Journal of East Asian Studies (2025), **25**, 1–20
doi:10.1017/jea.2025.3

CAMBRIDGE UNIVERSITY PRESS

ARTICLE

Leveraging Coordination Capacity: Medical Resource Mobilization in Asia's Developmental States During COVID-19

Wei-Ting Yen

Institute of Political Science, Academia Sinica, Taiwan
Email: wyen@gate.sinica.edu.tw

(Received 03 October 2024; Revised 17 December 2024; Accepted 20 January 2025)

Abstract

The developmental states of Asia—South Korea, Taiwan, and Singapore—have been widely recognized for their successful COVID-19 governance. However, despite these successes, a closer examination reveals significant differences in their strategic responses and the medical resources mobilized. This article explains the different governance approaches taken by the three developmental states. We argue that the pre-crisis industrial coordination capacity of each developmental state plays a crucial role in determining both whether and which medical resources can be mobilized during emergencies. Through comparative case studies and within-case process tracing, we demonstrate how pre-established industry-level coordination capacities enabled Korea, Taiwan, and Singapore to strategically prioritize the production and mobilization of test kits, masks, and vaccines, respectively, especially in the initial phase of the pandemic. This article emphasizes that a country's domestic production capacity, an often-overlooked institutional factor, can facilitate a more efficient response in a short period of time and significantly strengthen crisis management efforts.

Keywords: coordination; crises; governance; political economy; developmental state

Introduction

The COVID-19 pandemic presented significant governance challenges to governments worldwide, yet some managed the crisis more successfully than others. The developmental states in Asia—South Korea, Taiwan, and Singapore—have been widely praised as successful examples of COVID-19 governance. All three acted preemptively in response to the emerging and largely unknown but potentially contagious virus in 2020, keeping it largely under control. Their success is often attributed to high levels of state capacity and the legacy of the developmental state model, which is characterized by an active government presence in the market, as well as coordination and collaboration with market actors (Pepinsky 2020; Wong 2020; Yen et al. 2022).

Despite all three countries' governance successes, a closer examination of South Korea, Taiwan, and Singapore reveals significant differences in their strategies. In particular, their approaches to mobilizing medical resources to combat COVID-19 varied. South Korea focused heavily on the production of test kits, while Taiwan prioritized mask production. Conversely, Singapore adopted an early and aggressive approach to secure vaccines. What explains the variation in the types of medical resources mobilized by South Korea, Taiwan, and Singapore?

To explain the variation in medical resource mobilization capacity among the three developmental states, this article argues that each state's existing industrial coordination capacity plays a pivotal role in determining its ability to mobilize resources during a crisis. The developmental state legacy endows these countries with superior industrial coordination capabilities to begin with, but the industry in which each state has already cultivated coordination capacity varies. The pre-existing coordination capacity within different industries in each state significantly influences the medical resources that can be swiftly mobilized and deployed during emergencies. In other words, a state's ability to embed itself within specific industries prior to a crisis is crucial for the successful mobilization of medical supplies. When a state has established partnerships or prior collaborative experiences with industries before a crisis, the pre-existing communication channels and mutual trust help to minimize the principal-agent dilemma and communication barriers, which are often present during normal times and tend to worsen during crises, thereby facilitating the rapid production and mobilization of resources.

Using the cases of the developmental states, this paper highlights the crucial role of coordination capacity in crisis response, pointing the need for further research to pinpoint key political institutions for pandemic management (Greer et al. 2020, 2021). It discusses how industrial coordination capacity constrains policy options for resource mobilization in crises, noting that feasible public health decisions may be hindered by policy and political limitations. Additionally, this study is relevant for experts in Asian political economy and contrasts with the narrative of the declining developmental state (Pirie 2009), instead supporting the revisionist view that the developmental state remains effective and operational as needed (Weiss 2000; Wong 2011). It aligns with recent literature on state roles in crisis management (Greer et al. 2021; Yen et al. 2022), furthering the understanding of how national industrial coordination enhances effective crisis governance.

