

An Analysis of the Global Debate on COVID-19 Vaccine Intellectual Property Waivers: A Complex Geopolitical Analysis

Trinley Paldon

Major in International Relations and National Security, Yonsei Graduate School of Public Administration, Seoul, Republic of Korea

Abstract: *During coronavirus, India, South Africa, and others proposed a moratorium on specific provisions of the TRIPs agreement on the vaccine intellectual properties to address COVID-19 prevention, deterrence, and treatment. This paper scrutinized international debates on COVID-19 vaccine IP, delving into security discourse politics from a critical geopolitical standpoint, policy and institutional conflicts from a non-geopolitical lens, and cyber diplomacy for solidarity from a de-geopolitical angle. Firstly, the competition for COVID-19 vaccine IP seems to manifest as a hegemonic struggle among nations. Secondly, direct correlations remain elusive as COVID-19 vaccine IP as a virtual realm. Throughout the pandemic, one lesson has been unequivocal: we must prepare for future public health challenges and position IP to facilitate vaccine distribution and manufacturing rather than hinder them.*

Keywords: Coronavirus Vaccine, Intellectual Property, Complex Geopolitics, COVID-19

1. Introduction

Theories of international politics can be approached from various perspectives, including realism, liberalism, and constructivism. Realism, for instance, views states as pivotal actors and recognizes the distribution of power among nations as a fundamental factor in international politics. According to this theory, a dominant country with substantial resources influences global relations. Consequently, if the existing system contradicts the interests of the powerful nation, it necessitates and drives reforms within the international structure. Applying the realist lens to the intellectual property rights (IPR or IP) system, it contends that Western Powers took the lead in forming Trade Related Aspects of Intellectual Property Rights (TRIPs).

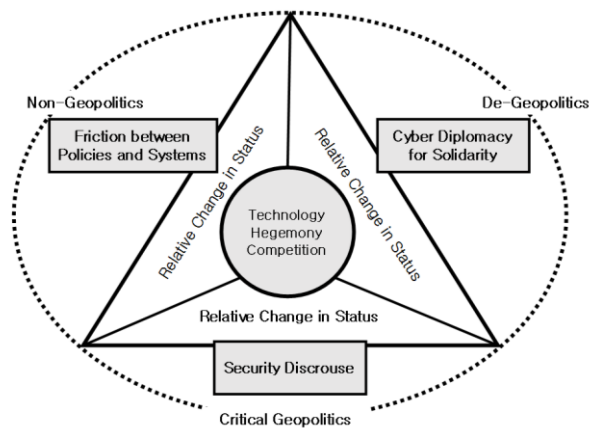
In contrast, liberals identify non-state actors wielding economic powers as key players in international relations. They also focus on sub-political agendas like economic cooperation, trade disputes, and environmental concerns. From a liberal standpoint, the TRIPs system's development was significantly influenced by large corporations and capital. These theorists assert that conglomerates operating across multiple domains of the international political economy, finance, production, technology transfer, and global standards, have propelled advancements in neoliberal globalization. Notably, global giants like Pfizer, HP, and Dupont, which dominate the pharmaceutical sector, staunchly advocated for heightened IPR protection during the early negotiations of the Uruguay Round. As a result, the emergence of expansive corporate systems fueled by multinational capital has deepened interdependence among countries while simultaneously widening disparities in terms of quality of life and power dynamics (Jung & Ahn, 2004). Constructivism, meanwhile, acknowledges the significance of actors such as international Non-Governmental Organizations (NGOs) and civil society in international relations, particularly in non-state activities. Research indicates that transnational networks of NGOs have exerted influence over the TRIPs system (Cho, 2009).

