_room/about_usitc.htm [https://perma.cc/N4RK-BSDC] (last visited Jan. 1, 2025).

58. The ITA is an independent and relatively unknown agency of 2200 staff stationed around the world, and whose head is Under Secretary for International Trade. Its primary mission is to promote US exports, attract inbound investment, conduct trade analysis, and ensure and monitor compliance with international trade agreements. See *Who we are*, INT'L TRADE ADMIN., <https://www.trade.gov/about-us> [https://perma.cc/H56Q-NZFX] (last visited Jan. 1, 2025).

promote supply chain resilience in trade negotiations and enforcement.⁵⁹ The call for comments reiterated the basic approach of the White House: it referred to a race to the bottom and targeted incentives to invest in low-standard countries resulting in the “hollowing out of the American industrial base and vital U.S. Jobs... undermining support for democracy itself.” It also referenced “collaborating with trading partners and allies to incentivize a race to the top through coordination and alignment on labor and environmental protections to build our middle classes together, rather than pitting them against each other.”⁶⁰ It goes on to highlight four principles of supply chain resilience: “transparency, diversity, security, and sustainability” and specifies how USTR seeks to advance those concepts:

Through trade negotiations, efforts to enforce fair trade, and other engagement with trading partners, USTR seeks to advance and implement these principles of supply chain resilience—transparency, diversity, security, and sustainability. To promote transparency, USTR confronts supply chain risks arising from unfair trade and competition practices among our trading partners. To enhance diversity, USTR creates opportunities for businesses of all sizes to increase sourcing options, including those located domestically and in underserved communities. To bolster security, USTR takes trade action to facilitate the strengthening of agile supply chains with trusted networks sharing our values, including through friend-shoring and near-shoring in furtherance of high-quality economic growth. And to support sustainability, USTR works to promote respect for labor standards and environmental protections governing global supply chains and to strengthen those standards and protection.⁶¹

The request for comments then poses several questions that submitters may respond to. These range in topics but include broad questions about how to support growth and investment in domestic manufacturing and services, how to prevent offshoring,⁶² how U.S. trade and investment policy can promote a race to the top through alignment on labor protections,⁶³ and what trade and investment policy tools could be deployed in several identified sectors, as well as in sectors not explicitly identified, to enhance supply chain resilience.⁶⁴ Notably, the identified sectors go beyond those highlighted for national security by the White House in its report. Additional sectors include aerospace, agriculture, automobiles, automotive parts, call centers and business processing operations, textiles, fabrics, and apparel.⁶⁵ In other words, USTR’s request goes beyond the White House’s focus on national security and extends to a wide gamut of goods and services that potentially compete with American manufacturers.

The administration clearly believes the most desirable solution to building supply chain resilience is to develop domestic industry through reshoring

59. USTR, Request for Comments on Promoting Supply Chain Resilience, 89 Fed. Reg. 16, 608 (March 7, 2024).

60. *Id.* at 16609.

61. *Id.*

62. *Id.*

63. *Id.*

64. *Id.*

65. *Id.*

and promoting policies that incentivize nearshoring to countries such as Mexico and Canada that are part of the USMCA (and its relatively strong labor chapters). Such policies would presumably include applying tariff measures on imports from countries like China or refraining from entering into new trade agreements with them. Both of these have been policies promoted by the Trump and Biden administrations. However, in the next section, I argue that, in theory, FTA labor chapters should also be understood as tools to promote supply chain resilience. By asking how labor chapters can help achieve supply chain resilience, trade rules properly negotiated can build resilience without protectionism.

III. Supply Chain Resilience and Labor Chapters

In this section, I turn to one sub-set of trade policy tools that can help promote supply chain resiliency for firms and countries implementing them.⁶⁶ Labor chapters included in FTAs are the most relevant instruments available to USTR to improve working conditions through trade and investment.

The White House report frames its approach to achieving supply chain resilience by incentivizing a race to the top in labor standards. That is, it seeks to compel states to improve rather than weaken labor laws and standards. However, neither the White House Report nor the USTR's call for comments explains why a "race to the top" in labor standards might lead to supply chain resilience. To fill this conceptual gap, I argue that labor chapters, which aim in part to raise labor standards in U.S. trading partners, can aid in achieving the goal of supply chain resilience. The argument is not that labor chapters and conditionality as currently designed necessarily accomplish these objectives, although they very well might, but rather that they have significant potential for doing so *if* they are grounded in the goals of supply chain resiliency, perhaps in addition to, or even in place of, objectives like preventing unfair competition or a race to the bottom. Making the conceptual linkage between labor chapters and supply chain resilience has the additional benefit of moving beyond re-shoring and protectionist conceptions of building resilience through trade. Finally, it can demonstrate to linkage-skeptical constituencies, such as the business sector, that trade and labor conditionality can economically benefit supply chain functioning.