Developmental states, coordination capacity, and resource mobilization during crises

During a crisis, mobilizing and expanding local medical resources is challenging. Effective resource mobilization involves three steps. First, the government identifies the existence and location of the resource. Second, it identifies the key personnel, who often span across agencies and departments depending on the crisis. Third, it coordinates these personnel to mobilize and deploy the resource promptly. Essentially, this is a test of a government's ability to execute a 'coordinated mobilization' of resources (Ansell, Boin, and Keller 2010). However, the initial phase of a crisis is typically characterized by chaos and significant uncertainty. How to effectively coordinate diverse individuals and organizations to quickly mobilize and allocate resources in a stressful and unpredictable environment poses a considerable challenge for crisis governance.

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

In particular, coordination, compared to mobilization, is recognized as the most challenging aspect of resource mobilization (Rosenthal, Boin, and Comfort 2001; Kettl 2003).

Effective coordination often involves multiple agencies, but principal agent and collective action problems can easily arise between government bodies or between government and society to obstruct effective coordination (Chang, Yen, and Liu 2023). For instance, government organizations might resist cooperation due to self-interests like evading accountability or desiring sole recognition for successes, leading to principal agent problems. Coordination across jurisdictions or sectors requires aligning diverse priorities and principles (Ansell, Boin, and Keller 2010), and conflicting interests between entities can cause collective action problems, particularly when prior collaborative experience does not exist. As a result, although the government can identify resources and personnel for mobilization, successful mobilization remains challenging.

Furthermore, to coordinate resource production and mobilization, the state can engage in private sector cooperation. The government can delegate tasks to private companies. In a democratic society, the use of coercion is generally not well received. Government depends on citizen consent and cooperation to meet common goals. However, the private sector might resist collaboration, especially when it can exploit situations for self-interest and profit maximization. This often leads to another principal-agent problem when government aims to increase production to reduce prices, while the private sector seeks to restrict production to boost profits.

Inadequate communication, alongside the principal-agent and collective action problems, can also hinder effective coordination (Reynolds and Seeger 2005; Kapucu 2006). Crisis management demands responses amidst significant uncertainty and tight deadlines. Uncertain information flows can lead to misunderstandings. Without pre-established communication channels across jurisdictions or sectors, miscommunication can exacerbate coordination difficulties during crises (Kapucu 2006). The challenges hindering effective coordination extend beyond emergencies, persisting under normal conditions and intensifying during crises. Designing a rapid and efficient resource mobilization strategy remains a key hurdle in crisis management (Ansell, Boin, and Keller 2010).

Developmental state and resource production

The developmental states in Asia have a strong advantage when it comes to coordination for production (Amsden 1989; Wade 1990). The developmental state model is used to explain postwar economic growth in Asia from Japan, South Korea, Taiwan, to Singapore (Johnson 1982; Amsden 1989; Wade 1990). The national survival mentality after World War II and during the polarized Cold War structure prompted a strong pro-growth mindset in bureaucracy (Doner, Ritchie, and Slater 2005). All the developmental state economies feature a strong and autonomous bureaucracy designing and implementing pro-growth industrial policies. Organizationally, a pilot agency is usually structured at the top that develops key industrial policies. Under the pilot agency, various ministries are tasked with addressing coordination problems that can arise during industrial development. Furthermore, the state is embedded in the market (Evans 1995), building close relations with the private sector, and creating institutionalized formal and informal feedback loops between the state and the market to pursue economic growth. As latecomers, these

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

nations tried to overcome the challenge of catching up and achieving economic growth in a short period of time.

