AI, Job Displacement, and the WTO: Identifying Legal Gaps and Charting a Worker-Centered Path

Tsai-fang Chen

MONDAY, NOVEMBER 10, 2025

Tsai-fang Chen

Professor, School of Law, National Yang Ming Chiao Tung University

Co-chair holder, WTO Chairs Programme

Email: tfc@nycu.edu.tw.

Part of this research has been supported by a grant from National Science and Technology Council, Taiwan (114-2410-H-A49-009).

Abstract

Artificial intelligence (AI) is transforming work across the globe, challenging governments to address job displacement through domestic and trade-related measures. This Essay argues that WTO rules lack the coherence and flexibility needed to address AI-induced labor disruption. Without reform, members may resort to unilateral responses that strain the multilateral trading system. This Essay proposes a labor-sensitive framework grounded in (1) distinguishing between automation and complementary AI, (2) allowing calibrated policy space to adopt trade measures that protect workers. This framework aims to preserve the WTO's legitimacy while responding to AI's systemic disruption. By placing labor and economic security at the center of trade governance, it advances a credible path toward resilience in the age of AI.

1. Introduction

Artificial intelligence (AI) has the potential to displace workers and threaten job and economic security.[1] The World Trade Organization (WTO) must proactively address these problems to remain relevant and to support global AI development that protects workers in line with the emerging principle of human-centered trade .[2] While AI's precise effects remain uncertain, governments must prepare to mitigate job losses .[3] The WTO should enable such efforts by developing tools to distinguish between legitimate labor protections and disguised protectionism.[4] [5]

This Essay advances four claims. First, the diffusion of AI will cause significant job displacement across sectors and borders. Second, governments will be forced to respond with labor-protective measures, many of which are trade-related measures, including prohibitions, import restrictions, tariffs, safeguard measures, and subsidies. Third, under current WTO rules, many such measures are prohibited or clouded by legal uncertainty. Fourth, to remain credible and relevant, the WTO should evolve to permit calibrated flexibility for employment-protective policies while constraining state support for the development of harmful AI. This Essay does not argue that the WTO should govern labor markets. Rather, as governments respond to AI-induced job displacement through the implementation of domestic policies—whether through trade restrictions, subsidies, or safeguards—these responses will increasingly test the boundaries of WTO law and the credibility of the organization.

Two central observations underscore this border argument for a more adaptive and labor-sensitive WTO framework. First, different types of AI produce divergent labor effects —automation-oriented AI tends to substitute for human labor, while complementary AI augments it .[6] The widespread adoption of automation AI could lead to large-scale labor displacements. Second, AI adoption is uneven, allowing advanced economies to reap disproportionate gains while exacerbating vulnerabilities elsewhere, including eroded competitiveness and employment shocks.[7] Recognizing and addressing these challenges is essential to future-proof the multilateral trading system and ensure credible responses to technological change.

These characteristics of AI expose WTO law to systemic stress and require new thinking about how trade rules can preserve flexibility and robustness in an era of rapid technological change. Existing trade agreements fail to account for these new realities, such as the General Agreement on Trade in Services (GATS), the General Agreement on Tariffs and Trade (GATT), the Agreement on Safeguards, and the Agreement on Subsidies and Countervailing Measures (SCM Agreement). As will be discussed in depth in Part III, the existing rules of the WTO are inadequate to address the systemic and cross-sectoral nature of AI's disruptions. The good-service dichotomy[8] falls short in regulating the far-reaching impacts of AI, which blur the boundaries between goods and services and cut across multiple industries simultaneously. The GATS focuses on sector-based competition and presumes technological neutrality,[9] making it difficult to address cross-cutting disruptions caused by general-purpose technologies like AI. Under the GATT and the Agreement on Safeguards, product-specific tools are ill-suited to a general-purpose technology, whose labor impacts cut across industries. Existing subsidy disciplines under the SCM Agreement only regulate support for physical products, and thus fail to adequately address harmful AI subsidies,[10] while providing insufficient flexibility for members seeking to protect workers. Taken together, these issues limit members states' ability to address cross-border job loss caused by AI.

This Essay proposes a labor-sensitive AI trade framework built on three pillars. First, WTO rules should permit differential treatment between automation-oriented AI that substitutes for workers and complementary AI that augments them. Second, members should be allowed to adopt policies that are labor-protective, including a special AI safeguard that can address cross-sectoral disruptions in goods and services and recognize job loss alone as injury. Third, subsidy rules should tighten disciplines on subsidies that accelerate automation-led displacement while protecting "AI-transition" subsidies for severely impacted industries and worker-augmenting technologies.

For clarity, this Essay treats AI as a general-purpose technology: a foundational capability that diffuses across sectors. Because general-purpose technologies are embedded in many different activities, their effects are not confined to a single "product" or "service" market. Their cross-cutting character is why WTO rules organized around sectoral schedules (GATS) and product-specific characteristics (GATT/Agreement on Safeguards) struggle to address AI-driven labor displacement.

Scholars have started to explore AI's impact on the WTO.[11] For example, previous scholarship on AI and trade has examined AI's regulatory implications for cross-border data trade ,[12] algorithmic bias ,[13] data governance ,[14] algorithmic accountability ,[15] and consumer protection .[16] One scholar, Lucian Cernat , has highlighted how accelerating the adoption of robotics and AI is intensifying the long-term decline in the labor intensity of exports, suggesting that even as global trade expands, fewer jobs may be supported by export sectors—particularly in countries where employment is closely tied to trade.[17] While such observations underscore the urgency of understanding technological disruption in global labor markets, there has been insufficient research into AI's impact on labor displacement and the trade policy implications that have resulted from it. This gap leaves critical questions unanswered about whether and how the multilateral trading regime should respond to the economic and job security risks posed by AI-driven job displacement.

Even if some projections foresee limited or even positive net employment effects from AI, plausible risks alone justify proactive institutional planning. The WTO must allow labor-sensitive national responses and support less-developed countries in managing AI-related pressures.

Part II surveys evidence on exposure to and distributional risks of AI-driven displacement; Part III then explains why national responses to AI will test WTO law's boundaries. Part IV details doctrinal shortcomings across the GATS, the GATT/Agreement on Safeguards, and the SCM Agreement. Part V advances the reform blueprint. The Essay concludes by considering AI's implications for the WTO's legitimacy.

2. AI's Impact on Job Displacement

The impact of AI on jobs has become a serious concern for academia and policymakers, particularly due to the development of AI agents —autonomous systems that can execute multi-step tasks without the need for continuous human oversight. AI could disrupt labor markets in two mutually reinforcing ways: first, by altering the nature and structure of work, including how tasks are divided between humans and machines, the skills demanded, and the organization of production, and second, by shifting global competitive dynamics in ways that could erode labor-intensive sectors across borders. An effective policy response must address both levels of disruption.