Since the inception of the World Health Organization in 1948, the declaration of pandemic instances has held pivotal importance, as seen with occurrences like the Hong Kong Flu in 1968, the Swine Flu in 2009, and the coronavirus disease (COVID-19) pandemic in 2020. In the pursuit of ensuring vaccine IPR exemptions and public access to medications, the Secretary-General of World Intellectual Property Organization (WIPO) expressed support for equitable vaccine distribution while underscoring the role of IPR. Simultaneously, discussions about IPR exemption were coupled with calls for expediting COVID-19 vaccine production. Collaborating with companies possessing manufacturing expertise was highlighted as a critical step, and noted that it is important to cooperate with companies that have manufacturing know-hows.

This paper will discuss the competition surrounding IPR related to the COVID-19 vaccine, employing the complex geopolitics theory as its analytical framework. Accordingly, the paper commences by examining the theory of complex geopolitics and subsequently analyzing the rivalry for vaccine IP dominance within the parameters of this analytical framework.

2. Analysis Tool: The Theory of Complex Geopolitics

Above all, within a state-centered international system, a state's power doesn't solely reside in its intrinsic capability; rather, it's a concept that demands understanding in relation to others. This concept should be examined in terms of "who" possesses it and the matters it pertains to. Power exhibits traits of relativity, situational dynamics, multi-dimensionality, and dynamism. Additionally, in tandem with technological advancement, the facets of power have evolved, giving rise to soft power and hard power. Kim (2019) introduced the theory of complex geopolitics to grasp the competition for technological dominance. This technological rivalry has divided the destinies of dominant and challenger nations, leading to a "relative shift in status" among powers (Kim, 2019).

[Diagram] Complex Geopolitics

The decline of technological competitiveness among dominant powers, when discussing this alteration in relative status, has steered discussions toward security considerations. Particularly, Kim (2019) contends that the contest for technological dominance unveils intricate geopolitical aspects that elude grasp by conventional geopolitical perspectives (Kim, 2019). Critical geopolitics views geopolitics as not static but as something reproduced and interpreted over time. Consequently, from this critical geopolitical perspective, technical matters are deliberated within the context of national security. For example, in the early 1990s, during the United States-Japan competition, Japan's fusion of civilian-military technology, such as missile semiconductors and silent submarine technologies, posed a substantial military and security menace. Given the direct link between high-tech development and national security, gaining a technological competitive edge has also resulted in economic and security hegemony (Yeon et al., 2020).

A change in relative status begets alterations that empower not only challengers but also dominant nations to tactically leverage trade policies, inducing clashes between policies and systems implemented differently across countries. This should be comprehended within a non-geopolitical framework that centers on interdependent order. The non-geopolitical standpoint aligns with the liberal discourse that underscores 'interdependence' and global governance stemming from the flow of capital, information, and data across territorial boundaries. Strategic trade policies emerged during the U. S.-Japan rivalry in the 1980s and 1990s, and in today's U. S.-China trade landscape, initiatives like "China Manufacture 2025" have brought about shifts in the U. S. system and policy.

Ultimately, a shift in relative status would solidify the ties between nations and necessitate a network strategy to garner international support and establish universal standards. Kim (2019) explored the realm of space, where the rapid growth of computers, information infrastructure, the Internet, and social media during the 1990s established itself as a global political arena. Consequently, this engenders networks, alliances, and solidarity. Such attributes come into play when alliances expand into the technology domain, striving to forge a novel order. In general, pioneering sectors like the 5G mobile communication sphere are recognized as traditional domains that extend into cyberspace to formulate a fresh order. For instance, U. S. influence has burgeoned based on

the technology and IPR of advanced European countries since its inception (Kang, 2021).