Haggard (2018, 21) notes that "coordination is a consistent theme in the developmental state literature." He pinpointed three specific coordination challenges in the endeavor to enhance industrial capabilities and establish links with the global market (Haggard 2018). The first is the coordination problem within the industrial sector when trying to orient the economy toward upgrading or the international market. Essentially, when in economic transition, individual investors would have little incentive to invest alone. The simultaneous presence of specific investment (from upstream to downstream industries) or input (e.g., specialized labor skills) is needed for the economic transition to occur (Rodrik 1995). The second coordination problem is financing; that is, how to coordinate between the bank and the industry so that the industry can have access to finance while the bank feels safe about its investment. The third coordination problem is how the state coordinates the transfer and adoption of new technology to the private sector. Technology research and development (R&D) requires significant initial investment with uncertain future returns. Businesses might hesitate to invest heavily in R&D without clear profit prospects.

In all developmental states, the state typically intervenes and coordinates to streamline the transition process, thereby proactively tackling coordination issues in growth and production and minimizing the economic cost for the private sector. The government can assist by reducing entry barriers for targeted industries, for instance, through financial subsidies or regulatory support. It can also establish development banks to financially support industries and secure investors' profits. Furthermore, it can create public institutes to share R&D costs and transfer knowledge to the private sector at a later stage. Essentially, the government's role is to mitigate the risk of entry of firms and technology into the new sector during the economic transition (Wong 2011, 27).

By actively participating in the market and establishing feedback mechanisms with the private sector, the government forges robust connections and communication channels, both formally and informally, with the targeted industries. The capacity to coordinate is woven deeply into the fabric of state–business relations in developmental states before a crisis occurs, and is readily accessible when a crisis looms. As previously noted, the ability to mobilize for production in times of crisis hinges on the state's aptitude for identifying resources, recognizing production obstacles, and linking these issues with the appropriate individuals possessing the necessary skills to resolve them. Past experiences in coordination offer advantages on multiple fronts.

Firstly, the trust built through collaborative experiences and repeated interactions prior to a crisis fosters mutual trust between the state and the industry, as well as among firms within the industry, making it easier to align the industry's interests with those of the state and reducing the risks of firm-level free riding behaviors. In essence, this helps mitigate the principal agent problem and the collective action problem that stems from coordination failures occurring in other countries. Secondly, the previous interaction also establishes channels of communication (both informal and formal) between the state and the industry. The existing communication network can be easily activated again during the crisis, reducing the risk of miscommunication or lack of communication and saving time in forging a crisis response (Kapucu 2006).[1]

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

Accumulating research on COVID-19 has demonstrated that political institutions significantly influence variations in governance across nations (Greer et al. 2020, 2021), and differences in state capacity determine the feasibility of policy options and their implementation (Yen et al. 2022; Weiss and Thurbon 2022). The developmental state model outperformed neoliberal regulatory states in COVID-19 governance precisely because it retains the institutional legacy of a centralized, bureaucrat-led policymaking process and strategic market interventions to ensure state-led coordination can happen rapidly and swiftly when a crisis strikes (Kumar 2021; Kumar 2023).

Building on existing findings that primarily rely on single-case analyses (Kumar 2021; Kumar 2023), this paper takes a comparative approach to examine the institutional strengths and weaknesses of the developmental state model in COVID-19 governance. As I argue below, the pre-existing industrial-level coordination capacities in different developmental states determine whether, and which, medical resources can be mobilized quickly during a crisis, as seen in the cases of South Korea, Taiwan, and Singapore.

Variations of the developmental states in Asia

South Korea, Taiwan, and Singapore exemplify the model of the developmental state. These three countries had to build their economies almost from the ground up after World War II. From 1965 to 1990, they experienced growth rates twice as high as the global average, earning them the name of the "East Asian miracle" (World Bank 1993). The rapid economic advancement of these nations during the postwar period can be in part credited to the significant involvement of the state in the market. The state directly facilitated the process of catching up and establishing export-driven economies through formal and informal coordinations with the private sector and industries they targeted, from the textile to the electronics industries. The state's ability to coordinate effectively helped reduce tangible and intangible transaction costs associated with industrial upgrading.