The automation introduced by AI can lead to large-scale job displacement in certain sectors. Notably, AI's impact on high-skilled, office-based jobs may be especially profound and unprecedented , given that cognitive and decision-making tasks are increasingly subject to automation .[18] According to an International Monetary Fund

(IMF) Staff Discussion Note, nearly 40 percent of global employment is exposed to AI, with advanced economies facing an estimated 60 percent exposure rate.[19]

By contrast, laborers in emerging markets and low-income countries appear less directly exposed to AI, largely due to their lower share of high-exposure occupations.[20] However, this "exposure" metric overlooks indirect risks transmitted through global economic competition. As firms in advanced economies adopt AI and improve their productivity, workers in less-developed countries may face mounting pressures due to widening productivity gaps and the reshoring of previously offshored production.[21] Without the requisite capacity, infrastructure, institutional framework, and skilled labor to adopt AI, these economies risk losing capital and market share to more technologically advanced competitors. This reality could deepen structural vulnerabilities.[22] Moreover, by enabling the automation of both production and services, AI may reduce the incentives to offshore, thereby further diminishing the demand for labor in developing countries. Because the labor-displacement effects of AI cross national borders, the relatively lower direct exposure in less developed economies should not offer reassurance. Workers in these economies may be affected not only by their own adoption of AI, but also by foreign automation that intensifies competitive pressures. These disruptions extend beyond digital services to include traditional trade in goods, as AI-powered automation in factories can displace workers abroad. This dynamic evokes parallels with historical episodes of labor dislocation, such as the collapse of India's textile sector during the Industrial Revolution—a cautionary precedent potentially echoed in today's AI-driven shifts in global trade competitiveness.[23]

AI-induced job displacement is no longer a theoretical concern. A prominent example is the emergence of corporate strategies that are shaped by the use of AI. These strategies include large-scale layoffs and hiring freezes explicitly linked to the integration of AI, such as AI agents. Some of the companies that have deployed these strategies are Shopify ,[24] IBM ,[25] Salesforce ,[26] Microsoft ,[27] and Amazon .[28] While AI may not yet fully replace human capabilities, these corporate decisions reflect a clear preference to restructure workforces around AI and the efficiency it offers. The cases above offer early but concrete evidence of a growing displacement trend—where layoffs and hiring freezes are directly or indirectly linked to AI adoption. Even as some new jobs emerge ,[29] the scale and nature of displacement demand closer attention, especially when companies treat such job loss as an acceptable cost of innovation and economic productivity.

The cumulative effect of these and future firm-level trends is not abstract. When workers are displaced on a large scale and cannot find new employment, the impact extends beyond individual hardship to broader social and economic harms. Even those who do manage to find work again, particularly in countries lacking robust social protection systems, may be pushed into the informal economy due to limited employment choices .[30] This shift often results in diminished job security, unstable income, and weaker legal protections, further compounding worker vulnerability .[31] This trajectory has occurred historically, such as during the post-communist transition in Eastern Europe , and is likely to recur with AI, which would require governments to step in to reduce individual and societal harm.

The effects of AI-induced labor displacement are not evenly distributed across demographic groups. For example, women are disproportionately represented in clerical and administrative roles, which are especially susceptible to automation due to the

prevalence of routine tasks and the concentration of such work in service sectors . [32] One study estimates that the share of women's jobs at risk is twice that of men's. [33] Age is another key axis of vulnerability. Older workers tend to demonstrate lower adaptability to technological change, including the integration of AI into workplace workflows.[34] Older workers may face greater obstacles to retraining and upskilling, heightening the risks of exclusion from evolving labor markets. At the same time, younger workers in highly AI-exposed occupations have already begun to experience relative employment declines , indicating that early AI shocks can affect entrants to the labor market as well. Yet, this trajectory is not inevitable. With deliberate policy and careful design, AI could complement rather than displace human labor, but only if governments act before displacement becomes entrenched.[35]

3. Why the WTO Needs to Provide Policy Space to Allow Members to Address Job Displacement Caused by AI

The WTO is not an international labor organization. It does not set labor standards and should not attempt to manage labor markets. Its mandate, however, directly covers the legality of members' measures addressing domestic economic shocks in response to the importation of goods or services. Employment and labor displacement are not outside of the WTO's mandate, as the Marrakesh Agreement's preamble , referring to full employment, and the Agreement on Safeguards, Article 4.2(a), considering job loss as a kind of "serious injury" to domestic industry that justifies the adoption of safeguard measures, demonstrate. This Essay does not argue that the WTO should proactively regulate the effects of AI on job displacement; instead, it urges the WTO to preserve sufficient policy space for members to adopt trade measures that address AI-induced job displacement. This approach remains squarely within the WTO's existing mandate.

Even if the long-term impact of AI on net employment remains uncertain, periods of disruptive transition are likely unavoidable. This alone justifies anticipatory and mitigating policy measures. A passive, wait-and-see approach premised on optimistic assumptions may result in delayed governmental responses,[36] creating long-lasting labor market damage and political instability.[37] At the same time, hasty or panic-driven reactions risk producing counterproductive outcomes. Governments must respond to the economic insecurity and social harms that involuntary job loss inflicts on workers.[38]

The urgency of policy-driven responses hinges on the speed with which AI's disruptive effects materialize. The pace of technological advancement will determine whether society and governments have time to adapt. Divergent views on the pace of AI advancement have led to contrasting predictions. For instance, one set of economists adopts a "fast takeoff" scenario, warning that general-purpose AI systems could displace significant portions of the workforce by 2028 .[39] Other economists foresee the possibility of widespread labor automation from general-purpose AI within the next decade.[40] By contrast, Princeton computer scientists Narayana and Kapoor contend that AI, like electricity or computing, will diffuse gradually, due to organizational inertia, regulatory bottlenecks, and the complex socio-technical adaptations required for real-

world adoption.[41] Obstacles to automation, they contend, could delay widespread deployment for decades.[42] Their “normal technology” view suggests a long-term, incremental integration of AI technologies rather than an immediate disruption. Nonetheless, early indicators suggest that generative AI is being adopted more rapidly than prior technologies such as the internet or the personal computer.[43] If policymakers embrace the “normal technology” view as a basis for complacency, they risk underestimating the speed and magnitude of labor disruption at least in certain high-exposure sectors. WTO members are likely to adopt measures in response to both gradual structural transitions and more acute sectoral shocks—particularly in industries where labor displacement is sharpest—that could ripple swiftly through global value chains. The WTO must therefore be prepared, not because it governs labor markets, but because its legal framework will inevitably be tested by these responses.

The WTO should address AI-driven job displacement disruptions because governments may be forced to address the challenges that arise from AI and adopt measures that could have profound effects on the multilateral trading system. A key concern for governments may be the lack of transparency surrounding AI-related workforce reductions. While some firms have explicitly announced layoffs or hiring freezes linked to the integration of AI systems, many do not disclose whether workforce reductions or hiring freezes are linked to the adoption of AI. In response to this opacity, New York has begun addressing the issue through its Worker Adjustment and Retraining Notification (WARN) law, which requires greater transparency regarding AI-related layoffs.[44] If these pressures continue to accumulate, governments may respond with trade measures that could place additional strain on the credibility of the WTO. Accordingly, WTO rules must accommodate national policies aimed at equitable labor outcomes in the age of AI. Governments need the policy space to address labor market disruptions and to steer AI development in socially beneficial directions,[45] without fear of violating trade commitments. If the WTO’s rules constrain the policy space, the institution risks driving policy responses outside the multilateral framework, further fragmenting the trading system at a moment when coherence and inclusion are most needed.

4. The WTO’s Current Rules Are Not Adequate to Address the Negative Impact of AI on Job Displacement

The WTO provides mechanisms of flexibility to address the adjustment challenges arising from trade liberalization. Under the GATT, members may seek tariff renegotiations[46] or pursue general[47] and security exceptions[48] that offer a legal basis for measures addressing broader threats to economic security. The Agreement on Safeguards allows the imposition of temporary safeguard measures in response to unexpected surges in imports that threaten to cause injury to domestic industries. Under the GATS, market access commitments can be modified or withdrawn through potential negotiations,[49] and generally lower levels of liberalization commitments in the GATS provide some initial flexibility.[50] Like the GATT, it contains general and security exceptions and additionally includes a prudential carve-out specific to financial services. However, WTO law does not contain specific

provisions aimed at mitigating job displacement resulting from liberalization. Countries are expected to specialize in sectors where they are relatively more efficient, and displaced workers are assumed to reallocate to new areas of employment. Labor displacement caused by trade liberalization is treated as a temporary adjustment cost that can be partially mitigated by the safeguard mechanism.