3. Analysis of COVID-19 Vaccine IP Hegemon Competition

3.1 Security discourse: Competition between powerful nations

The debate surrounding the security implications of IPR has persisted throughout the U. S.-China trade war. President Biden has reaffirmed his commitment to counter cyberattacks and coerced technology transfer by the Chinese government. Since the outset of his presidency, the U. S. has maintained its position of vigilance against China. Responding to years of unjust trade practices, including IP theft, China's pursuit of IP dominance triggered the imposition of tariffs by the U. S. (Korea Institute of Intellectual Property Rights, 2021). The initial stage of the U. S.-China trade agreement entailed comprehensive protection for trade secrets, drug-related IPR, patent term extensions, geographical labeling, piracy prevention on e-commerce platforms, halting counterfeit goods exports, averting malevolent trademark registrations, and fortifying IP enforcement and procedures. Implementation of this agreement bolstered IPR protection, expanded market entry, and safeguarded the legal rights of foreign enterprises in China. Notably, China unveiled an IP protection version of the One-Belt, One-Road initiative, extending its reach to neighboring countries in Africa and Europe. Similarly, arguments posit that IPR can serve as a tool for national survival and security strategy (Kim, 2019).

Parallel security discourse has emerged concerning IPR related to the COVID-19 vaccine. Apprehensions have arisen in the U. S. that vaccine-related technologies might be divulged to China and Russia following President Biden's IPR exemption proposal. Information vital to the production process of ribonucleic acid (mRNA) vaccines, such as optimal temperature conditions, has been withheld due to its classification as proprietary knowledge. However, officials in the pharmaceutical sector have cautioned that the exemption process would be intricate due to the involvement of numerous patents in mRNA vaccine production. Pfizer and Moderna, U. S. pharmaceutical firms that have developed highly effective mRNA vaccines, voiced concerns that relinquishing their IPR could hinder vaccine supply (Lee, 2021). They cautioned that temporary IPR suspension might empower global pharmaceutical companies to craft inexpensive cloned vaccines using "Wuhan coronavirus" vaccine development data.

Reiterating a crucial point, during a Q&A session with the pharmaceutical industry, the U. S. government expressed unease about potential technology transfer of Pfizer and Moderna's mRNA-based vaccine technology to China and Russia (Kuchler & Williams, 2021). Leading nations, including the European Union (EU), United Kingdom (UK), and Germany, similarly contested the exemption due to fears of technology leakage to China and Russia and apprehensions about setting an unfavorable precedent. Meanwhile, China supports the U. S. 's stance that the vaccine is a "public good," advocating for IPR exemptions. Russia asserted that such an exemption aligns with WTO (World Trade Organization)

regulations pertaining to lifting patent protections under special circumstances (Newsis, 2021).

3.2 Policy Friction between Core and Peripheral States

The debate within the international community regarding the IP of vaccines during pandemics has led to a division between countries constituting the core, possessing the capability to produce and distribute vaccines, and the peripheral regions of the world that lack this capacity. The latter category comprises third-world countries where vaccine supplies are inconsistent. These nations have raised concerns about the Western-centric IPR system, sparking discussions about a temporary exemption for vaccine IPR. Countries advocating for a temporary exemption of vaccine IPR, spearheaded by India and South Africa, face limitations in enforcing flexibility under TRIPs Articles 31 and 31bis. Conversely, opposing nations argue that IPR plays a crucial role in facilitating new drug development. However, they acknowledge that developing countries face constraints in vaccine manufacturing. They propose that the TRIPs agreement can offer flexibility through means such as voluntary licensing and humanitarian assistance. Consequently, the matter of IPR exemption is presently under discussion within the WTO system.

To ensure the exemption of vaccine IPR and public access to medications by April 14, 2021, the WIPO Secretary-General expressed support for equitable vaccine access, while underscoring the importance of IPR. Concurrently, amidst the IPR exemption discourse, the need to expedite COVID-19 vaccine production has gained prominence. It has been noted that collaborating with companies possessing manufacturing expertise is vital. The issue at hand revolves around the monopolization and transfer of IPR and know-how related to vaccines (People's Health Institute, 2021).

