

Reforming the World Trade Organization: Challenges and Pathways in 21st Century Global Trade Governance

Zeeshan Aziz¹, Muhammad Moawiz Malik², Shahzaib Zafar³, Abu Bakar⁴, Roha Khalid⁵ and Misbah Malik^{6*}

¹LLM Intellectual property Law, Zhongnan University of Economics and Law, China

²LLB Honors, Gillani Law College, Pakistan

³LLB Honors, Gillani Law College, Pakistan

⁴LLB Honors, Pakistan College of Law, Pakistan

⁵Masters in IP Law, from Zhongnan University of Economics and Law, China

⁶LLB Honors, Pakistan College of Law, Pakistan

Corresponding Author: Misbah Malik; LLB Honors

Abstract

The World Trade Organization (WTO) has played a pivotal role in shaping global trade policies since its establishment in 1995. However, the WTO faces numerous challenges in the 21st century, including rising protectionism, geopolitical tensions, digital trade governance, and concerns over environmental sustainability. This study examines the historical context and evolution of the World Trade Organization (WTO), from its origins in the General Agreement on Tariffs and Trade (GATT) to its current role in global trade governance. It highlights key milestones in WTO development, such as the Doha Development Round, and discusses contemporary challenges threatening the organization's effectiveness. This study examines key issues and debates in international trade, including the ongoing tension between trade liberalization and protectionism, the treatment of developing countries, and the balance between intellectual property rights and other factors. To address these challenges, this study proposes several reform pathways for the WTO, including strengthening the dispute settlement mechanism, updating rules for digital trade and emerging technologies, enhancing transparency and inclusivity in decision-making, and addressing environmental and sustainability concerns. The future of global trade governance depends on the WTO's ability to adapt to changing economic and geopolitical realities, and the reforms proposed in this paper have far-reaching implications for international trade and economic development in both developed and developing countries.

Keywords: World Trade Organization, Global trade governance, Geopolitical tensions, Digital trade, Trade liberalization, Dispute settlement mechanism, Economic development

A. Introduction

The World Trade Organization stands as a pivotal institution in the arena of global economic governance, playing a critical role in managing international trade relations (Czinkota & Zeneli, 2016)¹. Established to foster seamless, predictable, and free trade flows, the WTO has significantly shaped the global commerce landscape (Lloyd & Vautier, 2013)². However, in the face of emerging geopolitical tensions, the rise of protectionist policies, and the increasing complexity of global value chains, the WTO is facing unprecedented challenges that

¹ Czinkota, M. R., & Zeneli, V. (2016). The WTO: An Analysis of Impact, Change and Prospects. Journal of Business Administration Research, 5(2). <https://doi.org/10.5430/jbar.v5n2p1>

² Lloyd, P., & Vautier, K. M. (2013). The World Trade Organization. <https://doi.org/10.4337/9781840647723.00021>

call for critical evaluation and strategic adaptation (Dadush & Prost, 2023)³. Addressing these issues requires a comprehensive overhaul of the WTO's structure, dispute resolution mechanisms, and regulatory frameworks to ensure the organization remains relevant and effective in promoting fair and sustainable global trade practices. The World Trade Organization (WTO) is a pivotal institution in global economic governance, playing a crucial role in managing international trade relations. Established to foster seamless, predictable, and free trade flows, the World Trade Organization (WTO) has significantly shaped the landscape of global commerce.

Navigating the intricate web of treaties and intergovernmental organizations, such as the WTO, often involves uncritically embracing an economic perspective, emphasizing the benefits of trade and the advantages of progressive trade and investment liberalization (Lundan, 2013)⁴. The WTO's function extends to minimizing trade barriers, such as tariffs and quantitative restrictions, to the degree deemed politically acceptable by the involved economic entities (Leal-Arcas & Filis, 2014)⁵.

The World Trade Organization faces significant challenges in adapting to the rapidly evolving landscape of international commerce, including the rise of digital trade, geopolitical tensions, and environmental concerns that threaten its relevance. These challenges necessitate a comprehensive reevaluation of the WTO's role, effectiveness, and future direction in a rapidly changing global environment. The existing structure of the global trading system is undergoing substantial changes due to interconnected, long-term global trends. These trends include technological advancements, geopolitical shifts, and increasing environmental concerns (Cabili et al., 2024)⁶. The WTO's ability to effectively address these issues will determine its legitimacy and relevance in the years to come. The current trade order, centered on liberalizing trade in goods and services, relies on policies and practices developed during the 20th-century modern nation-states' global trading order (Afilalo & Patterson, 2009)⁷. In the face of emerging geopolitical tensions, the rise of protectionist policies, and the increasing complexity of global value chains, the WTO faces unprecedented challenges that call for critical evaluation and strategic adaptation. These challenges necessitate a comprehensive re-evaluation of the WTO's role, effectiveness, and future direction in a rapidly changing global environment. The existing structure of the global trading system is undergoing substantial changes owing to interconnected long-term global trends, including technological advancements, geopolitical shifts, and increasing environmental concerns. The WTO's ability to effectively address these issues will determine its legitimacy and relevance in the years to come. As such, understanding the intricate dynamics of international trade law, particularly about the WTO, requires a comprehensive approach that combines legal, economic, and political perspectives (Lindroos, 2005)⁸.