Although they share similarities as developmental states, South Korea, Taiwan, and Singapore exhibit unique characteristics. In particular, their differences are evident in their industrial structures and where the strength of state coordination lies. These unique characteristics also result in countries having varying coordination abilities across different industries due to the diverse nature of each industry. Wong summarizes the developmental state differences in South Korea, Taiwan, and Singapore most succinctly: "the developmental state in South Korea has been famous for 'going big,' Taiwan for 'going small,' and Singapore for 'going global'" (2011, 43).

South Korea, by going big, means that its development state is characterized by the dominance of large conglomerates, *Chaebol*, in leading industrialization (Amsden 1989; Jung 2004). Throughout the industrialization period, numerous financial incentives were offered by the government to facilitate the expansion of *Chaebols* (Jung 2004). The close relationship between the government and *Chaebols* is evident in various sectors such as electronics and automobiles during the 1970s and 1980s, as well as in the biotechnology industry in the 1990s. The institutional tilt toward large conglomerates enables South Korea to enjoy economies of scale and scope and to diversify their export-oriented goods under big brand names (e.g., Samsung, LG, etc.) (Wong 2011). It also enables South Korea to capture the entire production line from the upstream to downstream business within an industry so that resources (that is,

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

human, physical, financial and managerial resources) can be shared between departments within the same conglomerate to maximize profits. Most of the state's coordination works, hence, happen at the firm level. The government directly works with the big conglomerates to coordinate technology transfer. Although *Chaebols* suffered a setback after the Asian Financial Crisis, and the state redirected its efforts towards promoting the development of small and medium enterprises (SMEs) to achieve more 'balanced growth,' the Korean government continues to pair SMEs with different *Chaebols* to enhance the innovation capacity of the latter (Klingler-Vidra and Pacheco Pardo 2019).

Taiwan's developmental state is based on SMEs as the economic engine. In contrast to South Korea's "going big" approach, Taiwan adopts a "going small" approach. The enduring SME strategy since World War II has resulted in companies that are small and specialized in specific industry segments. The SME-dominated industrial structure is characterized by limited economic scale and scope. Smaller organizational structures allow firms to be more flexible in adapting to changing market conditions, but it is difficult to achieve firm-level economies of scale and scope due to financial constraints. Every company can specialize only in one part of the supply chain. The small scale of businesses means they have limited capacity to bear costs and tend to be risk-averse. No scope diversification at the firm level means that cross-industry investment is almost impossible, and the government also needs to be more embedded at the industry level, not at the firm level, to coordinate firms along the supply chain. The government thus prefers to allocate resources at the industry level rather than coordinating at the firm level.

Singapore's developmental state has adopted a managed "laissez-faire" strategy, directing and molding the market to boost competitiveness in particular sectors. Singapore's "going global" strategy emphasizes increasing competitiveness in the market and relies on multinational corporations (MNCs) and foreign direct investment (FDI) to create job opportunities for Singaporeans. The highly capable Economic Development Board consistently encourages investors to upgrade by introducing new products and advancing manufacturing processes, thereby establishing international production networks in Singapore (Schein 1996). Government intervention in the market occurs primarily through regulations and tax incentives, public research institutes and training programs to cultivate sector-specific labor skills and research technology output. Even during the industrial upgrading process for biotechnology development, Singapore continues to attract multinational companies instead of nurturing domestic innovators, investing in and improving the existing location advantages of the city state (Haggard 2018).

Over the last two decades, some critics have argued that the developmental state is "dead" under the pressures of neoliberalism and democratization (Jayasuriya 2001, 2005; Pirie 2009, 2018). The central thesis of the decline school is that external pressures (i.e., globalization) and internal pressures (i.e., democratization) have undermined the developmental state's coherence as an actor capable of guiding markets to achieve its goals.