This assumption may not work in reality, and the "China shock" is a salient example.[51] Its severity stemmed in part from a mismatch between pervasive industrial subsidies and the resulting overcapacity in China, on the one hand, and a WTO framework not designed to address those dynamics effectively, on the other. The episode shows how a rapid surge in trade—driven by forces insufficiently governed by existing rules—can translate into large trade-exposed employment losses that strain domestic politics and the credibility of international institutions. The displacement may be much worse when there are no new jobs for humans to transition into—when laborers are not displaced by foreign labor, but by foreign AIs. The potential coming wave of AI-induced job displacement may be even more disruptive.[52] Unlike earlier shocks that were largely sector-specific or skill-specific, AI cuts across all sectors and all skill levels. It operates at digital speed; is not constrained by geography, physical infrastructure, or, in some cases, language or cultural differences; and exerts competitive pressure globally through trade in goods or services. The world may be facing an "AI shock": a disruption to labor markets on a scale and at a speed that may surpass any prior episodes of trade-related dislocation. If the WTO struggled to respond to the consequences of the China shock, it is even less prepared for the systematic, cross-sectoral risks posed by the AI shock.

This Essay argues that AI-induced job displacement will intensify the stress on the multilateral trading system. Without updated rules that provide greater flexibility and safeguards for employment and economic security, the WTO risks further erosion of its relevance. As argued above, AI-induced labor displacement could represent a type of labor market disruption unprecedented in the postwar trading order. It transcends any specific product, service, or sector. It affects both developed and less developed countries, labor-intensive and high-skilled sectors, and every stage of global supply chains. This Essay next turns to the legal analysis of why the WTO's current rules are insufficient to address this risk.

4.1. Issues under the GATS for AI-Induced Job Displacement

4.1.1. Technological Neutrality and AI Services

Under the GATS, commitments are scheduled by mode of supply. For example, Mode 1 (cross-border supply) covers services delivered from the territory of one member into that of another member (e.g., legal services provided over the internet). Mode 2 (consumption abroad) covers services supplied in the territory of one member to the consumers of another member (e.g., a tourist obtaining medical care or a student receiving education abroad). When interpreting service schedules under the GATS, WTO adjudicating bodies allow the terms used therein to cover later developed technology. Once a service sector is committed, the way the service is provided could be irrelevant, including through digital means. Adopting the principle of "technological

neutrality," the panel in *US—Gambling* interpreted the United States' GATS schedule for "other recreational services (except sporting)" to include gambling services to be supplied through the internet. The panel reasoned that "a market access commitment for mode 1 implies the right for other Members' suppliers to supply a service through all means of delivery, whether by mail, telephone, Internet etc., unless otherwise specified in a Member's Schedule."[53] Technological neutrality means that once a member has committed to open a sector in a specific mode, later developed delivery technologies are presumptively covered. This remains true even when the digital means of delivery had not been contemplated by the negotiating members.[54] This implies that services delivered by AI could be covered by existing commitments.[55] Once a sector is committed, the relevant obligations of market access and national treatment would extend to services delivered through AI, even if such means of delivery were not foreseen when the commitments were made. Therefore, WTO members may not be afforded sufficient flexibility to rethink their commitments in AI-affected sectors.

4.1.2. Sectoral Approach and Modes

The GATS sectoral classification system presents challenges in regulating AI. As a general-purpose technology, AI services are inherently cross-sectoral: a single AI system might perform functions that span multiple service sectors. For example, an AI platform could simultaneously provide services in transportation, finance, legal, and healthcare.

The current GATS framework struggles to accommodate such multi-functional digital services within a single sectoral category. This rigidity makes it difficult to determine the applicable commitments for AI-driven services that cut across sectors.[56] The sector-by-sector structure of the GATS thus makes it difficult to accommodate the inherently cross-cutting nature of AI. In addition, AI services raise difficult questions regarding modes of supply. The debate over Mode 1 versus Mode 2 for digital services is already well known, but AI complicates this further.[57]

These sectoral challenges are not unique to AI; they reflect difficulties in how digital services are classified within the GATS framework. Message apps like WhatsApp combine communication tools with e-commerce and customer services, and "super-apps" like WeChat integrate social media, payment systems, and retail.[58]

However, such challenges are particularly acute in the context of government responses to AI-induced labor displacement. A mismatch between sectoral or mode commitments can significantly complicate a government's ability to respond to AI-driven labor shocks. Moreover, attempting to craft sector-by-sector solutions to what is fundamentally a cross-sectoral phenomenon would likely prove inefficient and burdensome. Even if members recognize the urgency of the issue and are willing to renegotiate their commitments, the current GATS framework offers limited flexibility and high costs for doing so.

4.1.3. Likeness Analysis

Two core non-discrimination obligations are at the heart of disputes over measures that differentiate between human- and AI-supplied services. Under Article II of the GATS, the Most-Favored-Nation Treatment (MFN) requires members to unconditionally extend any favorable treatment they accord to services and service suppliers of any country to "like" services and service suppliers of all other member states. And under Article XVII of the

GATS, National Treatment (NT) requires that, in scheduled sectors, foreign "like" services and service suppliers receive treatment no less favorable than domestic ones. In both provisions, "likeness" typically turns on the competitive relationship between services and service suppliers.[59]

The likeness analysis may involve two distinct but related questions: (1) whether services provided by a human and those provided by AI could be considered "like" services, and (2) whether AI-provided services fit the "like" label even if they have different effects on labor displacement. Likeness should be made on a case-by-case basis.

Consider the example of human- versus AI-provided services. A strong argument can be made that they are not alike, yet the distinction is not clear-cut. Under the GATS, likeness is assessed primarily based on the "competitive relationship" between services and service suppliers.[60] If an AI-powered service performs the same function for consumers as a human-provided one, a finding of likeness may occur. For instance, both an AI translation tool and a human translator can produce a translated text for a consumer. Though their processes may differ, the output is equivalent. In fact, a human translator may utilize an AI translation tool in rendering services, which further blurs the distinction between them. Similarly, an AI chatbot and a call center human agent can both provide customer support. Both interact with consumers, respond to inquiries, and resolve problems in real time. From the consumer's perspective, the end service they receive can be functionally identical. Where a direct competitive relationship exists, other relevant criteria may also exist, such as service characteristics, classification of services, and even consumer preferences for some situations.[61]

This poses challenges for members seeking to adopt measures that favor human service suppliers. A member might argue that an AI service does not directly compete with the traditional service in the same market segment to defend from a potential violation of an MFN or NT obligation. However, given the pace of AI integration, such an argument may become increasingly difficult to sustain. As AI systems grow more sophisticated, their outputs increasingly resemble those of human professionals, blurring the distinction in consumers' eyes.

One could argue that consumers may still prefer human service suppliers over AI, but that preference is not uniform. Moreover, the very rationale for adopting protective measures is precisely because human and AI services compete in the same space. In any event, the likeness analysis remains fraught with uncertainty. That uncertainty itself presents a challenge that complicates efforts to address AI-driven job displacement through existing trade rules.

Suppose a member adopts a "human-first" rule for its call-center operations, meaning all customer interactions are handled by human agents, with only "complementary" AI that is permitted under human supervision. Another member, who provides a foreign-developed, fully automated AI system, could argue that its AI product is discriminated against compared to the permitted "complementary" AI system under an MFN claim. Here, one of the critical issues would be whether "complementary" AI (when used by a human operator) and fully automated AI are "like".

4.1.4. E-Commerce Moratorium and the Absence of Customs Duties on Digital Services

The WTO's longstanding, repeatedly renewed e-commerce moratorium on customs duties for electronic transmissions presents another key limitation. This moratorium, while not permanent, was first adopted in 1998 and has been repeatedly renewed to prohibit tariffs on digitally-delivered services.[62] As it currently stands, the moratorium means AI-driven services supplied cross-border cannot be subject to customs tariffs, removing one traditional trade policy tool for trade governance. Some developing countries have raised concerns that the moratorium limits their revenue and policy space, as digital imports escape any customs duties.[63] In the context of AI-induced job displacement, this lack of tariff authority constrains governments from using tariffs to protect domestic industries against surging AI service imports. While the moratorium serves the positive purpose of reducing trade barriers to digital trade, AI-induced labor displacement could justify rethinking the moratorium.