1: Historical Context and Evolution of the WTO

The GATT, established in 1948, laid the foundation for a modern global trading system. The General Agreement on Tariffs and Trade (GATT) was established in 1948 as a framework to promote trade

³ Dadush, U., & Prost, E. D. (2023). Preferential Trade Agreements, Geopolitics, and the Fragmentation of World Trade. *World Trade Review*, 22(2), 278. <https://doi.org/10.1017/s1474745623000022>

⁴ Lundan, S. M. (2013). Human rights issues in multinational value chains. Chapters, 146. https://ideas.repec.org/h/elg/eechap/13834_6.html

⁵ Leal-Arcas, R., & Filis, A. (2014). Certain Legal Aspects of the Multilateral Trade System and the Promotion of Renewable Energy. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2380517>

⁶ Cabili, C., Vigonte, F., & Abante, M. V. (2024). Globalization and its Impact on International Trade: A Comprehensive Analysis. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4728725>

⁷ Afilalo, A., & Patterson, D. (2009). Statecraft, Trade and Strategy: Toward a New Global Order. *SSRN Electronic Journal*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2926532

⁸ Lindroos, A. (2005). Dispelling the Chimera of "Self-Contained Regimes" International Law and the WTO. *European Journal of International Law*, 16(5), 857. <https://doi.org/10.1093/ejil/chi148>

liberalization in the post-World War II period. It provides a structure for negotiating tariff reductions and addressing trade disputes among member countries. The creation of GATT was more of a historical accident than a carefully crafted trade treaty. It served as a precursor to the World Trade Organization (WTO), which was established nearly 50 years later in 1995. The GATT laid the important groundwork for the modern global trading system by introducing foundational principles, such as most-favored-nation treatment, and establishing mechanisms for multilateral trade negotiations. (Borghet & Soeparna, 2018)⁹.

The transition from the GATT to the WTO in 1995 expanded the scope of trade agreements and dispute resolution mechanisms. The transition from GATT to WTO in 1995 marked a significant expansion in the scope and effectiveness of global trade governance. The WTO was established as the successor to the GATT, with a broader mandate that included trade in services, intellectual property, and agriculture. This transition institutionalized the rules-based trading system, embedding the "single undertaking" principle that required the full acceptance of all multilateral agreements by members. The WTO's dispute settlement mechanism was strengthened, providing a more effective means of resolving trade disputes among member countries. The WTO has played a significant role in promoting trade liberalization, reducing trade barriers, and fostering economic growth. However, the organization has faced criticism for its perceived lack of transparency, its impact on developing countries, and its inability to address emerging trade issues, such as digital trade and climate change (Wolfe, R., 2022).¹⁰

The Doha Development Agenda, launched in 2001, aimed to address the concerns of developing countries by promoting trade liberalization in agriculture and other sectors. However, negotiations stalled due to disagreements among member countries, particularly on agricultural subsidies. The Doha Round, initiated to address the needs of developing countries, ultimately failed due to persistent disagreements on agricultural subsidies and market access (Klimoski & Wall, 1986)¹¹. The WTO has evolved to address new challenges and opportunities in the global trading system. Its effectiveness in promoting free and fair trade depends on the willingness of member countries to cooperate and address the challenges facing the organization.

The "Single Undertaking," which emerged from the Uruguay Round, required all member countries to comply with the entire set of WTO rules, marking a turning point in the participation and representation of developing countries (Tussie, 2009)¹². The WTO emerged as a multilateral organization intended to facilitate export earnings for less developed countries (Evans, 1968)¹³.

2. Current Challenges to the WTO

⁹ Borghet, K. V. D., & Soeparna, I. (2018). THE CHANGING ROLE OF AMICUS-CURIAE IN THE RELATIONS BETWEEN NON-GOVERNMENT ORGANISATION AND THE WORLD TRADE ORGANISATION. <https://doi.org/10.2991/iclgg-17.2018.20>

¹⁰ Wolfe, R. (2022). *Reforming WTO Transparency: The Case for Informal Mechanisms*. Global Policy, 13(S1), 46–59. <https://doi.org/10.1111/1758-5899.13060>

¹¹ Klimoski, R. J., & Wall, J. A. (1986). Negotiation: Theory and Practice. Academy of Management Review, 11(1), 217. <https://doi.org/10.2307/258344>

¹² Tussie, D. (2009). Process Drivers in Trade Negotiations: The Role of Research in the Path to Grounding and Contextualizing. Global Governance A Review of Multilateralism and International Organizations, 15(3), 335. <https://doi.org/10.1163/19426720-01503003>

¹³ Evans, J. (1968). The General Agreement on Tariffs and Trade. International Organization, 22(1), 72. <https://doi.org/10.1017/s0020818300013473>

The WTO faces several significant challenges in the 21st century, including rising protectionism and geopolitical tensions. The WTO faces several significant challenges in the 21st century:

1. Trade Wars and Tariffs

One of the most prominent challenges is the surge in protectionist measures adopted by various countries, including major players in the global economy (Supyan, 2020)¹⁴. This resurgence of protectionism undermines the fundamental principles of the WTO, which aims to lower trade barriers and promote multilateral trade liberalization. This undermines the WTO's fundamental principles of lowering trade barriers and promoting multilateral trade liberalization.

The escalation of trade wars, particularly between the United States and China, has led to the imposition of tariffs on hundreds of billions of dollars' worth of goods. These measures have disrupted global supply chains, increased costs for businesses and consumers, and created uncertainty in the global market. The increasing reliance on bilateral and regional agreements reflects a broader erosion of multilateralism.

The U.S.-China conflict saw tariffs on \$550 billion of goods, violating WTO principles. As countries prioritize their interests, the WTO's ability to function as a forum for global cooperation is diminished. (Dawar & Bai, 2024¹⁵; Góes et al., 2022)¹⁶. In addition to tariffs, countries have increasingly resorted to non-tariff barriers, such as import quotas, licensing requirements, and technical standards, to protect domestic industries. These measures often lack transparency and are difficult to challenge under existing WTO rules.

Geopolitical tensions, such as trade wars and political disputes, further complicate the situation by disrupting established trade relationships and creating uncertainty in the global market. The rise of regional trade agreements also poses a challenge to the WTO system (Matsushita & Lee, 2008)¹⁷. The US-China trade conflict has particularly exposed systemic tensions in WTO governance.