While the developmental state model has been under attack, increasing research shows that it is not disappearing but transforming (Weiss 2000). The developmental state exhibits path dependency, with institutional continuities in public–private collaboration and coordination (Klingler-Vidra and Pacheco-Pardo 2019; Kumar 2021) and in bureaucracy-led policymaking processes (Kim 2019). For instance, in examining Asia's biotechnology development, Wong (2011) demonstrates that the state's role has adapted to sector-specific needs, with its coordination capacity

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

varying across sectors. The presence and effectiveness of the developmental state model depend on the specific policy domain and the key political actors involved. In areas where decision-making faces fewer barriers, traditional top-down coordination persists (Chen 2022). It is premature to declare the developmental state "dead." Asia's COVID-19 governance, in particular, illustrates that the developmental state remains very much alive (Pepinsky 2020; Wong 2020; Kumar 2021; Kumar 2023).

In summary, the argument this particle advances is that coordination capacity of states is crucial in crisis management. Developmental states, through their history of collaboration with the private sector during growth and industrial enhancement, have built significant coordination capabilities within key industries. This capacity enabled them to swiftly mobilize and expand production of essential medical resources at the pandemic's onset. However, not all developmental states display the same coordination strengths across industries due to their unique industrial development paths (Wong 2011). These states vary in their established industry relationships and coordination abilities. Their institutionalized yet varied coordination strengths across sectors are critical assets that governments can leverage during emergencies. The selection of medical resources should correspond with each state's pre-existing sectoral coordination strengths.

Empirical method

To demonstrate the impact of a developmental state's pre-existing industrial coordination capacity on medical resource mobilization, this article explores the differences between South Korea, Taiwan, and Singapore in their COVID-19 governance and combines cross-case comparative analysis and within-case process tracing (Bennett and Checkel 2015). The focus is on whether and which medical resource each nation mobilizes. It compares policy decisions across the three nations and tracks the evolution of policies and their direction within each case over time. In particular, this paper places greater emphasis on the policy choices made at the onset of the pandemic in 2020, when uncertainty was at its peak. Using within-case process tracing, the study aims to keep case-specific factors consistent and to use temporal changes to determine the importance of political capacity in effectively mobilizing specific health resources. Empirically, we collect official government documents and media coverage related to COVID-19 governance, such as news articles, press releases, videos, etc. supplemented by interviews with relevant policymakers.

Empirical findings

To show how a developmental state's existing coordination capacity determines the prioritization of medical resources during the initial pandemic phase, we organize empirical evidence by case and highlight the unique benefits and drawbacks of each region's coordination abilities. Additionally, we evaluate the collected data against two alternative hypotheses: the impact of political leadership and historical epidemic responses.

Rapid test development in South Korea

South Korea's developmental state is featured by *Chaebol* dominance and state's coordination capacity usually happens at the firm level in the form of technology transfer, financial incentives, and regulatory support. Faced with the pandemic,

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

South Korea developed the 3T model—testing, tracing, treatment—very early on, and its immense and immediate mass testing capacity on the nationwide scale made the 'testing' component of the 3T approach possible. Aggressive testing also helped the country stop the first outbreak in less than a month, despite that it was the worst affected country outside of China at the time, and its mass testing capacity also earned South Korea worldwide praise (Terhune et al. 2020).

South Korea's testing capacity is evident in its rapid approval of test kits for production and the daily number of tests that the government can conduct, particularly during the initial phases. Regarding the speed of test kit approval, the government granted the first Emergency Use Authorization (EUA) for the test kit created by Kogene on February 4, 2020, when only limited cases were reported in South Korea. Subsequently, by March 2020, 64 companies submitted EUA requests for a diagnostic kit, and four of them met the criteria (Ministry of Food and Drug Safety 2020). Accompanied by the quick approval of test kits is the expansion of the test quantities. South Korea's testing capacity increased from 200 to 3,000 per day on February 7. The Ministry of Health and Welfare also worked together with test kit manufacturers and private testing institutions to further increase the supply and testing capacity to 10,000 tests per day (Ministry of Health and Welfare 2020). In early April 2020, South Korea was capable of producing and performing 20,000 tests per day.