A. Trade and Labor Linkage

Labor chapters and labor provisions in trade agreements are proliferating, albeit in differing ways and degrees of stringency.⁶⁷ The ILO's Labour Provisions in Trade Agreement Hub indicates in its running tally that 115 of 364 trade agreements include labor provisions.⁶⁸ While those numbers have

66. I put aside in this Article other questions posed in the request for comments, including how to facilitate near and friend-shoring and a race to the top in labor standards.

67. See *Labour Provisions in Trade Agreements Hub*, INT'L LAB. ORG., <https://webapps.ilo.org/LPhub/#>. [<https://perma.cc/R5CD-PEL4>] (last visited Aug 8, 2024).

68. *Id.*

increased to an extent because of the UK's recent flurry of post-Brexit trade agreements, the increase is still significant. Even countries such as Russia, as part of the Eurasian Economic Union, which includes Armenia, Kazakhstan, Kyrgyzstan, and Belarus—hardly paradigms of human rights enforcement—are signatories to a 2016 FTA with Vietnam that has a sustainable development chapter referencing the ILO Declaration as well as labor law non-derogation clauses.

Efforts to include highly stringent and enforceable labor chapters in trade agreements have primarily originated from the United States, Canada, and the European Union.⁶⁹ The EU, for example, in 2023, completed a review process in which it committed to including trade remedies in all its trade and sustainable development chapters.⁷⁰ This was a controversial step for the EU and signaled its seriousness about its commitment to linking trade liberalization with labor standard compliance.

On the other hand, some countries, such as India, have long been staunchly opposed to including labor chapters in trade agreements because they view them as protectionist efforts to mitigate their comparative advantage in low-cost and low-skill labor.⁷¹ India and other developing countries with colonial histories view trade-linked labor provisions as sovereignty-violating efforts to regulate their economies, harmonize labor standards, and impose external cultural norms. Nevertheless, India demonstrated flexibility when, in 2024, it signed a trade agreement with the EFTA block of trade partners. It agreed to labor standard provisions in the “trade, sustainability, and development” chapter of the agreement.⁷² Notably, disputes brought under that chapter are not subject to dispute settlement,⁷³ and the agreement explicitly emphasizes the Parties’ right to self-determine their regulatory protection levels.⁷⁴

The drivers of labor chapters are multi-faceted because trade policy generally seeks to accommodate various constituencies’ economic and other policy objectives. Therefore, it is impossible to identify a single driver and policy objective for their inclusion. Indeed, while some observers and developing countries such as India might critique them for being protectionist in intent, their design highly mitigates their protectionist effects, and there is little evidence

69. For a survey of labor provisions in trade agreements and a comparative analysis of their construction and implementation, see JEAN-BAPTISTE VELUT ET AL., *COMPARATIVE ANALYSIS OF TRADE AND SUSTAINABLE DEVELOPMENT PROVISIONS IN FREE TRADE AGREEMENTS* (London Sch. of Econ., 2022), available at <https://www.lse.ac.uk/business/consulting/assets/documents/TSD-Final-Report-Feb-2022.pdf> [https://perma.cc/3QFK-Z2RL].

70. MARC JÜTTEN, *TRADE AND SUSTAINABLE DEVELOPMENT IN EU FREE TRADE AGREEMENTS* (European Union Parliamentary Research Service, 2023), available at [https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/754613/EPRS_BRI\(2023\)754613_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/754613/EPRS_BRI(2023)754613_EN.pdf) [https://perma.cc/3CPX-2MVX].

71. See generally Kevin Kolben, *The New Politics of Linkage: India's Opposition to the Workers' Rights Clause*, 13 *IND. J. GLOB. LEGAL STUD.* 225 (2006) (analyzing India's opposition to the inclusion of labor rights provisions in trade agreements).

72. Trade and Economic Partnership Agreement Between the EFTA States and the Republic of India arts. 11.1–11.2, Mar. 10, 2024, <https://www.efta.int/sites/default/files/documents/legal-texts/free-trade-relations/india/1.%20Main%20Agreement.pdf> [https://perma.cc/79KX-FAYA].

73. *Id.* at art 11.11.

74. *Id.* at art 11.2

that they impede trade.⁷⁵ Most labor chapters refer to the ILO Declaration on Fundamental Principles and Rights at Work. The Declaration includes the rights to freedom of association and collective bargaining, bans on forced labor, rights to non-discrimination in the workplace, minimum work ages for different kinds of work, and, more recently, the right to workplace health and safety. Some scholars have referred to these as “non-cash standards” because they do not prescribe or require increased costs for suppliers, lead firms, or governments via wage or benefit minimums.⁷⁶