While these agreements can promote trade liberalization among participating countries, they may also lead to discriminatory trade practices and fragment the global trading system (Charnovitz, 1996)¹⁸. The proliferation of such agreements risks undermining the multilateral trading system by creating overlapping and sometimes conflicting rules. While these can promote trade liberalization among participating countries, they may also lead to discriminatory trade practices and fragmentation of the global trading system.

Mega-regional agreements have created alternative governance models that often exceed WTO standards:

Governance Feature	CPTPP	RCEP	WTO
Digital Trade	Comprehensive chapter (Article 14)	Basic e-commerce provisions	No substantive rules
State-Owned Enterprises	Detailed disciplines (Chapter 17)	Limited transparency requirements	No specific rules
Labor Standards	Enforceable commitments (Chapter 19)	Non-binding cooperation	No linkage

¹⁴ Supyan, V. (2020). President Trump's Foreign Economic Reforms: Preliminary Results. Herald of the Russian Academy of Sciences, 90(6), 653. <https://doi.org/10.1134/s1019331620060088>

¹⁵ Dawar, A., & Bai, Y. (2024). Impact of Geopolitical Risk on the Maritime Supply Chain: A Regional Analysis of the Effects on Global Trade. International Journal of Supply Chain Management, 13(3), 42. <https://doi.org/10.59160/ijscm.v13i3.6245>

¹⁶ Góes, C., Bekkers, E., Santacreu, A. M., Muendler, M. A., Trottner, F., Ramey, V., Wieland, J., & Handley, K. (2022). The Impact of Geopolitical Conflicts on Trade, Growth, and Innovation. In WTO working papers. <https://doi.org/10.30875/25189808-2022-9>

¹⁷ Matsushita, M., & Lee, Y.-H. (2008). Proliferation of Free Trade Agreements and Some Systemic Issues - In Relation to the WTO Disciplines and Development Perspectives. The Law and Development Review, 1(1). <https://doi.org/10.2202/1943-3867.1005>

¹⁸ Charnovitz, S. (1996). Trade Measures and the Design of International Regimes. The Journal of Environment & Development, 5(2), 168. <https://doi.org/10.1177/107049659600500204>

Dispute Settlement	Investor-State included	State-State only	
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2. Weakening of the Dispute Settlement Mechanism

The WTO's dispute settlement mechanism, designed to resolve trade disputes among member countries, has been significantly weakened in recent years, further exacerbating the challenges facing the organization (Hufbauer & Jung, 2020)¹⁹. The WTO's dispute settlement system has been significantly weakened, particularly because of the paralysis of the Appellate Body. This undermines the ability of organizations to enforce trade rules and resolve disputes effectively.

The refusal of some members, most notably the United States, to appoint new members to the Appellate Body has rendered the WTO's dispute settlement system inoperative. Without a functioning appellate body, the enforcement of WTO rules is severely compromised.

The weakening of the dispute settlement mechanism undermines the credibility of the WTO and encourages countries to take unilateral actions, further destabilizing the global trading system. The U.S. blocked appointments over claims of judicial overreach, leaving 26 disputes unresolved (Hufbauer & Jung, 2020)²⁰.

3. Digital Trade and Data Governance

Digital trade also presents unique challenges, as governments are increasingly restricting global data flows and requiring data localization, which undermines the economic benefits of digital trade (Meltzer, 2019)²¹. These restrictions impede cross-border data flows, hindering digital trade and raising concerns about market access and regulatory cooperation (Digital Trade for Development, 2023)²². The rise of digital trade presents unique challenges as governments increasingly restrict global data flows and require data localization. This impedes cross-border data flows and raises concerns regarding market access and regulatory cooperation.

Developing countries often lack the necessary infrastructure and regulatory frameworks to fully participate in the digital economy fully, thereby exacerbating existing inequalities. Divergent national regulations on data privacy, cybersecurity, and digital taxation create barriers to digital trade and complicate efforts to establish global standards for these areas.

4. Supply Chain Vulnerabilities Exposed by COVID-19

The COVID-19 pandemic has exposed vulnerabilities in global supply chains, leading to calls for greater resilience and diversification (Rashid, 2024)²³. This has prompted some countries to adopt protectionist measures to secure access to essential goods and services, further undermining the principles of free trade. The COVID-19 pandemic exposed weaknesses in global supply chains, leading to calls for greater resilience and diversification. Some countries have adopted protectionist measures to secure access to essential goods and services during the pandemic.

The scramble for medical supplies and vaccines during the pandemic highlighted the limitations of existing trade rules in ensuring equitable access to essential goods. In response to supply chain disruptions, some

¹⁹ Hufbauer, G. C., & Jung, E. (2020). What's new in economic sanctions? *European Economic Review*, 130, 103572. <https://doi.org/10.1016/j.euroecorev.2020.103572>

²⁰ Hufbauer, G. C., & Jung, E. (2020). What's new in economic sanctions? *European Economic Review*, 130, 103572. <https://doi.org/10.1016/j.euroecorev.2020.103572>

²¹ Meltzer, J. P. (2019). Governing Digital Trade. *World Trade Review*, 18. <https://doi.org/10.1017/s1474745618000502>

²² Digital Trade for Development. (2023). <https://doi.org/10.30875/9789287075437>

²³ Rashid, A. (2024). Supply chain and covid-2019. <https://doi.org/10.55277/researchhub.vq5dnd6h>

countries are seeking to re-shore or near-shore production, raising questions about the future of global value chains.

5. Environmental and Sustainability Challenges

Trade and environmental sustainability are increasingly intertwined. While trade can promote the diffusion of environmentally friendly technologies, it can also contribute to environmental degradation if not properly regulated (Condon, 2009)²⁴. The intersection of trade and climate change policies presents challenges for the WTO as countries implement measures, such as carbon tariffs, that may conflict with existing trade rules. The intersection of trade and climate change is a pressing issue. Governments may implement trade measures, such as carbon tariffs, to address climate change, raising concerns about their compatibility with World Trade Organization (WTO) rules. Disputes over subsidies for renewable energy and other green technologies are becoming increasingly common, underscoring the need for more explicit guidelines on the interplay between trade and environmental policy.