It wasn't until early May 2021 that the U. S. publicly expressed its support for the temporary suspension of COVID-19 vaccine patents (Hwang, 2021). In contrast, China is bolstering its influence by ramping up vaccine supplies to third-world regions, including Africa and the Indian subcontinent. Meanwhile, German Prime Minister Angela Merkel stated that the EU has been providing vaccines manufactured in Europe to the global community, setting forth what she considers to be the international standard. As a result, the competition for dominance in the realm of vaccines is escalating. Nonetheless, while the U. S. vaccine equity debate has shed light on IPR issues and demonstrated its willingness to collaborate, some argue that IPR represents just a small fraction of the vaccine shortage. The scarcity is attributed to a far more intricate problem involving the acquisition of raw materials and the intricacies of manufacturing processes. Other developed countries, such as the EU and the UK, are unlikely to shift their stance against compulsory licensing of vaccines. The EU maintains its resistance to IP exemptions due to push back from European-based pharmaceutical companies. These companies contend that sharing technology might lead to leaks in China and Russia, and they voice concerns about setting an unfavorable precedent. Similarly, U. S. pharmaceutical firms contend that sensitive information could be transferred to Russia or China. This implies that even if IPR were waived, establishing and

operating production facilities would be a lengthy endeavor, resulting in minimal impact on supply (Bang, 2021).

3.2.1. Compulsory Licensing

The term "compulsory licensing" refers to granting permission to an individual other than the patent holder to utilize a patent when the holder is either unable or unwilling to do so. Even when patent rights are enforced, the patentee retains their rights and receives compensation from the compulsory executing authority, usually the government. In essence, compulsory licensing pertains to situations where patent rights, considered private property, can be extended to third parties, irrespective of the patent holder's intentions, when deemed necessary for industrial or public interests. The provisions for compulsory licensing rights are outlined in Article 5 (A) of the Paris Convention for the Protection of Industrial Property and Article 31-2 of the TRIPs agreement.

The framework for compulsory licensing rights within the international IP system is established in Article 31 of the TRIPs Agreement, as an annex to the Paris Convention for the Protection of Industrial Property and a component of the 1995 World Trade Organization agreement. Article 5A (2) of the Paris Convention for the Protection of Industrial Property specifies that legislative measures can be adopted to implement the grant of compulsory licensing rights, thereby preventing potential abuses stemming from the exercise of exclusive rights. Article 5A (4) states the following.

"A compulsory license may not be applied for on the ground of failure to work or insufficient working before the expiration of a period of four years from the date of filing of the patent application or three years from the date of the grant of the patent, whichever period expires last; it shall be refused if the patentee justifies his inaction by legitimate reasons. Such a compulsory license shall be non-exclusive and shall not be transferable, even in the form of the grant of a sub-license, except with that part of the enterprise or goodwill which exploits such license"

Furthermore, the TRIPs agreements mandate that World Trade Organization members only enforce compulsory licensing for public health reasons and allow specific individuals to utilize the patent within the designated timeframe, even with valid intentions (Lyou, 2019). If obtaining approval from the patent holder under reasonable commercial terms within a reasonable period proves unfeasible, the government may grant the right to enforce it for national or public non-commercial use. The products resulting from this enforcement are primarily intended for domestic market supply, and appropriate compensation must be provided to the patent holder.

However, due to deficiencies in production facilities and other factors, certain developing countries might face challenges in promptly implementing compulsory licensing according to TRIPs regulations. Many of these nations lack production resources such as technology, equipment, and skilled labor even if compulsory licensing were to be initiated. Consequently, developing countries have raised the concern that medicines should be sourced from countries equipped with production capabilities, for those in urgent need but lacking such facilities themselves. Consequently, the TRIPs

Agreement and the Doha Declaration on Public Health have enhanced their effectiveness in cases where a country lacks the capacity to manufacture medications. Out of the 100 instances of compulsory licensing in the pharmaceutical sector between 2001 and 2016, 81 cases were effectively carried out, with approximately 70% (73 cases) involving HIV drugs. This led to a substantial reduction in the price of AIDS drugs, dropping from \$10,000 to \$89 in 2017 (The Japan Institute of International Affairs, 2021).