4.1.5. No Emergency Safeguard Mechanism—Limited Flexibility to Respond to AI Shocks

Unlike the GATT, the GATS lacks a general emergency safeguard mechanism for services. Although Article X of the GATS mandates negotiations to establish such a mechanism, WTO members have yet to reach an agreement on a safeguard. As a result, there is currently no right to temporarily suspend or roll back service commitments in response to even an unforeseen, increased cross-border supply of services that cause or threaten to cause serious injury to domestic service suppliers. The lack of such a right is particularly significant in the context of AI. If a newly introduced AI service were to cause rapid and widespread displacement, for example, through an unforeseen surge of AI-enabled outsourcing that replaces domestic service providers, governments would lack a clear legal basis to invoke temporary safeguard measures. The current framework leaves little room for protective measures, even in the face of significant labor market disruption.

Critics have long argued that the lack of a safeguard mechanism represents a gap in the WTO's services regime.[64] Others maintain that the existing GATS framework adequately addresses these concerns , rendering a new safeguard mechanism unnecessary.[65] For instance, members can limit or withhold commitments in sensitive sectors, rely on regulatory measures that indirectly address service surges, or invoke certain provisions that offer flexibility, such as the general exceptions in Article XIV, balance-of-payments safeguards under Article XII, or the prudential carve-out in the Annex on Financial Services.[66] However, these flexibilities may be insufficient in addressing AI-specific challenges. Technological neutrality limits members' ability to withhold commitments. Moreover, the scope of existing exceptions is narrow: Article XII and the prudential exception address financial difficulties, not domestic labor shocks, and it remains unclear which, if any, Article XIV exceptions could confidently justify measures responding to AI-induced job displacement.

If the general exceptions were truly adequate substitutes for a safeguard mechanism, there would have been no need for a negotiating mandate under Article X in the first place. The continued absence of an emergency safeguard means that WTO members

face legal uncertainty when responding to AI-driven service import surges that threaten employment. This is widely seen as an unfinished business within the GATS framework, and the accelerating impact of the AI revolution is renewing calls to revisit the long-neglected issue.

4.1.6. GATS' Inadequate Treatment of Subsidies for AI Development

Finally, the GATS provides no effective framework for regulating subsidies in services, which poses an increasingly serious omission as governments ramp up support for AI across sectors. Article XV of the GATS acknowledges that subsidies may distort trade in services and instructs members to negotiate specific multilateral disciplines to regulate the granting of service subsidies. Yet no such multilateral rules exist today. Since 1995, the Working Party on GATS Rules has been tasked with negotiating disciplines on subsidies under Article XV, but progress has remained limited .

In the AI context, governments are investing heavily in research and development, offering tax incentives, and funding infrastructure to accelerate AI innovation, such as the United States and China.[67] These measures can provide a global advantage to domestic service suppliers who develop AI services or integrate AI into existing service sectors. Unlike goods, where the SCM Agreement governs subsidies, AI-related services remain largely unregulated under WTO law. Support for algorithms, software, AI training, and even AI-enabled infrastructure is generally outside the scope of existing WTO rules. In practice, this means a WTO member could heavily subsidize its domestic AI sector and affected trading partners would have no clear recourse under the GATS, even if their service suppliers are significantly disadvantaged.

There is a need to distinguish between acceptable and unacceptable forms of AI-related subsidies to maintain a level playing field in the service trade.[68] But absent updated rules, the WTO faces a gap: trade-distortive support for AI development remains essentially unchecked in services. This gap is not just theoretical. It could trigger subsidy races in AI, further marginalize countries with limited fiscal capacity, thereby deepening inequality in the global service economy. In short, the GATS' omission of effective subsidy disciplines represents another facet of its inadequacy in addressing the cross-cutting, transformative impact of AI on service trade.

4.2 Inadequacy of Rules Regulating Trade in Goods for AI-Induced Job Displacement

A fundamental limitation of the GATT in addressing AI-induced job displacement lies in its scope: the GATT and the Agreement on Safeguards apply only to trade in goods, whereas AI-driven disruptions frequently affect services or a combination of goods and services. This threshold constraint means that the policy flexibility available to members under the goods regime is not afforded in the service context, leaving an uneven regulatory landscape between the two. Beyond this gap, even within the domain of goods to which these rules apply, existing instruments prove ill-suited to the characteristics of AI-driven disruption. The following subsections examine these internal deficiencies in greater detail.

4.2.1. Product-Specific Tools vs. General-Purpose Technology

The GATT and the Agreement on Safeguards are built around a product-specific logic that is poorly suited to AI's nature as a ubiquitous, general-purpose technology. Safeguard measures under Article XIX of the GATT and the Agreement on Safeguards must be applied to particular products. This structure may offer short-term relief in narrowly defined cases—for example, if imports of a specific AI-enabled good (say, self-driving vehicles) surge unexpectedly.[69] But AI's diffusion is neither narrow nor isolated. It is embedded across a wide array of goods, often invisibly, and its impact cuts horizontally across sectors. Responding to large-scale losses with dozens or even hundreds of separate safeguard actions would be both impractical and ineffective. Even if legally possible, such a piecemeal approach would be fragmented, inefficient, and unable to address the systemic nature of the disruption.

WTO rules do not provide for a blanket safeguard measure targeting a technology category like AI. In short, general-purpose technological disruption cannot be contained using product-specific trade remedies. AI's cross-cutting nature defies the narrow application of traditional safeguard tools under the GATT's framework.

4.2.2. Cross-Sectoral Job Loss vs. "Domestic Industry" Definition

AI-induced job displacement is often cross-sectoral, affecting multiple, unrelated industries simultaneously. The WTO's safeguard rules, however, operate at the level of a defined "domestic industry" producing a similar or directly competitive product. Under Article 4.1(c) of the Agreement on Safeguards, the relevant industry is limited to the producers of the specific good subject to increased imports. Each safeguard measure targets a discrete product sector, which leaves no mechanism for addressing broader, economy-wide structural harm in a unified proceeding.

Moreover, safeguard measures require a determination of serious injury or threat thereof to the domestic industry.[70] When job losses are dispersed across sectors, they may not clearly satisfy the injury threshold for any industry. This limitation is compounded in the service context because the Agreement on Safeguards applies only to goods, and AI-driven job displacement in services falls entirely outside its scope. In such cases, there may be no identifiable import of physical goods to target at all. In summary, the product- and sector-specific focus of the WTO safeguard rules cannot easily accommodate the kind of widespread labor displacement that crosses industrial boundaries or that emerges in sectors beyond just goods.

4.2.3. Serious Injury: Can Job Loss Alone Qualify?

Even within a given industry, job loss alone may not meet the "serious injury" threshold required under WTO safeguard rules. Investigating authorities must evaluate a range of factors, including "the rate and amount of the increase in imports of the product concerned in absolute and relative terms, the share of the domestic market taken by increased imports, changes in the level of sales, production, productivity, capacity utilization, profits and losses, and employment."[71] No single factor is determinative, and the determination must be based on the totality of the industry's condition. Therefore, if an industry's output and profitability remain strong, a reduction in

employment alone may not qualify as a serious injury. This limitation is particularly relevant in the AI context, where automation may allow firms to sustain or even grow production while employing fewer workers. In such cases, significant job losses—while socially disruptive—may not satisfy the legal criteria for triggering a safeguard measure.

4.2.4. Inadequacy of the Remedies under the Agreement on Safeguards

Even if a WTO member is able to fit an AI-driven disruption within the existing safeguard framework, the remedy may significantly limit its usefulness. For example, by the time relief is imposed, the domestic industry may have already adopted AI technology, or workers may have permanently exited the sector. Moreover, safeguards must be applied on a non-discriminatory basis under Article 2.2 of the Agreement on Safeguards and allow affected trading partners to seek compensation under Article 8.1. For many developing and least-developed country members, these provisions render safeguards impractical. They may lack the leverage to negotiate favorable compensation arrangements, and any retaliation by larger trading partners could be economically destabilizing. The broader the safeguard measure, the greater this burden becomes.