3. Key Issues and Debates in International Trade Law

Several key issues and debates shape the current landscape of international trade law, such as trade for sustainable development, human rights in trade agreements, and challenges related to digital trade and emerging technologies.

1. Free trade and protectionism

One of the most prominent debates is the balance between free trade and protectionism. While free trade can promote economic growth and efficiency, it can also lead to job losses and social disruption in specific industries. Protectionism, on the other hand, can protect domestic industries but may also lead to higher prices and reduced consumer choice. Another key issue is the relationship between trade and human rights (Lumina, 2011)²⁵.

Debate persists over the effects of trade liberalization on employment, wages, and income inequality. While trade can promote growth and specialization, it may also cause job losses and wage stagnation in developed economies.

The text mentions a surge in protectionist measures adopted by various countries, including major economic players in the region. This resurgence of protectionism undermines the WTO's fundamental principles of lowering trade barriers and promoting multilateral trade liberalization. The escalation of trade wars, particularly between the United States and China, has led to tariffs on billions of dollars' worth of goods, disrupting global supply chains and creating market uncertainties.

While proponents of free trade argue that it creates jobs and increases wages by promoting economic growth and specialization, critics contend that it leads to job losses and wage stagnation in developed countries as companies relocate production to countries with lower labor costs.

The impact of trade on income inequality is another contentious issue. While some studies suggest that trade can reduce income inequality by increasing labor demand in developing countries, others argue that it exacerbates inequality by benefiting skilled workers and capital owners at the expense of unskilled workers.

2. Trade and Sustainable Development

The role of trade in promoting sustainable development is also a subject of debate. While proponents argue that trade can promote environmental protection by encouraging the adoption of cleaner technologies and the

²⁴Condon, B. J. (2009). Climate Change and Unresolved Issues in WTO Law. *Journal of International Economic Law*, 12(4), 895. <https://doi.org/10.1093/jiel/jgp033>

²⁵ Lumina, C. (2011). Free trade or just trade? The world trade organisation, human rights and development (Part 2). *Law Democracy & Development*, 14(1). <https://doi.org/10.4314/ldd.v14i1.9>

efficient use of resources, critics contend that it can lead to environmental degradation as countries compete to attract investment by lowering environmental standards. The text highlights how geopolitical tensions, such as trade wars and political disputes, disrupt established trade relationships and create uncertainty in the global market. These tensions complicate the WTO's ability to function effectively and maintain a stable trading environment.

This text acknowledges the growing importance of balancing trade and environmental sustainability. While trade can promote the diffusion of environmentally friendly technologies, it can also contribute to environmental degradation if it is not adequately regulated. The intersection of trade and climate change is identified as a pressing issue, with governments implementing trade measures, such as carbon tariffs, to address climate change, raising concerns about their compatibility with World Trade Organization (WTO) rules.

Some scholars argue that as countries grow richer through trade, they can invest more in environmental protection, leading to an inverted-U relationship between income and environmental degradation.

Others contend that trade liberalization can trigger a "race to the bottom," as countries lower environmental standards to attract investment.

3. Digital Trade and Regulatory Challenges

The rise of digital trade and e-commerce has generated new legal and policy challenges, including data privacy, cybersecurity, and the management of cross-border data flows. Governments are grappling with how to regulate cross-border data flows, protect consumer privacy, and ensure cybersecurity in the digital age (World Trade Organization, 2023).²⁶

The concept of digital sovereignty is gaining traction, as countries seek to assert control over their digital infrastructure and data flows.

4. Proliferation of Bilateral and Regional Trade Agreements

The proliferation of bilateral and regional trade agreements has raised questions about their impact on the multilateral trading system.

The existence of multiple, overlapping trade agreements creates complexity and uncertainty for businesses, undermining the coherence of the global trading system. Countries may engage in "forum shopping," choosing to resolve disputes in the forum that is most favorable to their interests, thereby further undermining the WTO (Mattoo, A., & Staiger, R. W., 2020).²⁷

5. Intersection of trade and climate change

The intersection of trade and climate change is another pressing issue (Condon, 2009)²⁸. Climate change is increasingly influencing trade policy, with countries implementing carbon border adjustment mechanisms (CBAMs) and green subsidies. The WTO's rules must evolve to accommodate legitimate environmental concerns while preventing disguised protectionism. Discussions under the Trade and Environmental Sustainability Structured Discussions (TESSD) exemplify ongoing efforts, yet legal clarity remains elusive (Howse, R., 2022).²⁹

²⁶ World Trade Organization (WTO). (2023). *Annual Report 2023*. Geneva: WTO. Retrieved from <https://www.wto.org>

²⁷ Mattoo, A., & Staiger, R. W. (2020). Multilateral Trade Cooperation and WTO Reform. World Bank Policy Research Working Paper No. 9105.

²⁸ Condon, B. J. (2009). Climate Change and Unresolved Issues in WTO Law. *Journal of International Economic Law*, 12(4), 895. <https://doi.org/10.1093/jiel/jgp033>

²⁹ Howse, R. (2022). *Climate Change Mitigation Subsidies and the WTO: A Normative and Legal Perspective*. *Journal of International Economic Law*, 25(2), 345–369.