South Korea's immediate expansion of its testing capacity stands out when compared with the other two developmental states. In Taiwan, from 2020 to early 2022, only five testing kit firms obtained EUA from the government, the first in June 2021 (Taiwan Food and Drug Administration 2021). The testing capacity was also relatively limited, partially forcing the island nation to prioritize quarantine rather than mass testing. Despite the government's announcement to increase the production of test kits in 2022 amid the Omicron outbreak, the plan still did not come to fruition. In Singapore, the government could perform only an average of 2,900 tests per day in early April 2020, forcing the city state to centralize the testing process to prioritize most needed tests. South Korea's testing capacity was almost seven times that of Singapore around the same time, reaching 20,000 tests per day. Although Singapore developed a new test kit in May 2020 and gradually expanded its testing capacity (Singapore, Ministry of Health 2020b, 2020c), it was only able to perform more than 20,000 tests per day after September 2020 (Kim 2020; Chen et al. 2021).

South Korea's success in test kits and testing capacity can be directly attributed to the government's ability to coordinate in two areas: technology transfer and regulatory support. The Korean CDC disclosed the information and transferred the know-how of test methods to private manufacturers to accelerate the development of test kits very early in the crisis (Terhune et al. 2020; Kim 2020). In addition, the government encouraged private manufacturers to develop diagnostic kits and promised swift regulatory approval. A critical moment occurred on January 27, 2020. At the time, there were only four confirmed cases in South Korea and South Korea was celebrating its Lunar New Year holiday. The South Korean government convened a meeting with representatives of more than twenty medical companies, in which the government expressed the urgent need for effective tests to detect the virus and promised swift regulatory approval to facilitate the process (Terhune et al. 2020). The government very quickly modified the regulatory process to authorize emergency use, which surprised many test kit manufacturers (Kumar 2021). Rapid approval of test kits dramatically increased the supply of diagnostic test kits.

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

From a wider point of view, the South Korean government had already built a strong presence in the biotech industry and a track record of supporting R&D-focused biotech SMEs through institutionalizing technology transfer from public to private and between SMEs and *Chaebols* when the government developed the biotech sector for industrial upgrading in the 1990s and 2000s. While the leadership of *Chaebols* continued to steer industrial advancement in biotechnology, the government also started to support SMEs in biotechnology with R&D focus through financial investments and formalized technology transfer from the public to the private sectors (Wong 2011; Klingler-Vidra and Pacheco Pardo 2019). In this process, the Ministry of Commerce, Industry, and Energy (MOCIE) and its subordinate unit Small and Medium Sized Business Administration (SMBA), which later evolved into the Ministry of SMEs and Startups in 2017, provided economic incentives and regulatory changes to RD-intensive SMEs to create practical technologies that could be easily adopted by businesses. Numerous new biotech innovations could be initially tested and developed by startups before being taken up and mass-produced by *Chaebols*.

As a result, the government has already established collaborative partnerships with RD-focused biotech startups to facilitate the dissemination of biotech innovation and the integration between SMEs and *Chaebols*, which proved invaluable during COVID-19 and facilitated the large number of biotech firms already applying for test kit EUA in early 2020. Following the expansion of South Korea's production capacity for test kits, the Ministry of SMEs and Startups further facilitated networking to support the export of test kits to 117 countries (Arirang News 2020).

Compared to South Korea's impressive mass testing capacity, its approach to masks and vaccines underscores the importance of both political will and capacity for successful resource mobilization. The policy area of surgical masks vividly illustrates the critical role of political will in mobilizing health resources. South Korea had the capacity to produce masks. The nation has around 130 mask producers and was capable of producing 6 million masks per day prior to the crisis. Despite surpassing Taiwan's mask production capacity, face masks were not the government's focus. The South Korean government refrained from intervening to ramp up production, resulting in mask shortages in March 2020. The Moon government had to apologize for the shortage of face masks. The government helped in mask production (by adding military personnel) and distribution (by purchasing up to 80 percent of national production and imposing a rationing system) to solve the problem (Jeong 2020). While the government eventually implemented measures, its effort was less aggressive. It focused on mask procurement and distribution, allowing the mask market to gradually stabilize after July 2020.