3.2.2. Policy friction between core and peripheral countries

The imbalanced ownership and distribution of information have created a divide between countries with a core structure and those without, resulting in systematic exclusion of the latter from the benefits of novel technological and scientific advancements (Jung & Ahn, 2004). Pharmaceutical companies have extensively utilized IPR as a means of maintaining elevated drug prices and controlling the dissemination of scientific and medical knowledge (Jung & Ahn, 2004).

Over time, developing countries appealed to the TRIPs Agreement Board to find swift resolutions for effective enforcement rights usage. During this process, drug developers attempted to uphold drug prices by leveraging IPR systems and other strategies to exclusively produce and sell medications. Particularly, multinational corporations like Pfizer and Dupont from the U.S. established IP Commissions, persuading European and Japanese firms to emphasize the significance of safeguarding IPR in the pharmaceutical industry. Conversely, developing countries raised concerns regarding infectious diseases such as Acquired Immune Deficiency Syndrome (AIDS), sparking discussions on safeguarding public health and enhancing access to medicines.

3.2.3. Policy friction on the exemption of IP rights against the COVID-19 vaccine

More than a year after the Pandemic Declaration, the concept of exempting vaccine IP due to vaccine supply shortages has arisen. This exemption would permit other manufacturers to produce vaccines or their equivalents. Proponents argue that if IPR were waived, the production, export, and import of relevant products could occur freely, mitigating disputes linked to pandemic-related IPR complexities (Yun, 2020). However, conflicts have intensified concerning IPR, with global pharmaceutical companies and profit-maximizing countries on one side, and other nations advocating for vaccines to be treated as public goods on the other (Kim, 2021).

3.2.3.1. Arguments by Those In Favor

France, Russia, China, and various third-world countries are advocating for IP exemptions. They assert that addressing the vaccine scarcity necessitates actions beyond addressing supply constraints. They emphasize the national priority for vaccines and advocate for compulsory licensing and TRIPs agreement exemptions, framing vaccines as a public good.

Leadership in this push for IPR exemption is demonstrated by South Africa and India. In October 2020, South Africa urged the World Trade Organization to allow any country to produce vaccines without patent concerns through temporary

exemptions from the TRIPs agreement. They contend that vaccine IPR should be suspended “until widespread vaccinations are implemented and the majority of the world’s population is immune.” This proposal garnered support from over 80 developing countries, including Argentina and Indonesia (Yonhap News Agency, 2021). Developing nations argue that IPR exemption is indispensable for addressing the vaccine shortage and that mechanisms like agreement flexibility, voluntary licensing, and humanitarian assistance are insufficient due to intensified nationalism, such as export restrictions. They advocate for employing Articles 31 and bis of the TRIPs agreement during emergencies for domestic supply and export purposes to countries with insufficient production capacities.

Initially, when the proposition of compulsory licensing emerged in October 2020, the U.S. voiced opposition. However, as vaccine-related debates escalated, President Biden eventually expressed support for relinquishing IPR to showcase the nation’s willingness to cooperate. On May 2, 2020, the White House Chief of Staff discussed vaccine IPR exemption (Cho, 2021). Similarly, on May 5, 2021, a White House spokesperson stated during a briefing that President Biden endorsed vaccine IPR exemption, with the decision expected to come from the U.S. Trade Representatives (CBS News, 2021). On the same day, Kathryn Thai issued an official statement asserting that while the U.S. administration values IPR protection, the unique circumstances of the COVID-19 pandemic warrant an exception, and the U.S. would actively engage in World Trade Organization negotiations regarding IP waivers (Office of the United States Trade Representative, 2021).