4. The WTO in the Age of Digital Transformation and Artificial Intelligence

The digital economy is transforming international trade, enabling new business models and creating opportunities for growth and development. However, the rapid pace of technological change poses significant challenges for the World Trade Organization (Mattoo, A., & Staiger, R. W., 2020).³⁰

E-commerce is growing rapidly, but existing WTO rules, developed in a pre-digital era, do not adequately address issues such as online consumer protection, digital taxation, and cross-border data flows. Countries are increasingly imposing digital trade barriers, such as data localization requirements and restrictions on cross-border data flows, which can hinder innovation and limit market access.

The expansion of intellectual property rights through international conventions has complicated conflicts of interest (Purwandoko et al., 2021)³¹. The WTO's TRIPS Agreement aims to harmonize intellectual property rights protection and enforcement across member countries ("Intellectual Property Protection and Enforcement," 2021). The **TRIPS Agreement** outlines fundamental principles, minimum standards, enforcement procedures, and dispute resolution mechanisms for intellectual property. **Access to Medicines** in the COVID-19 pandemic underscored the interconnectedness of the global economy and the importance of international cooperation in addressing global challenges. The pandemic exposed vulnerabilities in supply chains, highlighted the need for greater access to essential medical goods and services, and raised questions about the relationship between intellectual property rights and public health (Köhler et al., 2022)³². For example, the Trade-Related Aspects of Intellectual Property Rights (TRIPS) waiver proposal, aimed at temporarily suspending intellectual property rights on COVID-19-related technologies, highlighted the tensions between promoting innovation and ensuring access to essential medicines (O'Sullivan et al., 2023)³³.

The international regulation of AI technologies has become a worldwide priority, and AI systems are increasingly assisting and even replacing human decisions in many critical fields (Natorski, 2023)³⁴. Several policy recommendations would promote inclusive and mutually reinforcing policy changes that can mitigate risks associated with technology by improving coordination and the capacities of existing international institutions that govern AI (Roberts et al., 2024)³⁵.

A new global AI regulatory authority should be established to address current and future issues arising in this field, promoting coordination, anticipating and responding to technological developments, and balancing the interests of various stakeholders (Zaidan & Ibrahim, 2024)³⁶.

³⁰ Mattoo, A., & Staiger, R. W. (2020). *Multilateral Trade Cooperation and WTO Reform*. World Bank Policy Research Working Paper No. 9105.

³¹ Purwandoko, P. H., Sulistiyono, A., & Hawin, M. (2021). The Implementation of the Traditional Cultural Expression (TCE) Protection in Indonesia Based on Article 38 Law Number 28 of 2014 regarding Copyright. *Indonesian Journal of International Law*, 18(4). <https://doi.org/10.17304/ijil.vol18.4.823>

³² Köhler, J. C., Wong, A., & Tailor, L. (2022). Improving Access to COVID-19 Vaccines: An Analysis of TRIPS Waiver Discourse among WTO Members, Civil Society Organizations, and Pharmaceutical Industry Stakeholders. *DOAJ (DOAJ: Directory of Open Access Journals)*, 24(2), 159. <https://doaj.org/article/9956abad1b754b6496926730b1e348d6>

³³ O'Sullivan, B., Essar, M. Y., Riaz, M. M. A., Manoj, M., Singaraju, M., & Lal, A. (2023). Global vaccine equity? Reflections, lessons, and a way forward. *New Microbes and New Infections*, 52, 101107. <https://doi.org/10.1016/j.nmni.2023.101107>

³⁴ Natorski, M. (2023). Compromise in Multilateral Negotiations and the Global Regulation of Artificial Intelligence. *arXiv (Cornell University)*. <https://doi.org/10.48550/arxiv.2309.17158>

³⁵ Roberts, H., Hine, E., & Floridi, L. (2023). Digital Sovereignty, Digital Expansionism, and the Prospects for Global AI Governance. In *Philosophical studies series* (p. 51). Springer International Publishing. https://doi.org/10.1007/978-3-031-41566-1_4

³⁶ Zaidan, E., & Ibrahim, I. A. (2024). AI Governance in a Complex and Rapidly Changing Regulatory Landscape: A Global Perspective. *Humanities and Social Sciences Communications*, 11(1). <https://doi.org/10.1057/s41599-024-03560-x>

The development of international cooperation and governance of AI systems requires the use of trade agreements, as well as less formal international economic forums, such as the G7 (Meltzer, 2024)³⁷. Such collaborations unlock AI's potential to further sustainable development, and coordination of regulatory efforts can reduce obstacles to innovation and the spread of benefits (Ho et al., 2023)³⁸.

5. Reform Pathways for the WTO

1. Strengthening the Dispute Settlement Mechanism and its enforcement

Restoring and enhancing the dispute settlement mechanism is critical for resolving trade disputes and ensuring compliance with WTO rules (Zeshan, 2020)³⁹. Addressing concerns about the Appellate Body's functioning would restore legitimacy and effectiveness.

- Restore and enhance the Appellate Body by addressing concerns about its functioning
- Clarify the scope of appellate review and improve transparency
- Ensure timely appointment of Appellate Body members
- Strengthen enforcement of panel and appellate body decisions

Addressing the Appellate Body Crisis Possible reforms include clarifying the scope of appellate review, improving transparency, and ensuring the timely appointment of appellate body members. Clarify judicial mandates, impose term limits, and address U.S. concerns (Hoekman & Mavroidis, 2021).

Strengthening the enforcement of panel and appellate body decisions is essential to maintaining the credibility of the WTO.⁴⁰ Introduce mediation for political disputes (e.g., U.S.-China tensions).

2. Updating Rules for Digital Trade and Intellectual Property

The WTO must update its rules to address digital trade, e-commerce, and intellectual property protection. The TRIPS Agreement provides a foundation, but further harmonization and modernization are needed to address current technological realities (Purwandoko et al., 2021⁴¹; Meltzer, 2024)⁴².