In an AI context, where a single technological shift may affect a wide range of goods across multiple sectors, safeguard measures could impact the exports of numerous WTO members—and potentially entitle them to compensation. For smaller economies, this may deter them from invoking safeguards altogether, even where job losses are severe. The result is a chilling effect: the legal availability of safeguard measures may exist in theory, but in practice, the costs and risks may be prohibitive.

4.2.5. The SCM Agreement and the Challenge of Job Displacement

The WTO's subsidy disciplines face a dual challenge in the context of AI-induced job displacement. First, they should in principle constrain government support for automation-oriented AI, whose primary effect is to displace human labor and generate negative spillovers abroad.[72] Second, they should preserve sufficient policy space for governments to support workers and industries adjusting to AI shocks. Yet, the current SCM Agreement is lacking on both fronts. It fails to police harmful automation subsidies and provides limited flexibility for employment-supportive responses, revealing a growing misalignment between twentieth-century subsidy rules and twenty-first-century technology that is disruptive.

On the first front, the SCM Agreement regulates only subsidies in the context of trade in goods. Government support for AI as a service falls largely outside its scope, as WTO rules do not discipline subsidies in the service sector. A government can therefore channel substantial public resources—either directly or through infrastructure subsidies for semiconductors, cloud infrastructure, or data centers—into domestic AI developers whose technologies enable labor-displacing automation, both at home and abroad. Yet affected foreign industries may have no clear legal remedy under the SCM Agreement, particularly if they do not produce competing physical goods or if the impact of the subsidies materializes in the service sector.

On the other hand, the SCM Agreement may constrain governments seeking to provide employment-supportive subsidies. In principle, non-specific subsidies—such as general retraining programs or broad social welfare measures—are permitted.[73] However, subsidies targeted at specific sectors affected by AI may be vulnerable to challenges if considered "specific" under Article 2, and those that constitute prohibited subsidies, [74] such as those contingent on local content,[75] would face even stricter scrutiny. Governments seeking to cushion AI's labor effects may, therefore, face legal uncertainty, deterring bold or targeted interventions. In this sense, the SCM Agreement not only under-disciplines harmful subsidies but also over-disciplines beneficial ones.

One might argue that other domestic policies suffice to deal with labor displacement concerns, and therefore, there is no need for a WTO reform. Domestic instruments, such as taxation, welfare support, and retraining, may be necessary complements, but they are not sufficient in a world where most economies import AI as a cross-border service, as a service bundled with physical goods (for example, when AI functionality is delivered through connected devices), or as a platform that reshapes competition across sectors. As this part shows, technological neutrality, the goods-services divide, the absence of an emergency safeguard for services, and the asymmetric reach of subsidy disciplines mean that many employment-protective responses will unavoidably take a trade-related form (e.g., temporary suspension of commitments, procurement preferences keyed to human-in-the-loop models, targeted border and licensing measures). Expecting members to refrain from such measures is unrealistic under concentrated labor shocks. The credible multilateral path is not to deny that these measures will be used but to channel them *ex ante* through calibrated flexibility—paired with transparency, time limit, and injury threshold keyed to job loss—so that legitimate worker protection is distinguishable from disguised protectionism. This would allow for the preservation of the WTO's authority.

5. A Worker-Centered Path Forward

AI is a general-purpose technology with broad implications for international trade. Its impact will be felt primarily through trade in services, though it may also involve bundled goods and services. Workers in industries that adopt AI may face mounting displacement pressures. At the same time, countries that deploy AI to enhance the competitiveness of their services sectors may intensify global competition. Economies unable or unwilling to integrate AI into their domestic industries risk falling behind, with resulting job losses across affected sectors if no governmental support is provided.

In light of these dynamics, this Essay argues that current WTO rules are not adequate to address the labor disruptions caused by AI. The WTO must be prepared to adapt to the systemic, cross-cutting nature of AI-driven job displacement. Its rules should be reformed to ensure governments retain sufficient flexibility to respond—consistent with the WTO's broader commitment to human-centered trade.

5.1. Guiding Principles for Reform

This Essay proposes a labor-sensitive AI trade framework—a targeted set of WTO reforms designed to address the impacts of AI. At its core, the framework rests on three propositions. First, not all AI should be treated equally: to the extent feasible, WTO rules should enable governments to distinguish between automation-oriented AI that substitutes for workers[76] and complementary AI that augments labor.[77] Second, WTO disciplines must allow policy space to respond to cross-border job displacement caused by the importation of AI-enabled goods and services and by AI deployment in other countries. A labor-sensitive framework would support flexible safeguard mechanisms, differentiated subsidy rules, transparency obligations, and even temporary carve-outs. This shift is not to roll back liberalization, but rather to seriously recognize the paradigm shift of AI as a general-purpose technology and preserve the legitimacy and relevance of the multilateral trading system in the face of systemic labor disruptions. Third, the rules need to be strengthened to effectively deal with harmful subsidies that may accelerate the development of AI automation that replaces labor and causes disruption to economic security. The sections below outline specific proposals across the GATS, the GATT, the Agreement on Safeguards, and the SCM Agreement, as well as general reforms addressing the job displacement impacts of AI.

5.2. Proposed Reform Directions

WTO rules should be interpreted to allow differential treatment between complementary, worker-friendly AI and automation-oriented AI. While existing rules may not prohibit such a distinction, uncertainty remains. In some cases, differentiating between AI types may be infeasible. However, in others, legal tools such as likeness analysis, the chapeaux of general exceptions, and legitimate regulatory distinctions under Article 2.1 of the Agreement on Technical Barriers to Trade (TBT Agreement) may allow (or at least not preclude) such differentiation. The problem lies in the application of these provisions, which can be challenging and unpredictable. This Essay calls for a clear recognition of such distinctions as legitimate regulatory objectives and an acknowledgment—through authoritative interpretations by WTO members[78]—that automation and complementary AI should not be treated as like products or like services. Measures that protect workers from machines —not industries from trade—should also be recognized as falling under public morals exceptions, i.e., exceptions under the GATT and GATS that could justify otherwise inconsistent measures.[79] Public morals refer to standards of right and wrong conduct maintained by or on behalf of a community or nation.[80] To establish whether a measure is justified under the public morals exception, the measure must be designed to protect public morals, and the measure must be necessary to protect such public morals.[81]

Several revisions are necessary to allow members to protect workers from large-scale, AI-induced job displacement. They will include the GATS reform, a special AI safeguard mechanism, subsidy discipline reform, and special and differential treatment.

First, with regard to services, technological neutrality under the GATS could be reconsidered. While this Essay acknowledges the benefits of a broad, innovation-friendly interpretation, AI represents a paradigm shift that warrants new thinking. Human-provided services should, where appropriate, be treated as unlike AI-delivered services. Likewise, the e-commerce moratorium should be reevaluated in light of AI developments.

Second, the Agreement on Safeguards does not provide adequate protection against AI-driven labor shocks. If technological neutrality remains, a special AI safeguard mechanism should be considered. This Essay proposes a dedicated AI safeguard mechanism applicable to trade in goods, services, and bundled forms. It should not require the "unforeseen developments" element under GATT Article XIX.1(a). It should recognize actual or potential job loss as sufficient to satisfy the injury requirement. It should also allow safeguard measures against increased imports across sectors. Compensation requirements should be waived for developing and least-developed members.