Other justifications that proponents of trade agreements articulate include preventing unfair competition and races to the bottom.⁷⁷ These arguments ground labor chapters in efforts to prevent regulatory races to the bottom whereby states either weaken their *de jure* labor law or *de facto* weaken enforcement to attract investment and orders from international buyers to domestic producers. However, it is difficult to verify this claim empirically, and researchers have provided nuanced and complex results.⁷⁸ However, the argument still might enjoy favor with domestic political audiences that believe that trade liberalization and its attendant economic dislocation and adjustment should not take place if competition is based on taking advantage of abusive labor standards. In other words, workers in the developed world should not lose their jobs, goes this line of argument, because of lower labor costs facilitated by egregious non-enforcement of international labor standards. A more nativist form of thinking would be explicitly protectionist—jobs in one’s own country should be protected and prioritized over other economic benefits such as lower consumer costs and overall economic efficiency. Accordingly, obtaining support from unions and other domestic labor rights groups for trade liberalization generally requires enforceable labor conditionality in those agreements.

Comprehensive labor chapters typically contain some combination of several elements. These include: a) Obligations to implement international standards based on international commitments, although not necessarily to ratify international conventions; b) requirements to effectively enforce one’s labor and environmental laws; c) a non-derogation clause; d) a public complaint

75. Desirée LeClercq, Raymond Robertson, and Daniel Samaan, *Labor Provisions in Trade Agreements: Recasting the Protectionist Debate*, 39 *J. L. Econ. & Org.* 90, 684 (2023), available at <https://doi.org/10.1093/jleo/ewad009> [<https://perma.cc/C3TN-LQTY>].

76. KIMBERLEY ANN ELLIOTT & RICHARD B. FREEMAN, CAN LABOR STANDARDS IMPROVE UNDER GLOBALIZATION? 34-35 (2003).

77. For a review of arguments in support of trade conditionality, see generally Kevin Kolben, *A New Model for Trade and Labor: The Trans-Pacific Partnership’s Labor Chapter and Beyond*, 49 *N.Y.U. J. INT’L L. & POL.* 1063, 1065-1079 (2016).

78. See e.g., Robert G. Blanton & Shannon L. Blanton, *Labor Rights and Foreign Direct Investment: Is There a Race to the Bottom?*, 38 *INT’L INTERACTIONS* 267, 288 (2012) (finding a negative relationship between FDI and labor rights in the services sector, but positive relationship in the manufacturing sector); Jing-Lin Duanmu, *A Race to Lower Standards? Labor Standards and Location Choice of Outward FDI from the BRIC Countries*, 23 *INT’L BUS. REV.* 620 (2014) (finding a relationship between BRIC outward FDI investment to lower labor standard developed countries, but no effect of labor rights on FDI in developing countries); LAYNA MOSLEY, *LABOR RIGHTS AND MULTINATIONAL PRODUCTION* 238-239 (2010) (finding direct MNC investment in a country tends to raise labor standards, while there is some competition or at best a static relationship between countries on labor standard when the relationship of MNCs to suppliers is arm’s length).

or submission mechanism; e) a consultation process between the Parties; f) a dispute settlement mechanism; and g) a remedy.⁷⁹ The FTA with arguably the most stringent and sophisticated labor regime is the United States- Mexico-Canada Agreement (USMCA). The USMCA contains all of these elements, including several iterative additions to previous agreements with labor chapters negotiated by the parties, particularly by the U.S. and Canada. These include strengthening certain labor rights guarantees, such as bans on forced labor and increased protections for migrant workers.⁸⁰ It includes interpretive language for dispute settlement, making it potentially easier for a complaining party to prevail in certain circumstances. It also contains a condition that Mexico implements specific and substantive reforms to its labor law regime related to the rights to collective bargaining and freedom of association.

Finally, it includes a Facility-Specific Rapid Response Mechanism (RRM). The RRM resulted from vigorous advocacy by U.S. unions and labor rights organizations that believed prior state-to-state labor chapter mechanisms were inadequate to address time-sensitive union rights violations in specific factories with trade ties to the United States.⁸¹ In response, the United States negotiated a mechanism that allows the Parties to bring complaints regarding what are referred to as Denials of Rights committed in individual facilities, generally by private employers. This contrasts with typical labor chapters, including those negotiated by the EU, that target actions by the other government Party with regards to either “respecting, promoting and realizing, in their laws and practices, the principles concerning the fundamental rights;” as well as “continued and sustained efforts towards ratifying the fundamental ILO Conventions as well as the other Conventions that are classified as ‘up-to-date’ by the ILO.”⁸²

B. Supply Chain Resilience in the Indo-Pacific Economic Framework

During the Biden administration, trade was further reorientated away from tariff negotiations towards achieving other trade and investment objectives, especially supply chain resilience. For example, the United States has created discussion forums about supply chain resilience measures with trading partner countries. The United States Secretary of Commerce met with her counterparts from Korea and Japan on June 26, 2024, to prioritize “cooperation to strengthen the resilience of supply chain in key sectors, including semiconductors and batteries; and to promote the principles on resilience and reliable supply chains, namely transparency, diversification, security, sustainability, and trustworthiness and reliability,”⁸³ as part of a trilateral summit. Of particular

79. Velut et al., *supra* note 69, at 143.

80. For a summary, see Congressional Research Service, *USMCA: Labor Provisions*, (Jan 20, 2022), available at <https://crsreports.congress.gov/product/pdf/IF/IF11308> [<https://perma.cc/A52S-CXST>].