Russia, China, France, Italy, and Spain also expressed “full support” for the U.S. proposal to temporarily exempt vaccine IPR (Park & Jung, 2021). President Putin remarked on May 6, 2021, that lifting IP protection for COVID-19 under special circumstances aligns with WTO rules and receives Russia’s unequivocal backing. China’s Ministry of Foreign Affairs echoed the sentiment that all countries bear responsibility for IPR exemption and emphasized equitable vaccine access. On May 7, 2021, during a regular briefing, China’s Foreign Ministry voiced support for ensuring vaccine accessibility in developing countries and anticipated constructive discussions at the WTO. French President Macron asserted that vaccines should become a global public good and underscored the need to collaborate with low-income countries to expand vaccine production (Ko, 2021).

3.2.3.2. Arguments by Those Against

Countries opposing the exemption of IPR contend that its role is pivotal in driving new drug development. However, they highlight that developing countries lack pharmaceutical capabilities and emphasize that the TRIPs agreement already provides flexibility, voluntary licensing, and humanitarian assistance. Moreover, even if negotiations regarding IPR exemption initiate at the WTO, numerous issues, including the scope of exemption, need resolution. It’s likely that gaining final WTO approval for the exemption would require an extensive amount of time, as it necessitates agreement from all 164 member states (Islam, 2021).

During the EU summit on May 8, 2021, leaders from key

countries such as Germany, France, and Italy urged the U. S. to augment vaccine and raw material exports before delving into discussions about vaccine IPR exemption. German Prime Minister Angela Merkel voiced her opposition to vaccine patent exemption, asserting that IP is the driving force behind corporate innovation. Merkel specifically noted that “IP exemption is not a solution to overcome supply shortages.” She stressed that the U. S. should provide vaccines and raw materials to address the shortage rather than holding them back. She posited that IP isn’t at the core of the issue and cautioned that if manufacturing technology is shared through exemption and prolonged IPR, quality control could be compromised, leading to the production of flawed vaccines.

The EU echoed this sentiment, stating that the U. S. temporarily suspending vaccine patents isn’t the core solution to the problem. A spokesperson for the European Commission argued that the vaccine supply shortage primarily stems from manufacturing capacity limitations and that patent waivers aren’t the fundamental remedy for the health crisis. Concerns have been raised, particularly regarding India and South Africa’s proposal, which seeks exemption for all vaccine-related IPR except trademark rights. Such a move could potentially weaken overall IP protection.

Global pharmaceutical companies echoed these concerns. Moderna Chief Executive Stephen Bangsell expressed that IP exemptions would likely have minimal impact on the vaccine’s new technology. Anthony Fauci warned against prolonged legal disputes that might hinder resolving the COVID-19 crisis. He asserted that IP exemptions should significantly expand manufacturing capacity, enabling pharmaceutical companies to supply vaccines to other countries at lower costs, or follow the steps taken before relocating production facilities. Other organizations and pharmaceutical companies issued statements against the exemption, highlighting the complexities of vaccine production and the potential failure of such a policy.

3.3 IP as a virtual reality and Calls for Solidarity

Within the context of complex geopolitics, can IPR be analogous to Kim’s (2019) theory on the realm of virtual reality? While it’s challenging to trace the exact impact of IPR within today’s international political economy, it can be seen as a form of rent-seeking behavior. The creation of lasting monopolies through IPR tends to artificially bolster companies’ and countries’ strategic and aggressive territorial pursuits.

In addition to criticizing vaccine nationalism by the U. S., other countries are engaging in “gathering my side” strategies through vaccine diplomacy networks. On March 4, 2021, Israel formed a vaccine alliance with Austria and Denmark (Huh, 2021). nyahu, Austrian Prime Minister Sebastian Kurz, and Denmark Prime Minister Mette Frederiksen announced joint funds for vaccine research and development (R&D). Similarly, in early June 2020, Italy, Germany, France, and the Netherlands established the “Inclusive Vaccine Alliance” to enhance their bargaining power for vaccine procurement (Kwon, 2020). These nations signed a contract with AstraZeneca to supply 400 million vaccines, ensuring equitable access across EU member states in a non-profit

manner (Koo, 2020).