Third, the SCM Agreement should be revised to create legal space for "good" subsidies—those aimed at retraining, upskilling, or incentivizing complementary AI technologies. These should be allowed as non-actionable, including those that may be specific or constitute prohibited import-substitution subsidies. A note should be made here regarding the treatment of prohibited subsidies in the context of AI transition in services. Consider a scenario in which widespread adoption of foreign AI technologies threatens massive job losses. A government responds with a targeted subsidy program—supporting domestic call center operators that use locally developed AI designed to augment, not replace, human workers.[82] The subsidy is conditional on the use of domestic natural language processing tools and requires firms to retrain a certain level of staff. This approach might constitute local content subsidies if rules similar to Article 3.1(b) of the SCM Agreement are adopted for the subsidy rules in the service context. Yet it serves a legitimate purpose because, without such conditions, subsidies may fail to preserve employment. This hypothetical highlights the need for more flexible subsidy disciplines, such as ones that allow employment-sensitive "AI transition" measures within a services context.

Additionally, the SCM Agreement should be strengthened to discipline subsidies that directly promote automation-led job displacement. Subsidy disciplines for services should be established under the GATS, and the WTO should establish a monitoring mechanism that requires notification of AI-related subsidies.

Lastly, the WTO should enhance special and differential treatment to assist developing and least-developed country members in navigating the AI transition. This includes longer adjustment periods, broader policy flexibility, and financial support. This Essay proposes the creation of an "AI Adjustment Fund," modeled on the Agreement on Fisheries Subsidies, to provide technical and financial support for training, institutional reform, social safety nets, and import monitoring, which would ensure a just transition in the age of AI.

5.3. Political Feasibility and Global Coordination

Reforming WTO rules to address AI-induced labor displacement will face political resistance. The multilateral trading environment is under strain from growing skepticism, unilateralism, and geopolitical tension. In such a climate, efforts to expand the domestic policy space may be viewed with suspicion. Yet maintaining space within trade rules for governments to adapt to technological change is essential to the credibility and resilience of the multilateral trading system. The "AI shock" could rival or exceed past

episodes of global labor disruption. A precautionary approach is needed before social and political backlash becomes entrenched.

Divergences between AI-exporting and AI-importing countries may complicate reform, particularly around rules distinguishing types of AI or regulating cross-border AI flows. But AI's impact transcends borders. All economies contain sectors vulnerable to displacement. In this sense, AI represents a systemic risk—like a pandemic. It requires coordinated responses. This shared exposure creates a unique opportunity to build a common understanding that enables national responses while preserving the legitimacy and relevance of the multilateral trading system.

VI. Conclusion

AI is transforming the structure of economies worldwide, but its impact on labor markets presents a systemic challenge that WTO rules are ill-equipped to address. As AI accelerates job displacement across sectors and borders, governments will be compelled to act to safeguard employment, support vulnerable workers, reshape industrial bases, or, in more extreme cases, resort to trade wars, economic coercion, or isolationist measures. If the WTO fails to adapt, it risks being sidelined, as members turn to unilateral or bilateral instruments outside the multilateral framework. By contrast, if WTO members recognize the challenge and proactively establish flexibilities and guardrails, the multilateral trading system can chart a more constructive path—one that steers the global economy toward stability and shared prosperity.

This Essay has argued for the development of a labor-sensitive AI trading framework—one that distinguishes between automation-oriented, labor-replacing AI and complementary, labor-augmenting AI; one that expands flexibility for labor-protective measures under the GATS and the GATT; and one that reforms existing instruments such as safeguard mechanisms and subsidy disciplines. These reforms would restore the WTO's legitimacy and responsiveness in an era defined by general-purpose technological disruption.

AI is a structural force reshaping production, employment, and global competitiveness. If the WTO is to remain credible and relevant, it must place human labor at the center of its legal and institutional response.

[1] Mauro Cazzaniga, Florence Jaumotte, Longji Li, Giovanni Melina, Augustus J Panton, Carlo Pizzinelli, Emma J Rockall & Marina Mendes Tavares, Gen-AI: Artificial Intelligence and the Future of Work 3 (Int'l Monetary Fund, Staff Discussion Note No. 2024/004, 2024) (arguing that AI might pave the way for large scale job displacement); Daniel Susskind, A World Without Work: Technology, Automation and How We Should Respond 3 (2020) (highlighting that the threat of "technological unemployment" is now real); Anton Korinek & Donghyun Suh, *Scenarios for the Transition to AGI* 37 (Nat'l Bureau of Econ. Rsch., Working Paper No. 32255, 2024) (noting that the effects of automation follow an inverse U-shape, first increasing wages by utilizing abundant capital but eventually decreasing wages due to labor displacement); Pawel Gmyrek,

Janine Berg & David Bescond, *Generative AI and Jobs: A Global Analysis of Potential Effects on Job Quantity and Quality* (Int'l Labour Org., 2023); Lucian Cernat, *Trade, Jobs and Technological Change: What to Expect in the Next Five Years?*(Eur. Ctr. for Political Econ. 2025)(explaining that AI and robotics are reducing the number of jobs supported by exports—especially in countries reliant on trade for employment).

[2] Centenary Declaration for the Future of Work, Int'l Labour Conf., 108th Sess., I, §§ I(A)–(B), II(A)(i)–(iii) (June 26, 2019) (declaring that in further developing the ILO's human-centered approach to the future of work, "the ILO must direct its efforts to: (i) ensuring a just transition to a future of work that contributes to sustainable development in its economic, social and environmental dimensions; (ii) harnessing the fullest potential of technological progress and productivity growth, including through social dialogue, to achieve decent work and sustainable development, which ensure dignity, self-fulfillment and a just sharing of the benefits for all; (iii) promoting the acquisition of skills, competencies and qualifications for all workers throughout their working lives as a joint responsibility of governments and social partners … ."); WTO Director-General Ngozi Okonjo-Iweala described WTO as "a people-centered, rules-based organization delivering for working- and middle-class people everywhere … ." Ngozi Okonjo-Iweala, *Why the Developing World and All of Us Need Trade and the WTO* (2023), Ctr. for Strategic & Int'l Studies (Sep. 22, 2023), [https://perma.cc/LA74-8NGQ].

[3] Katya Klinova & Antony Korinek, *Unleashing Possibilities, Ignoring Risks: Why We Need Tools to Manage AI's Impact on Jobs*, Brookings Inst. (August 17, 2023), [https://perma.cc/3Q9R-W3AW].

[4] *Twin Disruptors at Work — Tariffs, AI and the Future of Employment*, U.N. Univ. (May 28, 2025), [https://perma.cc/4PDT-XPU8].

[5] WTO, *World Trade Report 2025: Making Trade and AI Work Together to the Benefit of All* 7-8, 72, 94, 111 (2025), [https://perma.cc/L3AS-VFWQ] (emphasizing the WTO's commitment to inclusive trade and identifying it as a forum to ensure that the benefits of AI are widely shared, including through labor market policies that leave no one behind).

[6] Francesco Filippucci, Peter Gal, Cecilia Jona-Lasinio, Alvaro Leandro & Giuseppe Nicoletti, *The Impact of Artificial Intelligence on Productivity, Distribution and Growth: Key Mechanisms, Initial Evidence and Policy Challenges* 18–19 (OECD 2024), [https://perma.cc/FL5P-PTUY]; David Marguerit, *Augmenting or Automating Labor? The Effect of AI Development on New Work, Employment, and Wages*, 1 (2025), [https://perma.cc/76V9-4QLZ] ("The findings indicate that automation AI negatively impacts new work, employment, and wages in low-skilled occupations, while augmentation AI fosters the emergence of new work and raises wages for high-skilled occupations."); Anton Korinek & Joseph E Stiglitz, *Steering Technological Progress*, 2 (Inst. for New Econ. Thinking 2025). *See also* Daron Acemoglu & Simon Johnson, Power and Progress: Our Thousand-Year Struggle Over Technology and Prosperity 403-04 (2024) (observing that automation technologies reduce labor's share of value added, while innovations that create new tasks for workers tend to raise it, distinguishing labor-replacing from labor-augmenting technological change).