- Negotiate new agreements on digital trade, data governance, and cross-border data flows
- Update intellectual property rules to address current technological realities
- Create governance frameworks for AI and emerging technologies
- Consider proposals for an International AI Organization to certify compliance with oversight standards

The rapid growth of digital trade presents unique challenges for the World Trade Organization (WTO). Governments are increasingly restricting global data flows and requiring data localization, undermining the

³⁷ Meltzer, J. P. (2024). Toward International Cooperation on Foundational AI Models: An Expanded Role for Trade Agreements and International Economic Policy. Harvard Data Science Review. <https://doi.org/10.1162/99608f92.a377379b>

³⁸ Ho, L. L., Barnhart, J., Trager, R., Bengio, Y., Brundage, M., Carnegie, A., Chowdhury, R., Dafoe, A., Hadfield, G. K., Levi, M., & Snidal, D. (2023). International Institutions for Advanced AI. arXiv (Cornell University). <https://doi.org/10.48550/arxiv.2307.04699>

³⁹ Zeshan, M. (2020). Double-hit scenario of Covid-19 and global value chains. Environment Development and Sustainability, 23(6), 8559. <https://doi.org/10.1007/s10668-020-00982-w>

⁴⁰ Hoekman, B., & Mavroidis, P. C. (2021). To AB or Not to AB? Dispute Settlement in WTO Reform. Journal of International Economic Law, 24(1), 1–25. <https://doi.org/10.1093/jiel/jgab001>

⁴¹ Purwandoko, P. H., Sulistiyono, A., & Hawin, M. (2021). The Implementation of the Traditional Cultural Expression (TCE) Protection in Indonesia Based on Article 38 Law Number 28 of 2014 regarding Copyright. Indonesian Journal of International Law, 18(4). <https://doi.org/10.17304/ijil.vol18.4.823>

⁴² Meltzer, J. P. (2024). Toward International Cooperation on Foundational AI Models: An Expanded Role for Trade Agreements and International Economic Policy. Harvard Data Science Review. <https://doi.org/10.1162/99608f92.a377379b>

economic benefits of digital trade. The text notes that these restrictions impede cross-border data flows, hindering digital trade and raising concerns about market access and regulatory cooperation (Roberts et al., 2024).⁴³

Negotiating new agreements on digital trade, data governance, and cross-border data flows is essential to ensuring that the WTO remains relevant in the digital age. Balancing the interests of innovators and the public is crucial, particularly in areas such as access to medicines and the transfer of technology.

International cooperation is needed to govern AI and emerging technologies. Proposals include creating a global AI regulatory authority and certifying jurisdictions for compliance with international standards (Zaidan & Ibrahim, 2024)⁴⁴.

Some scholars propose the creation of an International AI Organization that certifies state jurisdictions for compliance with international oversight standards. States would then adopt regulations that ban importing goods that incorporate AI from non-certified jurisdictions (Trager et al., 2023)⁴⁵.

3. Ensuring Fairness and Capacity-Building

The WTO must ensure that developing countries have greater participation in decision-making and that their interests are protected. Developing countries demand flexibility, while the U.S. opposes blanket exemptions (Goh, 2021)⁴⁶. This includes addressing digital divides and capacity-building. Providing technical assistance and capacity-building support to developing countries is essential to ensuring their effective participation in the global trading system. Reforming decision-making processes to ensure that all members have a voice is crucial to maintaining the legitimacy of the WTO.

4. Reforming Trade Policies and Agreements

The rise of digital sovereignty and expansionism, as well as the intersection of trade, security, and industrial policy, necessitates that the WTO adapt its framework to strike a balance between national interests and global cooperation (Roberts et al., 2023)⁴⁷. Balancing the benefits of cross-border data flows with the need to protect privacy and security is a key challenge for the WTO.

The intersection of trade, security, and industrial policy has led to increased tensions and trade disputes among major economies, and some nations are asserting greater control over their digital infrastructure and data flows (Veale et al., 2023)⁴⁸. This trend has implications for the WTO and the multilateral trading system, as countries seek to protect their national interests and promote their technological development.

⁴³ Roberts, H., Hine, E., Taddeo, M., & Floridi, L. (2024). Global AI governance: barriers and pathways forward. *International Affairs*, 100(3), 1275. <https://doi.org/10.1093/ia/iiae073>

⁴⁴ Zaidan, E., & Ibrahim, I. A. (2024). AI Governance in a Complex and Rapidly Changing Regulatory Landscape: A Global Perspective. *Humanities and Social Sciences Communications*, 11(1). <https://doi.org/10.1057/s41599-024-03560-x>

⁴⁵ Trager, R., Harack, B., Reuel, A., Carnegie, A., Heim, L., Ho, L. L., Kreps, S., Lall, R., Larter, O., hÉigearthaigh, S. Ó., Staffell, S., & Villalobos, J. J. (2023). International Governance of Civilian AI: A Jurisdictional Certification Approach. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4579899>

⁴⁶ Goh, H. (2021). Artificial Intelligence in Achieving Sustainable Development Goals. *arXiv* (Cornell University). <https://doi.org/10.48550/arxiv.2107.13966>

⁴⁷ Roberts, H., Hine, E., & Floridi, L. (2023). Digital Sovereignty, Digital Expansionism, and the Prospects for Global AI Governance. In *Philosophical studies series* (p. 51). Springer International Publishing. https://doi.org/10.1007/978-3-031-41566-1_4

⁴⁸ Veale, M., Matus, K., & Gorwa, R. (2023). AI and Global Governance: Modalities, Rationales, Tensions. *Annual Review of Law and Social Science*, 19(1), 255. <https://doi.org/10.1146/annurev-lawsocsci-020223-040749>

5. Enhancing transparency and inclusivity in decision-making⁴⁹

- Reform decision-making processes to ensure all members have a voice
- Provide technical assistance and capacity-building support to developing countries
- Address digital divides and promote inclusive participation
- Consider alternatives to consensus-based decision-making for specific issues

A three-tiered decision-making system could balance efficiency and inclusivity:

Tier	Issue Type	Decision Rule	Example Issues
1	Foundational	Full consensus	Membership, core principles
2	Substantive	Qualified majority (3/4)	New rule-making
3	Procedural	Simple majority	Administrative matters

6. Addressing environmental and sustainability concerns⁵⁰

- Integrate sustainable development goals into trade policy
- Create "green policy space" through revised subsidy rules
- Establish a Committee on Trade and Climate Change
- Develop sustainability standards for trade policy reviews
- Balance trade liberalization with environmental protection⁵¹

These reforms aim to modernize the WTO's institutional architecture, rulebook, and governance, addressing 21st-century challenges while maintaining its core principles of non-discrimination and transparency.