81. United States-Mexico-Canada Agreement art. 31-A (15), Nov. 30, 2018 [hereinafter USMCA]. (Formatting is weird here with the footnote itself and I can't get it to behave. The journals have an administrative assistant who is on leave at the moment but will return in time to help me re-format this in time for publication).

82. EU-South Korea FTA art. 13.4.3, May 14, 2011, 2011 O.J. (L 127).

83. U.S. Department of Commerce, *Joint Statement: Japan-Republic of Korea-United States Commerce and Industry Ministerial Meeting* (2024), <https://www.commerce.gov/news/>

concern to the parties was to “identify potential supply chain vulnerabilities for strategic goods that have resulted from a wide range of non-market policies and practices.”⁸⁴ In other words, the statement refers to what are considered anti-competitive actions by China that have led to overreliance on Chinese supply chains, potentially creating national security risks.

Supply Chain resilience has also become a central focus of international economic cooperation and negotiation. The Indo-Pacific IPEF framework consists of four separate pillars with separately negotiated agreements: 1) Trade; (2) Supply Chains; (3) Clean Energy, Decarbonization, and Infrastructure; and (4) Tax and Anti-Corruption.⁸⁵ The Indo-Pacific Economic Framework Agreement on supply chain resilience, signed on November 14, 2023, is the most ambitious effort thus far in making supply chain resilience a central goal of trade relations.⁸⁶ The text for the agreement relating to supply chain resilience states labor rights are central to the effort. But while it emphasizes in its chapeau that “supply chain development can be a source of quality job creation, poverty reduction and economic opportunity. . .”⁸⁷, it is mostly silent on how or why labor standards and labor rights are, in fact, central to supply chain resiliency.

The agreement notes, for example, that supply chain disruptions may be due to several factors, but it does not explicitly refer to any labor-related disruptions.⁸⁸ It then notes that “supply chains benefit from the establishment of predictable, fair, and competitive markets that respect the environment, health and safety, and labor rights.”⁸⁹ It also notes that “stakeholder engagement is essential to supply chain resilience, particularly engagement with the private sector. . . as well as representative workers’ organizations,”⁹⁰ but it fails to explain how this is the case.

In the body of the agreement, Art. 5 is entitled “Enhancing the Role of Workers.” That article declares that the “Parties intend to collaborate to help each Party ensure that a sufficient number of skilled workers are available in supply chains for its critical sectors or key goods;”⁹¹ promote “inclusivity of IPEF supply chains. . . ;”⁹² promoting the implementation of labor rights in its economy and the domestic enforcement of its labor laws;⁹³ “consult with and consider input. . . from the private sector and representative workers’ organizations on. . . measures related to labor rights;”⁹⁴ and “intend that efforts to

press-releases/2024/06/joint-statement-japan-republic-korea-united-states-commerce-and [https://perma.cc/SZ6N-NNER] (last visited Aug 5, 2024).

84. *Id.*

85. *Indo-Pacific Economic Framework for Prosperity (IPEF)*, U.S. TRADE REPRESENTATIVE, <https://ustr.gov/trade-agreements/agreements-under-negotiation/indo-pacific-economic-framework-prosperity-ipef> [https://perma.cc/ZQ29-7BGX] (last visited Aug. 5, 2024).

86. *Indo-Pacific Economic Framework for Prosperity Agreement Relating to Supply Chain Resilience*, Nov 14, 2023. The treaty entered into force by the United States on Feb. 24, 2024.

87. *Id.* at Chapeau.

88. *Id.*

89. *Id.*

90. *Id.*

91. *Id.* at art. 5.1.

92. *Id.* at art. 5.2.

93. *Id.* at art. 5.3.

94. *Id.* at art. 5.4.

improve supply chain resilience pursuant to this Agreement be undertaken in a manner consistent with labor rights.”⁹⁵

However, the IPEF is not a traditional trade agreement. As noted, it is broken into four pillars, and different government departments and agencies are charged with negotiating each pillar. USTR is charged with negotiating the trade pillar, and the Department of Commerce is charged with negotiating the supply chain pillar. However, the draft text of the trade pillar does not contain the standard set of labor provisions that U.S. FTAs routinely include. Some commentators have been critical of the lack of such labor provisions, arguing that the IPEF represents a potential step back in progress on labor chapters.⁹⁶ But because there are no tariff reduction negotiations and thus no opportunity for typical dispute settlement remedies, the IPEF stands apart. However, the explicit inclusion of a supply chain agreement raises the issue of how supply chain and trade terms can and should be addressed in FTAs. Here, the parties decided to address them separately, but there are, in fact, many interconnections. Here, I will argue that at least one interconnection has been underexamined: labor chapters and supply chain resilience.