[7] *Mind the AI Divide: Shaping a Global Perspective on the Future of Work*, U.N.-iLibrary, 5 (2024), [https://perma.cc/YE88-QFR4] (arguing that high-income countries, with greater digital infrastructure and innovation capacity, are disproportionately

capturing the productivity gains from AI, while low- and middle-income countries lag behind in AI adoption and innovation.); Filippucci, Gal, Jona-Lasinio, Leandro & Nicoletti, *supra* note 6, at 41 (observing that AI development and investment are overwhelmingly concentrated in a few advanced countries, e.g. the United States and China, and if AI is adopted in a labor- and resource-saving technology, it could undermine developing countries' comparative advantages in labor-intensive sectors).

[8] Shin-yi Peng, *A New Trade Regime for the Servitization of Manufacturing: Rethinking the Goods-Services Dichotomy*, 54 J. of World Trade 669, 699–702 (2020).

[9] Panel Report, *United States—Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, ¶ 6.285, WTO Doc. WT/DS285/R (adopted Apr. 20, 2005) [hereinafter Panel Report, *US—Gambling*].

[10] See World Economic Forum, ChatWTO: An Analysis of Generative Artificial Intelligence and International Trade 10 (2024), [https://perma.cc/2D3D-RBDA].

[11] Artificial Intelligence and International Economic Law: Disruption, Regulation, and Reconfiguration (Shin-yi Peng, Ching-Fu Lin, & Thomas Streinz eds., 2021), [https://perma.cc/YDR5-C58J]; Han-Wei Liu & Ching-Fu Lin, *Artificial Intelligence and Global Trade Governance: A Pluralist Agenda*, 61 Harv. Int'l LJ 407, 407 (2020), [https://perma.cc/X4J5-5DZL]; Anupam Chander, *Artificial Intelligence and Trade*, Big Data and Glob. Trade L. 115 (2021); World Trade Organization, Trading with Intelligence: How AI Shapes and Is Shaped by International Trade (2024), [https://perma.cc/X7Q7-YD4C]; Joshua P. Meltzer, *Toward International Cooperation on Foundational AI Models: An Expanded Role for Trade Agreements and International Economic Policy*, Brookings Inst. (Nov. 1, 2023), [https://perma.cc/KB7N-8VYM]; Neha Mishra, *Regulating AI through Digital Trade Agreements*, (Hinrich Found. 2024), [https://perma.cc/HP9S-5WMW].

[12] Henry Gao, *Models and Data Trade Regulation and the Road to an Agreement*, *in* Regulatory Insights on Artificial Intelligence 262, 262 (Mark Findlay, Jolyon Ford, Josephine Seah & Dilan Thampapillai eds., 2022), [https://perma.cc/889C-YCQU].

[13] Rafael Leal-Arcas, Lama AlDamer, Haya AlHokail, Sultana Abdulhakim Al Saud, Salma Alshaikh, Sultana Faisal AlSaud, Sara Al Muhanna, Loulwa Faisal Al Saud, Nora Alaiban & Moudi Alsaud, *The Digitalization of Trade and Artificial Intelligence: A Pandora's Box*, 12 Penn St. J. L. & Int'l Aff. 1, 18 (2024), [https://perma.cc/8GKB-H77A].

[14] Rolf H. Weber, *Global Law in the Face of Datafication and Artificial Intelligence*, *in* Artificial Intelligence and International Economic Law 54, 54 (Shin-yi Peng, Ching-Fu Lin, & Thomas Streinz eds., 1 ed. 2021), [https://perma.cc/BK4G-7D83]; Susan A Aaronson, *Data Governance, AI, and Trade: Asia as a Case Study* 1 (Inst. for Int'l Econ. Policy, George Washington Univ., Working Paper No. IIEP-WP-2020-6, 2020).

[15] Kristina Irion, *Algorithms Off-Limits? If Digital Trade Law Restricts Access to Source Code of Software Then Accountability Will Suffer* (May 31, 2022), *in* ACM Conference

On Fairness, Accountability, and Transparency 1561 (2022), [https://perma.cc/MS87-UYPE].

[16] Kristina Irion, *AI Regulation in the European Union and Trade Law: How Can Accountability of AI and a High Level of Consumer Protection Prevail over a Trade Discipline on Source Code?* (Univ. of Amsterdam, Working Paper, Jan. 26, 2021), [https://perma.cc/S5MN-M923].

[17] Cernat, *supra* note 1, at 1.

[18] Cazzaniga, Jaumotte, Li, Melina, Panton, Pizzinelli, Rockall & Tavares, *supra* note 1, at 3; Pawel Gmyrek, Janine Berg, Karol Kamiński, Filip Konopczyński, Agnieszka Ładna, Balint Nafradi, Konrad Rosłaniec & Marek Troszyński, *Generative AI and Jobs: A Refined Global Index of Occupational Exposure* 1 (Int'l Lab. Org., Working Paper No. 140, 2025), [https://perma.cc/P9P6-E5BF].

[19] Cazzaniga, Jaumotte, Li, Melina, Panton, Pizzinelli, Rockall & Tavares, *supra* note 1, at 7–8.

[20] *Id.*; Gabriel Demombynes, Jörg Langbein & Michael Weber, *The Exposure of Workers to Artificial Intelligence in Low- and Middle-Income Countries* 3 (World Bank, Pol'y Rsch. Working Paper No. 11057, 2025).

[21] Cazzaniga, Jaumotte, Li, Melina, Panton, Pizzinelli, Rockall & Tavares, *supra* note 1, at 19.

[22] *Id.* at 23.

[23] Acemoglu and Johnson, *supra* note 6, at 208-09.

[24] Alyssa Lukpat, *Shopify Says No New Hires Unless AI Can't Do the Job*, Wall St. J. (Apr. 7, 2025), [https://perma.cc/A96U-8JRN] (explaining that Shopify CEO Tobi Lütke stated that no new hires would be made unless it could be shown that AI could not do the job).

[25] Belle Lin, *IBM CEO Says AI Has Replaced Hundreds of Workers but Created New Programming, Sales Jobs*, Wall St. J. (May 6, 2025), [https://perma.cc/5QTR-6PZ8] (denoting that IBM has replaced hundreds of workers with AI and now reports that 94% of routine HR tasks are handled by AI.).

[26] Brody Ford, *Salesforce Says AI Has Reduced Hiring of Engineers and Customer Service Workers*, Bloomberg (May 28, 2025), [https://perma.cc/AB5S-QHMJ] (Salesforce has reduced hiring for engineering and customer service roles due to productivity gains from AI, redeploying 500 service workers and increasing hiring in AI-focused sales positions.).

[27] Brody Ford & Matt Day, *Microsoft Layoffs Hit Coders Hardest With AI Costs on the Rise*, Bloomberg (May 14, 2025), [https://perma.cc/9TBM-5K6J] (explaining that in early 2025, Microsoft announced major layoffs, with software engineers comprising over 40% of the approximately 2,000 positions cut. While not explicitly attributed to AI, the reductions coincided with growing reliance on AI tools—some projects now report up to 30% of code written by AI.).

[28] *See, e.g.*, *Amazon's Jassy Says AI Will Reduce Company's Corporate Workforce*, Bloomberg (June 17, 2025), [https://perma.cc/8SCD-VQVZ] (noting that Amazon CEO Andy Jassy has indicated that the company's workforce is expected to shrink over the next few years as AI takes on more tasks in retail and cloud operations).

[29] World Economic Forum, Future of Jobs Report 2025, at 18 (2025), [https://perma.cc/2JZK-WJVK].

[30] Hartmut Lehmann, *Worker Displacement in Transition Economies and in China*, IZA World of Labor (2014), [https://perma.cc/HCV8-DT7S].

[31] International Organization of Employers, The Informal Economy: An Employer's Approach 6 (2021), [https://perma.cc/EHD5-CLN5].

[32] Cazzaniga, Jaumotte, Li, Melina, Panton, Pizzinelli, Rockall & Tavares, *supra* note 1, at 9–10, 22; Gmyrek, Berg, Kamiński, Konopczyński, Ładna, Nafradi, Rosłaniec & Troszyński, *supra* note 18, at 23.