On May 29, 2020, the WHO launched the ‘C-TAP (COVID-19 Technology Access Pool)’ platform to address barriers hindering technical access to vaccines, medicines, and health products. C-TAP aims to collect COVID-19 related data, scientific knowledge, and IP, sharing information from governments, developers, research institutes, and companies across about 40 countries. Its goal is to enhance accessibility to low and middle-income countries by licensing potential treatments, diagnostics, vaccines, and other health technologies.

In this context, there is no standardized form of competition through IPR alliances. Instead, countries are collaborating in research and development, where new IPR is generated, to meet vaccine demands. However, the act of releasing IPR to allies, particularly in the realm of vaccines and IPR powerhouses like the U. S., remains distinct and complex.

4. Conclusion

COVID-19’s IP dominance differs from typical technological hegemony. In May 2020, the World Health Organization established the C-TAP collaboration system for sharing COVID-19 related IP, though participation remained limited (Kim, 2021). Consequently, India, South Africa, and others proposed a moratorium on specific provisions of the TRIPs agreement to address COVID-19 prevention, deterrence, and treatment.

WTO Secretary-General Ngozi Okonjo-Iweala addressed TRIPs concerns at the 12th ministerial meeting and forged licensing agreements with developing countries to introduce a “third way.” This approach aims to share essential knowledge and designs required for vaccine production (Korea International Trade Association, 2021). The third way primarily seeks to enhance vaccine accessibility through voluntary licensing and supply expansion. This alternative is crucial in preparing for potential future IP challenges in the context of new infectious diseases.

This paper scrutinized international debates on COVID-19 vaccine IP, delving into security discourse politics from a critical geopolitical standpoint, policy and institutional conflicts from a non-geopolitical lens, and cyber diplomacy for solidarity from a de-geopolitical angle. As mentioned earlier, understanding power inevitably requires the question “about whom,” which is closely tied to shifts in power dynamics. Additionally, technological advancements and shifts in power’s nature have ushered in the era of soft power, introducing the concept of technological hegemony. Based on this premise, this paper investigated hegemonic competition, specifically centered around vaccine IP.

In the discourse on security politics, the competition for COVID-19 vaccine IP seems to manifest as a hegemonic struggle among nations. The issue of vaccine IP has morphed into a contest involving the dominant U. S. and challengers like China, Russia, and a few neighboring states. A focal point of concern for the U. S. and its pharmaceutical firms revolves around potential technology leaks to China and Russia, triggering a quest for hegemony. Policy and institutional

conflicts are apparent between core and peripheral nations concerning compulsory licensing. The U. S., as a hegemonic force, initially resisted compulsory licensing for COVID-19 vaccines, only to abruptly pivot in May due to international pressures. In response, other hegemonic players like China and Russia welcomed this U. S. decision. In contrast, entities like the EU and Germany argue that compulsory licensing (or exemption) of vaccine patents, as proposed by countries such as India and South Africa, isn't a fundamental solution for the COVID-19 crisis.

Regarding COVID-19 vaccine IP as a virtual realm, direct correlations remain elusive. While some scholars perceive IP as a virtual arena for rent-seeking within the innovation domain, this practice doesn't seem to align with COVID-19 vaccine IPs. Likewise, the competition among hegemonic countries for IP standards through patent alliances isn't overtly evident. However, cooperative investments in research and development, underlying components of IP, are discernible to some extent within specific European countries and regional frameworks.

In conclusion, this paper explored the competition surrounding COVID-19 vaccine IPs. Has power competition within the realm of IP exacerbated vaccine distribution issues? Certainly, during the pandemic's early stages, this was the case. More prompt public-private collaboration could potentially have mitigated production and distribution challenges. However, I cannot assert with certainty that IP exemption represents an innovative solution for future health crises, nor is it feasible to secure unanimous consensus from all WTO members. Nevertheless, throughout the pandemic, one lesson has been unequivocal: we must prepare for future public health challenges and position IP to facilitate vaccine distribution and manufacturing rather than hinder them.

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