C. How Labor Provisions Can Increase Supply Chain Resilience

There are several ways labor chapters could be justified and grounded in a supply chain resilience framework whereby labor chapters would be conceptualized and designed to improve supply chain resilience. Such a goal would be in addition to other objectives and goals I have already discussed.

1. Labor Dispute Mitigation and Industrial Relations Stability

First, labor disputes are among the few labor-related risks that supply chain researchers explicitly identify as risks to firms.⁹⁷ Labor disputes can cause significant supply disruptions both in legal and illegal strikes. Most labor chapters are primarily concerned with protecting the right to strike. Indeed, The ILO supervisory bodies identify the right to strike as an intrinsic corollary to ILO Convention 87 on the right to organize. It is a “fundamental right of workers and of their organizations.”⁹⁸ From a labor rights perspective, labor chapter advocates are often concerned that employers will infringe on the right to strike and that governments will not sufficiently protect it. However, labor chapters should also be understood and designed to facilitate a functional

95. *Id.* at art. 5.5.

96. Sandra Polaski, *Linking Trade and Labor Policies In A Time Of Geopolitical Competition: The Case Of The United States* (2024) (unpublished manuscript on file with author).

97. Eleftherios Iakovou and Chelsea C. White III, *How to Build More Secure, Resilient, next-Gen U.S. Supply Chains*, BROOKINGS (Dec. 3, 2020), <https://www.brookings.edu/techstream/how-to-build-more-secure-resilient-next-gen-u-s-supply-chains/> [<https://perma.cc/7CRK-5F3R>]; Timothy J. Pettit et al., *Ensuring Supply Chain Resilience: Development of a Conceptual Framework*, 31 J. Bus. Logistics 1 (2010).

98. Jean-Michel Servais, *ILO Law and the Right to Strike*, 15 CAN. LAB. & EMP. L.J. 147, 149 (2010). ILO Convention (No. 87) Freedom of Association and Protection of the Right to Organise Convention, July 9, 1948, 68 U.N.T.S. 17.

industrial relations system that enables the resolution of disputes without resorting to the most economically destructive kind of action. A labor dispute in a factory or across an industry can present a significant source of supply chain risk that is outside the direct control of lead firms or importing nations. There is little research on whether labor provisions have been either effective or ineffective in reducing strike frequency or increasing labor peace. However, there is reason to believe that they could be.

Improvements to industrial relations systems and governments' capacity to administer labor law and industrial relations are already standard features of FTA negotiating and ratification procedures. As a condition for ratifying a trade agreement, the U.S., for example, will often require extensive reforms to its trading partners' domestic labor law and labor enforcement regimes to bring them into conformance with international standards or, more controversially, U.S. practice.⁹⁹ Often, these procedural changes include the adoption of new and transparent procedures for conducting strikes and forming and recognizing unions. A lack of these latter procedures can lead to strikes and industrial disputes. If labor chapters could reduce labor strife and improve industrial relations, they could potentially improve supply chain stability and resiliency. The USMCA's RRM has the potential to achieve these objectives. Its history thus far demonstrates some success in compelling employers, usually with the cooperation of the Mexican government, to recognize the union of the workers' choice and to negotiate a collective agreement.¹⁰⁰ If realized in practice, this will very likely lead to greater industrial peace and fewer supply chain disruptions.

The United States stands out in its extensive pre-ratification negotiations over what it requires of a partner country's labor regime to ratify a trade agreement. The United States' negotiations with Mexico over the USMCA are the most recent example of such a process that the United States has long taken with other countries to positive effect.¹⁰¹ By contrast, The European Union has tended to take a less aggressive pre-ratification approach.¹⁰² The difference is perhaps explained by a greater sensitivity in the EU to the imposition of its legal regime on other countries, often former colonies. The U.S., however, appears to have fewer such qualms despite some skepticism from negotiating partners about intrusions into domestic regulatory affairs and sovereignty.

99. See Jeffrey S. Vogt, *The Evolution of Labor Rights and Trade – A Transatlantic Comparison and Lessons for the Transatlantic Trade and Investment Partnership*, 18 J. INT'L ECON. L. 827, 836-842 (2015).