On the other hand, the South Korean government's vaccine strategy illustrates a situation with strong political commitment but insufficient capability for swift production. South Korea had ambitions to not only develop its own vaccines but also to manufacture vaccines from abroad. The government played a facilitating role in this process, aiming to transform South Korea into a vaccine production hub. In the summer of 2020, South Korea initiated an assertive plan to link its domestic pharmaceutical manufacturers with international vaccine companies, establishing licensing contracts for local production (Novavax 2021). Besides licensing foreign vaccines, the South Korean government also showed a strong interest in promoting the development of domestic vaccines. However, South Korea's progress in vaccine development was slower than that of foreign pharmaceutical companies. The

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

emergence of new outbreaks towards the end of 2020 compelled the government to buy foreign vaccines instead to accelerate the vaccination pace. Eventually, South Korea succeeded in developing its first homegrown COVID-19 vaccine in 2022 as a joint effort with the University of Washington's Institute for Protein Design (produced by SK Bioscience, a subsidiary of the SK Group, the second largest *Chaebol*) (Reuters 2022). This demonstrates that, notwithstanding South Korea's capabilities in vaccine production, it lacked the requisite capacity for independent vaccine development amidst the crisis.

Ramping up mask production in Taiwan

Taiwan's developmental state is characterized by the prevalence of SMEs, organizational agility, and coordination at the industry level. Taiwan is famous for its whole-of-a-nation approach toward surgical masks early on in the pandemic (Chang, Yen, and Liu 2023). At the beginning of the crisis, Taiwan's domestic production capacity was only 1.8 million masks per day, which is far from enough on the island with 24 million people. In response, the island nation formed a 'national mask team' and managed to increase its mask supply from 1.8 million to 10 million per day in March 2020, and the number increased to 20 million per day in May, 10 times more than in January. When the world was experiencing a massive shortage of surgical masks, Taiwan was already self-sufficient in mask supply. The abundance of masks also allowed Taiwan to launch 'mask diplomacy,' donating masks to other nations.

Taiwan's mask production story illustrates clearly the government's ability to coordinate textile and machine tool companies at the industry level, which can be attributed to the island nation's SMEs-focused development strategy. As such, the absence of firm-level economies of scale prompted the Taiwan government to adopt the 'national team' approach when addressing the pandemic, and the government directly coordinated and subsidized the industry to reduce both invisible transaction costs and visible physical costs.

As soon as the political authorities recognized, in late January 2020, that wearing masks was the most potent nonpharmaceutical intervention to halt the virus's spread, the Industrial Development Administration under the Ministry of Economic Affairs (MOEA) called together all mask-related manufacturers in early February. The Industrial Development Administration had already established a robust network with the textile and machine tool industries prior to the crisis (Kuo 1995), enabling a swift assembly of all companies. During this meeting, all the firms concurred on an aggressive plan for mask production, where the government orchestrated the efforts of all machine tool companies to increase the production of mask-making machines, and paired raw material providers with downstream mask producers (Yen 2020). This meeting helped reduce the transactional and coordination expenses that would have otherwise been incurred if the firms were left to handle the task on their own. Furthermore, the government reduced the physical costs of mask production by directly investing $9.6 million US dollars to buy 92 mask production lines and by setting a guaranteed mask purchase price.