6. The Future of the WTO: Towards a More Resilient and Inclusive System⁵²

1. Embracing Multilateralism in a Fragmented World

The WTO must reaffirm its commitment to multilateralism while adapting to the realities of a more fragmented global trading system. This may involve greater flexibility in negotiating agreements and recognizing the role of regional and bilateral agreements as building blocks rather than threats to the multilateral system.

2. Promoting Sustainable Development

Integrating Sustainable Development Goals into trade policy is essential to ensuring that trade contributes to broader social and environmental objectives.

3. Leveraging Technology for Inclusive Growth

Harnessing the potential of digital technologies to promote inclusive growth and development should be a priority for the WTO.

4. Building Resilience in Global Supply Chains

The WTO can play a crucial role in promoting the resilience and diversification of global supply chains, thereby ensuring that countries are better equipped to respond to future shocks.

5. Future outlook for global trade governance

The WTO's future relevance depends on its ability to:

⁴⁹ Zeshan, M. (2020). Double-hit scenario of Covid-19 and global value chains. *Environment Development and Sustainability*, 23(6), 8559. <https://doi.org/10.1007/s10668-020-00982-w>

⁵⁰ Condon, B. J. (2009). Climate Change and Unresolved Issues in WTO Law. *Journal of International Economic Law*, 12(4), 895. <https://doi.org/10.1093/jiel/jgp033>

⁵¹ Howse, R. (2022). Climate Change Mitigation Subsidies and the WTO: A Normative and Legal Perspective. *Journal of International Economic Law*, 25(2), 345–369.

⁵² Reform the WTO to make it fit for the 21st century , <https://www.ft.com/content/3357cc3b-8997-4a72-896d-f73f92597dc3>

- Adapt to changing geopolitical and economic realities
- Balance multilateralism with regional/bilateral agreements
- Address digital transformation and technological change
- Promote sustainable and inclusive development
- Rebuild trust and cooperation among member states

Conclusion

The WTO faces a complex array of challenges in the 21st century, including protectionism, geopolitical tensions, digital transformation, and sustainability concerns. To remain relevant and practical, the WTO must undertake comprehensive reforms, including revitalizing its dispute settlement mechanism, updating its rulebook for the digital age, promoting inclusive governance, and addressing the intersection of trade, technology, and sustainability. Only through such strategic adaptation can the WTO continue to serve as the foundation of global trade governance in an increasingly interconnected and complex world. Key reform proposals include strengthening and restoring the dispute settlement system, updating rules for digital trade and intellectual property, developing governance frameworks for AI and emerging technologies, ensuring greater inclusiveness for developing countries, and integrating sustainability and environmental considerations for the WTO.

Bibliography:

1. Afilalo, A., & Patterson, D. (2009). *Statecraft, trade and strategy: Toward a new global order*. SSRN Electronic Journal. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2926532
2. Borgh, K. V. D., & Soeparna, I. (2018). The changing role of amicus curiae in the relations between non-government organisation and the World Trade Organisation. *Proceedings of the 1st International Conference on Law, Governance and Globalization (ICLGG 2017)*. <https://doi.org/10.2991/iclgg-17.2018.20>
3. Cabili, C., Vigonte, F., & Abante, M. V. (2024). Globalization and its impact on international trade: A comprehensive analysis. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4728725>
4. Charnovitz, S. (1996). Trade measures and the design of international regimes. *The Journal of Environment & Development*, 5(2), 168–190. <https://doi.org/10.1177/107049659600500204>
5. Condon, B. J. (2009). Climate change and unresolved issues in WTO law. *Journal of International Economic Law*, 12(4), 895–914. <https://doi.org/10.1093/jiel/jgp033>
6. Czinkota, M. R., & Zeneli, V. (2016). The WTO: An analysis of impact, change and prospects. *Journal of Business Administration Research*, 5(2), 1–11. <https://doi.org/10.5430/jbar.v5n2p1>
7. Dadush, U., & Prost, E. D. (2023). Preferential trade agreements, geopolitics, and the fragmentation of world trade. *World Trade Review*, 22(2), 278–297. <https://doi.org/10.1017/S1474745623000022>
8. Dawar, A., & Bai, Y. (2024). Impact of geopolitical risk on the maritime supply chain: A regional analysis of the effects on global trade. *International Journal of Supply Chain Management*, 13(3), 42–54. <https://doi.org/10.59160/ijscm.v13i3.6245>
9. Digital Trade for Development. (2023). <https://doi.org/10.30875/9789287075437>
10. Evans, J. (1968). The General Agreement on Tariffs and Trade. *International Organization*, 22(1), 72–96. <https://doi.org/10.1017/S0020818300013473>
11. Góes, C., Bekkers, E., Santacreu, A. M., Muendler, M. A., Trottnier, F., Ramey, V., Wieland, J., & Handley, K. (2022). The impact of geopolitical conflicts on trade, growth, and innovation. *WTO Working Papers*. <https://doi.org/10.30875/25189808-2022-9>
12. Goh, H. (2021). Artificial intelligence in achieving Sustainable Development Goals. *arXiv*. <https://doi.org/10.48550/arxiv.2107.13966>