100. USMCA, *supra* note 81, at ch. 31 annex A; *Chapter 31 Annex A; Facility-Specific Rapid-Response Labor Mechanism*, OFF. OF THE U.S. TRADE REPRESENTATIVE, <https://ustr.gov/issue-areas/enforcement/dispute-settlement-proceedings/fta-dispute-settlement/usmca/chapter-31-annex-facility-specific-rapid-response-labor-mechanism> [<https://perma.cc/2VYK-CRXM>] (last visited Aug 5, 2024); Kathleen Claussen, *The Track Record of the USMCA Rapid Response Mechanism*, in USMCA FORWARD 2024 35 (Joshua P. Meltzer & Brahim S. Coulibaly eds., 2024), <https://www.brookings.edu/articles/the-track-record-of-the-usmca-rapid-response-mechanism/> [<https://perma.cc/M5FG-F8XQ>] (last visited Aug. 5, 2024); *but see* Inu Manak & Alfredo Carrillo Obregon, *Labor Enforcement in the US-Mexico-Canada Agreement: Design, Motivation, and Reality*, 49 BROOK. J. INT'L L. 473, 534-541 (2024) (describing critiques of the RRM and questioning whether the RRM should be replicated in future agreements).

101. See Vogt, *supra* note 99.

102. See *Id.* at 853.

Such skepticism, for instance, was particularly acute during negotiations over the USMCA's Rapid Response Mechanism.¹⁰³

Nevertheless, in a purely pragmatic way, negotiating over labor law reforms justified by supply chain resiliency might be better received by negotiation partners. Employers will recognize that the goal is to achieve stable and long-term supply chains that are not subject to supply chain disruptions, and governments will be less sensitive to charges of violations of sovereignty. Such labor negotiations with countries at the pre-ratification stage could also align with supply chain resilience negotiations in other trade domains. Thus, if the United States identifies an area of labor-related risk in a partner country, negotiations over law reform should proceed holistically and in coordination with those other negotiation objectives. In this sense, it is best not to understand the trade and supply chain pillars of the IPEF as free-standing and wholly independent.

2. *Anti-Trade Political Risk Reduction*

A second way to conceptualize labor chapters as a supply chain resilience tool is their capacity to reduce domestic anti-trade political risk. Domestic politics pose one of the most significant threats to supply chain stability and efficiency. Specifically, political opposition to free trade, leading to higher tariff and non-tariff barriers, can lead to significant and unexpected supply shocks and higher costs.

The Trump and Biden administrations' tariff hikes and other trade measures serve as examples. The Trump administration imposed import tariffs on foreign goods, which did not impact employment in the targeted sectors. However, foreign retaliatory tariffs harmed the agricultural sector, reduced aggregate income significantly, and increased tax costs.¹⁰⁴ However, despite these economic losses, support for Republicans and their anti-trade agenda increased in regions more exposed to import tariffs.¹⁰⁵

Building support for trade agreements, or at least reducing opposition, is an implicit goal of including labor chapters. However, it is a goal that policymakers should make explicit to justify trade agreements to the public. The United States economy is deeply dependent on global supply chains. Yet, support for trade is highly variable among the U.S. population and is subject to significant swings.¹⁰⁶ The opposition to trade liberalization does not arise

103. Kathleen Claussen & Chad P. Bown, *Corporate Accountability by Treaty: The New North American Rapid Response Labor Mechanism*, 118 AM. J. INT'L L. 98, 116 (2024).

104. David Autor et al., *Help for the Heartland? The Employment and Electoral Effects of the Trump Tariffs in the United States*, (Nat'l Bureau Econ. Rsch., Working Paper No. 32082, 2024), <https://www.nber.org/papers/w32082> [<https://perma.cc/LV9M-LRRS>] (last visited Aug. 6, 2024); Mary Amiti, Stephen J. Redding & David E. Weinstein, *The Impact of the 2018 Tariffs on Prices and Welfare*, 33 J. ECON. PERSPS. 187, 188–189 (2019).

105. Autor et al., *supra* note 104.

106. Lena Maria Schaffer & Gabriele Spilker, *Self-Interest versus Sociotropic Considerations: An Information-Based Perspective to Understanding Individuals' Trade Preferences*, 26 REV. INT'L POL. ECON. 1266 (2019); Kevin Kolben, *Compensation and Its Limits: Can Trade's Losers Be Made Whole?*, 24 J. INT'L ECON. L. 683 (2021); DIANA C. MUTZ, WINNERS AND LOSERS: THE PSYCHOLOGY OF FOREIGN TRADE (2021).

solely from specific interest groups, such as labor unions that, in the case of the United States, had never supported any trade agreement before the USMCA. Research shows that citizens hold socio-tropic motivations that lead them to oppose trade liberalization.¹⁰⁷ That is, while voters might not believe that they are personally harmed by trade liberalization, they believe that their neighbors or co-citizens are. Thus, they express opposition to trade liberalization when asked in surveys.