[33] Gmyrek, Berg, & Bescond, *supra* note 1, at 1.

[34] Cazzaniga, Jaumotte, Li, Melina, Panton, Pizzinelli, Rockall & Tavares, *supra* note 1, at 14.

[35] Not all AI systems are alike, and firms may pursue "so-so automation" that displaces workers without delivering meaningful productivity gains. Government interventions may therefore be needed. Acemoglu and Johnson, *supra* note 6, at 312, 392-94. *But see* Jason Furman, *Policies for the Future of Work Should Be Based on Its Past and Present*, 3 (Am. Econ. Innovation Grp. 2024) (contending that attempts to direct innovation toward complementary AI are impractical and that policy should instead focus on helping workers adapt to technological change).

[36] *See* Cazzaniga, Jaumotte, Li, Melina, Panton, Pizzinelli, Rockall & Tavares, *supra* note 1, at 23 (emphasizing that preparedness and proactive policy action are essential to harness AI's benefits and mitigate its risks, and calling for a proactive approach from policy makers to maintain social cohesion.); Lehong Shi, *Global Perspectives on AI Competence Development: Analyzing National AI Strategies in Education and Workforce Policies*, 24 Hum. res. dev. rev. 447, 468 (2025) (finding that only 13 of 50 countries had well-defined workforce AI initiatives.).

[37] *See* Dani Rodrik, *Populism and the Economics of Globalization* 9–10, 21–22 (Nat'l Bureau of Econ. Rsch., Working Paper No. 23559, 2017) (discussing studies showing that trade-related employment and wage losses persisted for more than a decade and arguing that such enduring economic dislocation has fueled political backlash and instability.).

[38] Anton Korinek, *Economic Policy Challenges for the Age of AI* 18–20 (Nat'l Bureau of Econ. Rsch., Working Paper No. 32980, 2024).

[39] Daniel Kokotajlo Scott Alexander, Thomas Larsen, Eli Lifland & Romeo Dean, AI 2027, [https://perma.cc/E2U2-4UPR].

[40] Yoshua Bengio et al., *International AI Safety Report*, 111 (AI Action Summit Jan. 2025).

[41] Arvind Narayanan & Sayash Kapoor, *AI as Normal Technology: An Alternative to the Vision of AI as a Potential Superintelligence*, Knight First Amend. Inst. at Colum. Univ. 10 (Apr. 15, 2025), [https://perma.cc/XY9K-LXMZ].

[42] *Id.*

[43] Alexander Bick, Adam Blandin & David Deming, *The Rapid Adoption of Generative AI* 14, 29 (Nat'l Bureau of Econ. Rsch., Working Paper No. 32966, 2024).

[44] Chris Marr, *AI's Power to Replace Workers Faces New Scrutiny, Starting in NY*, Bloomberg L., Jan. 18, 2025, [https://perma.cc/SV2T-VB28].

[45] *See, e.g.*, Cazzaniga, Jaumotte, Li, Melina, Panton, Pizzinelli, Rockall & Tavares, *supra* note 1, at 2; Acemoglu & Johnson, *supra* note 6, at 351.

[46] General Agreement on Tariffs and Trade art. XXVIII, ¶ 1 Oct. 30, 1947, 61 Stat. A-11, 55 U.N.T.S. 194 [hereinafter GATT]

[47] *Id.* art. XX.

[48] *Id.* art. XXI.

[49] General Agreement on Trade in Services art. XXI [hereinafter GATS].

[50] Joshua P. Meltzer, *Governing Digital Trade*, 18 World Trade Rev. s23, s38 (2019), [https://perma.cc/7BZM-M6G8].

[51] The United States' experience with the "China Shock" provides an illustrative precedent. The labor dislocations following China's accession to the WTO contributed to long-term regional economic decline, political polarization, and the rise of populism. *See generally* David H. Autor, David Dorn & Gordon H. Hanson, *The China Shock: Learning from Labor Market Adjustment to Large Changes in Trade* (Nat'l Bureau of Econ. Rsch., Working Paper No. 21906, 2016).

[52] *See* Acemoglu & Johnson, *supra* note 6, at 261 (noting that "the effects of automation technologies and the eclipse of rent sharing on inequality have been even more extensive than the consequences of this "China shock.")

[53] Panel Report, *US—Gambling*, *supra* note 9.

[54] *See id.* at ¶ 6.136; Appellate Body Report, *China—Measures Affecting Trading Rights and Distribution Services for Certain Publications and Audiovisual Entertainment Products*, ¶ 396, WTO Doc. WT/DS363/AB/R (adopted Jan. 19, 2010).

[55] Chander, *supra* note 11, at 120.

[56] *Id*. at 122–24.

[57] Liu & Lin, *supra* note 11, at 422–23.

[58] Wentong Zheng, *The Digital Challenge to International Trade Law*, 52 N.Y.U. J. Int'l L. & Pol. 539, 548 (2020).

[59] Appellate Body Report*, Argentina—Measures Relating to Trade in Goods and Services*, ¶ 6.25, WTO Doc. WT/DS453/AB/R (adopted May 9, 2016).

[60] *Id.*

[61] *Id.* at ¶ 6.32.

[62] World Trade Organization, Ministerial Declaration of 20 May 1998, WT/MIN(98)/DEC/2.

[63] Committee on Trade and Development, *Global Electronic Commerce for Inclusive Development*, WTO Doc. WT/COMTD/W/264 (Nov. 9, 2021).

[64] Mario Marconini, *Emergency Safeguard Measures in the GATS: Beyond Feasible and Desirable*, at 8, U.N. Doc. UNCTAD/DITC/TNCD/2005/4 (2005).

[65] Juan A. Marchetti & Petros C. Mavroidis, *What Are the Main Challenges for the GATS Framework? Don't Talk About Revolution*, 5 Eur. Bus. Org. L. Rev. 511, 543–44 (2004).

[66] *Id.*

[67] *See, e.g.*, Press Release, U.S. Department of Commerce,CHIPS for America Announces over $50 Million Funding Opportunity to Encourage Small Business Research and Development (Apr. 16, 2024), [https://perma.cc/H8Q2-72GC]; Pablo Valerio, *China Invests $8.2 Billion to Global AI Dominance*, EE Times (Jan. 22, 2025), [https://perma.cc/F4B4-3JB2].

[68] World Economic Forum, *supra* note 10, at 10.

[69] It should be noted, however, that such a safeguard measure would not provide relief to the drivers whose jobs were directly or indirectly displaced by automation.

[70] Agreement on Safeguards art. 4.

[71] Agreement on Safeguards art. 4.2(a).

[72] World Economic Forum, *supra* note 10, at 10.

[73] Agreement on Subsidies and Countervailing Measures art. 2.

[74] *Id.* art. 2.3.

[75] *Id.* art. 3.1(b).

[76] For example, consider a fully automated customer-service bot that replaces human agents in call center operations.

[77] For instance, imagine an AI system that enhances the clarity of the conversations held by human agents at a call center.

[78] Marrakesh Agreement Establishing the World Trade Organization art. IX, ¶ 2.

[79] GATT, *supra* note 46, art. XX(a); GATS, *supra* note 49, art. XIV(b).

[80] Peter Van den Bossche & Werner Zdouc, The Law and Policy of the World Trade Organization: Text, Cases, and Materials 630 (5th ed. 2022) (citing Panel Report, *United States—Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, ¶ 6.285, WTO Doc. WT/DS285/R (adopted Apr. 20, 2005)).

[81] Appellate Body Report, *Colombia—Measures Relating to the Importation of Textiles, Apparel and Footwear*, ¶ 5.67, WTO Doc. WT/DS461/AB/R (adopted June 22, 2016).

[82] *See, e.g.*, Karishma Mehrotra, *AI Is Transforming Indian Call Centers. What Does It Mean for Workers?*, Wash. Post (June 22, 2025), [https://perma.cc/4WHD-W8ZH].