13. Ho, L. L., Barnhart, J., Trager, R., Bengio, Y., Brundage, M., Carnegie, A., Chowdhury, R., Dafoe, A., Hadfield, G. K., Levi, M., & Snidal, D. (2023). International institutions for advanced AI. *arXiv*. <https://doi.org/10.48550/arxiv.2307.04699>
14. Hoekman, B., & Mavroidis, P. C. (2021). To AB or not to AB? Dispute settlement in WTO reform. *Journal of International Economic Law*, 24(1), 1–25. <https://doi.org/10.1093/jiel/jgab001>
15. Howse, R. (2022). Climate change mitigation subsidies and the WTO: A normative and legal perspective. *Journal of International Economic Law*, 25(2), 345–369.
16. Hufbauer, G. C., & Jung, E. (2020). What's new in economic sanctions? *European Economic Review*, 130, Article 103572. <https://doi.org/10.1016/j.euroecorev.2020.103572>
17. Klimoski, R. J., & Wall, J. A. (1986). Negotiation: Theory and practice. *Academy of Management Review*, 11(1), 217–221. <https://doi.org/10.2307/258344>
18. Köhler, J. C., Wong, A., & Tailor, L. (2022). Improving access to COVID-19 vaccines: An analysis of TRIPS waiver discourse among WTO members, civil society organizations, and pharmaceutical industry stakeholders. *DOAJ*, 24(2), 159–178. <https://doi.org/10.48550/doi:10.48550/arXiv.2107.13966>
19. Leal-Arcas, R., & Filis, A. (2014). Certain legal aspects of the multilateral trade system and the promotion of renewable energy. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2380517>
20. Lloyd, P., & Vautier, K. M. (2013). *The World Trade Organization*. Edward Elgar Publishing. <https://doi.org/10.4337/9781840647723.00021>
21. Lumina, C. (2011). Free trade or just trade? The World Trade Organisation, human rights and development (Part 2). *Law, Democracy & Development*, 14(1). <https://doi.org/10.4314/idd.v14i1.9>
22. Lundan, S. M. (2013). Human rights issues in multinational value chains. In *Chapters* (pp. 146–163). Edward Elgar Publishing. https://ideas.repec.org/h/elg/eechap/13834_6.html
23. Matsushita, M., & Lee, Y.-H. (2008). Proliferation of free trade agreements and some systemic issues: In relation to the WTO disciplines and development perspectives. *The Law and Development Review*, 1(1), 1–23. <https://doi.org/10.2202/1943-3867.1005>
24. Meltzer, J. P. (2019). Governing digital trade. *World Trade Review*, 18(3), 349–370. <https://doi.org/10.1017/S1474745618000502>
25. Meltzer, J. P. (2024). Toward international cooperation on foundational AI models: An expanded role for trade agreements and international economic policy. *Harvard Data Science Review*. <https://doi.org/10.1162/99608f92.a377379b>
26. O'Sullivan, B., Essar, M. Y., Riaz, M. M. A., Manoj, M., Singaraju, M., & Lal, A. (2023). Global vaccine equity? Reflections, lessons, and a way forward. *New Microbes and New Infections*, 52, Article 101107. <https://doi.org/10.1016/j.nmni.2023.101107>
27. Purwandoko, P. H., Sulistiyono, A., & Hawin, M. (2021). The implementation of the Traditional Cultural Expression (TCE) protection in Indonesia based on Article 38 Law Number 28 of 2014 regarding copyright. *Indonesian Journal of International Law*, 18(4), 823–839. <https://doi.org/10.17304/ijil.vol18.4.823>
28. Rashid, A. (2024). Supply chain and COVID-2019. *ResearchHub*. <https://doi.org/10.55277/researchhub.vq5dnd6h>
29. Reform the WTO to make it fit for the 21st century. (n.d.). *Financial Times*. <https://www.ft.com/content/3357cc3b-8997-4a72-896d-f73f92597dc3>
30. Roberts, H., Hine, E., & Floridi, L. (2023). Digital sovereignty, digital expansionism, and the prospects for global AI governance. In *Philosophical Studies Series* (p. 51). Springer International Publishing. https://doi.org/10.1007/978-3-031-41566-1_4
31. Roberts, H., Hine, E., Taddeo, M., & Floridi, L. (2024). Global AI governance: Barriers and pathways forward. *International Affairs*, 100(3), 1275–1295. <https://doi.org/10.1093/ia/iaae073>
32. Supyan, V. (2020). President Trump's foreign economic reforms: Preliminary results. *Herald of the Russian Academy of Sciences*, 90(6), 653–662. <https://doi.org/10.1134/S1019331620060088>
33. Tussie, D. (2009). Process drivers in trade negotiations: The role of research in the path to grounding and contextualizing. *Global Governance*, 15(3), 335–349. <https://doi.org/10.1163/19426720-01503003>

34. Veale, M., Matus, K., & Gorwa, R. (2023). AI and global governance: Modalities, rationales, tensions. *Annual Review of Law and Social Science*, 19(1), 255–274. <https://doi.org/10.1146/annurev-lawsocsci-020223-040749>
35. Wolfe, R. (2022). Reforming WTO transparency: The case for informal mechanisms. *Global Policy*, 13(S1), 46–59. <https://doi.org/10.1111/1758-5899.13060>
36. Zaidan, E., & Ibrahim, I. A. (2024). AI governance in a complex and rapidly changing regulatory landscape: A global perspective. *Humanities and Social Sciences Communications*, 11(1), Article 1. <https://doi.org/10.1057/s41599-024-03560-x>
37. Zeshan, M. (2020). Double-hit scenario of COVID-19 and global value chains. *Environment, Development and Sustainability*, 23(6), 8559–8576. <https://doi.org/10.1007/s10668-020-00982-w>