Anti-trade sentiment has emerged as a particularly salient issue in U.S. elections since Donald Trump's 2016 campaign, after which he instituted highly trade-restrictive policies during his first tenure. These policies were, in the main, continued by President Biden when he took office, demonstrating a political acknowledgment that a) there is low support for trade liberalization and b) skepticism of Chinese trade policies. However, despite Donald Trump's intense criticism of trade deals, his renegotiation of NAFTA, which became the USMCA, included the most developed labor chapter to date.¹⁰⁸ It was because of that labor chapter, particularly the RRM, that America's umbrella union organization, the AFL-CIO, supported the trade agreement despite decades of vigorous campaigning against trade liberalization.¹⁰⁹ On a similar note, "pro-worker Republicans" and union-allied Democrats also supported the trade deal, a commonality that would have otherwise been highly unlikely.¹¹⁰ By explicitly framing and designing labor chapters to reduce anti-trade political risk, there could be broader support for labor provisions and perhaps a rethinking about how they can be designed to achieve such goals.

3. Geopolitical Risk Reduction

A third argument supporting labor chapters as resiliency-boosting instruments is their ability to facilitate trade between politically similar countries and incentivize further movement toward democracy and political isomorphism. The value of this is that supply chains are highly vulnerable to geopolitical risk, and countries are increasingly self-segregating in their trade relationships based on political regime similarity.

A significant and emergent geopolitical fault line is the conflict between autocratic and democratic regimes. Because autocratic regimes can be unreliable political and economic partners, sourcing from and investing in them carries risks, especially if the imports from those regimes are vital to national security and public health.¹¹¹ Changing dynamics in global politics and eco-

107. Schaffer & Spilker, *supra* note 106, at 1268.

108. USMCA, *supra* note 81, at ch. 23.

109. AFL-CIO Endorses USMCA After Successfully Negotiating Improvements, AFL-CIO (Dec. 10, 2019), <https://aflcio.org/press/releases/afl-cio-endorses-usmca-after-successfully-negotiating-improvements> [<https://perma.cc/5ZMX-GYC5>].

110. Robert E. Lighthizer, *The New American Way of Trade: How the USMCA Does What NAFTA Couldn't*, FOREIGN AFFS. (Sept. 27, 2023), <https://www.foreignaffairs.com/north-america/robert-lighthizer-new-american-way-trade> [<https://perma.cc/G8MH-GDHZ>].

111. Some research shows that democratic regimes tend to attract more FDI than do autocratic ones, although the question is far from settled. See, e.g., Nathan M. Jensen, *Democratic Governance and Multinational Corporations: Political Regimes and Inflows of Foreign Direct Investment*, 57 INT'L ORG. 587 (2003). Other research finds that the same does

conomic relationships suggest that democratic and autocratic states are economically segregating more than in the past, as evidenced by the recent tariff wars between the United States, the European Union, and China.¹¹² Moreover, the United States has banned equipment sales from specific Chinese companies, such as Huawei—the world’s biggest provider of fifth-generation mobile technology.¹¹³ But the segregation is deeper than that. Autocratic regimes often prioritize social control and nationalist ideology over economic growth or global economic and political integration, which can result in less reliable supply chains if the regime makes politically motivated changes to trade and investment rules. The sublimation of economic interests to political ones can create economic uncertainty for firms sourcing from or investing in those countries, which in turn incentivizes firms to develop supply chains in politically similar countries where there will be a lower risk of changes in trade rules and the imposition of extraordinary tariffs.¹¹⁴ Lead firms thus seek to diversify their supply chains further away from areas of high concentration and high political risk, such as China. Even Chinese contract manufacturers working with Western firms are increasingly sourcing outside China to reduce their exposure to the country’s political risk.¹¹⁵

Moreover, while the United States is far more likely to negotiate trade agreements with democratic countries than non-democratic ones, labor chapters can catalyze further democratization. For example, labor chapters, if effectively designed, can help play a role in promoting and facilitating independent and democratic unions. Democratic unions can be vital training grounds for democratic participation and leadership, which can spill over into political participation and action.¹¹⁶ More democracy in supplier countries can, theoretically, lead to increased economic and political stability, leading to more stable and resilient supply chains. While China is too large to be pressured

not hold for developing countries. See Benhua Yang, *Autocracy, Democracy, and FDI Inflows to the Developing Countries*, 21 INT’L ECON. J. 419 (2007) (arguing that for developing countries in democracy does not attract higher levels of FDI. Other research even shows that non-democratic countries that feign democracy, such as holding legislative elections, attract more FDI than other autocratic countries. Chungshik Moon, *Political Institutions and FDI Inflows in Autocratic Countries*, 26 DEMOCRATIZATION 1256 (2019).

112. *Globalisation and Autocracy Are Locked Together. For How Much Longer?*, ECONOMIST (Mar. 19, 2022), <https://www.economist.com/finance-and-economics/2022/03/19/globalisation-and-autocracy-are-locked-together-for-how-much-longer> [<https://perma.cc/D264-AC6S>].

113. Noah Berman et al., *Is China’s Huawei a Threat to U.S. National Security?*, COUNCIL ON FOREIGN RELS. (Feb. 8, 2023, 1:00 PM), <https://www.cfr.org/background/chinas-huawei-threat-us-national-security> [<https://perma.cc/6A2R-Q29C>] (last visited Aug. 6, 2024).

114. *Globalisation and Autocracy Are Locked Together. For How Much Longer?*, ECONOMIST (Mar. 19, 2022), <https://www.economist.com/finance-and-economics/2022/03/19/globalisation-and-autocracy-are-locked-together-for-how-much-longer> [<https://perma.cc/66BG-5Z3T>].

115. Foxconn, a Taiwanese company, is seeking to diversify out of China into India and other countries, for example. See Jacky Wong & Nathaniel Taplin, *For China, Bullying Apple Suppliers Could Backfire Badly*, WALL ST. J. (Oct. 30, 2023), <https://www.wsj.com/tech/for-china-bullying-apple-suppliers-could-backfire-badly-21daf854> [<https://perma.cc/5PT7-WV7M>].

116. Kevin Kolben, *Labour Regulation, Capabilities, and Democracy*, in LABOUR REGULATION AND DEVELOPMENT 60 (Shelley Marshall & Colin Fenwick eds., 2016).

into negotiating labor chapters that promote labor democracy and legal reform, other countries will be more receptive, as evidenced by the side agreements negotiated in the Trans-Pacific Partnership Agreement between the United States and Vietnam, Brunei, and Malaysia to promote labor rights and democratic unionism.¹¹⁷

4. Forced Labor Prevention Harmonization

A final argument for conceptualizing labor conditionality as a resiliency tool is that regulatory harmonization helps mitigate the risk that imported products violate rules on importing goods made using forced labor, reducing risk for importing firms. Governments are increasingly implementing such regulations. The United States, for example, has some of the most stringent laws banning the importation of goods made with forced and bonded labor. At the same time, the European Parliament has also agreed to implement a ban on importing goods made with forced labor.¹¹⁸ In the U.S., the Uyghur Forced Labor Prevention Act (UFLPA) bans the entry of any goods suspected of originating wholly or in part from the Xinjiang Uyghur Autonomous Region of the People's Republic of China.¹¹⁹ The ban also covers any goods that have entered the United States from a country other than China if they contain components originating from Xinjiang. An innovation of the USMCA was that it required all member countries to ban the importation of goods made with forced labor into any of the member state territories.¹²⁰ This makes it less likely, in theory, for a firm importing a good from the USMCA region to import a good that was made with forced labor. Given that the U.S. Customs and Border Protection (CBP) has been aggressively enforcing the UFLPA,¹²¹ such provisions in labor chapters offer extra assurance to U.S. firms that goods they import from USMCA member states—which constitute the U.S.'s most significant trading partners—comply with the law.

Conclusion

The U.S. Government's supply chain resilience strategy has hitherto prioritized domestic production and "friend-shoring" using a mix of industrial and international trade policies. The international trade policies, however, have

117. USTR, PROTECTING WORKERS FACT SHEET, available at <https://ustr.gov/sites/default/files/TPP-Protecting-Workers-Fact-Sheet.pdf> [https://perma.cc/5M4C-UPWG].

118. European Parliament Press Release 20240419IPR20551, Products Made With Forced Labour To Be Banned From EU Single Market (Apr. 23, 2024), <https://www.europarl.europa.eu/news/en/press-room/20240419IPR20551/products-made-with-forced-labour-to-be-banned-from-eu-single-market> [https://perma.cc/73Y6-HP6Q].

119. Uyghur Forced Labor Prevention Act, Pub. L. No. 117-78, 135 Stat. 1525 (2021).

120. USMCA, *supra* note 81, at art. 23.6.

121. As of August 7, 2024, CBP had denied entry to some \$3.46 billion in goods. Notably, most of those goods had originated not in China, but in Malaysia, Vietnam, and Thailand. Uyghur Forced Labor Prevention Act Statistics, U.S. CUST. & BORDER PROT., <https://www.cbp.gov/newsroom/stats/trade/uyghur-forced-labor-prevention-act-statistics> [https://perma.cc/5X28-NGV4] (last visited Aug. 8, 2024).

focused on maintaining tariffs and halting further trade liberalization. I have argued, however, that labor chapters in free trade agreements should be understood as a tool that can build supply chain resiliency.

The business community and other pro-trade voices often view labor chapters skeptically, however. They perceive them as economically inefficient barriers to trade that raise labor costs in partner countries to protect domestic labor interests, leading to higher costs for importers and consumers. However, this is not the correct way to view them, nor should they be designed to achieve such goals. Labor chapters can serve purposes that are consonant with several trade policy objectives, such as promoting American business, efficiency, welfare maximization, promotion of democracy, and other foreign policy goals. As this Article has shown, one of the underexamined ways that labor chapters can be advantageous to domestic importing firms and to the economic and defense interests of importing countries is by helping to promote supply chain resilience in what is and will remain a deeply interconnected global economy.