Despite the success of Taiwan's mask policy and their ability to quickly increase mask production, their efforts in vaccine development did not go as smoothly and the results were not as impressive. The 'national vaccine team' was established at the same time as the 'national mask team' at the start of the pandemic, but political will

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

alone was not sufficient for a successful policy outcome. Taiwan's main challenge was its lack of capability and familiarity with the drug commercialization process. Over the past twenty years, Taiwan's biomedical industry has been more focused on early-stage development, with many potential drugs being sold to large pharmaceutical companies after the Phase 1 clinical trial. This strategy was a direct result of Taiwan's SME-focused developmental state model. Since the 1990s, Taiwan has attempted to develop the biotechnology sector, yet with a continuation of its institutional bias towards SMEs. Thus, Taiwan's reliance on a 'hit-and-miss' strategy limits small and medium-sized companies to specific, potentially profitable segments of the industry's midstream. (Wong 2005, 2011). Taiwan has never built the capacity to conduct clinical trials from Phase 1 through to Phase 3, the latter being the most lengthy and costly stage. As a result, even though Taiwan produced two domestic vaccines in 2021, both were only able to apply for EUA based on Phase 2 clinical trial results. To put it in perspective, Moderna and Pfizer applied for EUA in 2020 while they were already conducting Phase 3 clinical trials. The absence of Phase 3 trial data also resulted in Medigen, the only Taiwanese domestic vaccine to receive EUA, not being recognized by the World Health Organization. Taiwan's vaccine strategy demonstrates that political will alone is insufficient for the successful mobilization of health resources.

Taiwan lacks major pharmaceutical companies capable of spearheading the process from R&D innovation to product commercialization, hindering not only the nation's ability to produce mRNA vaccines, but also large-scale test kits within a short time frame. Taiwan's approach to testing kits provides another good example of how political will is necessary but not sufficient for effective policy choice. In 2020, mask-wearing successfully helped Taiwan contain the virus. Despite some health professionals calling for population-wide mass testing, the Central Epidemic Command Center (CECC) repeatedly refuted the need and stuck to its targeted testing strategy. Without strong political will, test kits were not mass produced. In 2022, with the Omicron wave and a growing number of cases, the government finally felt the need to address the test kits shortage issue. The Premier, SU Tseng-Chang, announced that he would follow the 'national team' approach and form a 'national testing team' to address the problem. Despite the political will being present, the ability to execute was still constrained. The government lacked the same degree of control over the production of testing kits. Even when the government changed its position on test kits, Taiwan only gave EUA to an additional six testing kit manufacturers (bringing the total to eleven) while it imported testing kits from nineteen overseas companies to guarantee sufficient supply.

Aggressive procurement to produce vaccine winner in Singapore

Singapore's developmental state is distinguished by its pronounced dependence on multinational corporations and foreign direct investment, with the government demonstrating coordination capacity in embedding itself into these international businesses to strategically position Singapore at the forefront of global economy. This emphasis directly affects Singapore's crisis governance strategy. With the new coronavirus, Singapore's initial strategy focused on blocking and reducing cases as much as possible. Externally, Singapore relied on extensive health monitoring and border control. It was the first country to ban tourists with a travel history to China

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

from entry. Domestically, they relied heavily on contact tracing, with personnel support from the Police Force and Armed Forces, and quarantine/isolation to reduce the risks of local transmissions. One key health resource Singapore had was a new National Centre for Infectious Diseases, with 330 negative pressure beds, that had just been built in 2019.

Despite the effort, local outbreaks still appeared, mainly through migrant dormitories. Local surges forced the government to announce a 'circuit breaker,' which was a complete lockdown from April to June 2020 to prevent the virus from spreading. In early February, rising local transmissions led to shortages in Singapore's testing capacity and facemasks. The usual solution of increasing imports was not viable, as all countries were lacking the same critical health resources. Singapore had no choice of increasing production as the resource-deprived city state does not have many local industries on which the government can rely to mobilize to ramp up the supply of other critical health resources to fight against the virus.

The medical resource in which Singapore outpaced the other two developmental states was vaccine. It is vaccination that led Singapore to move back to normal faster than other countries, and its success can be attributed to the nation's aggressive vaccine procurement strategy. In May 2020, when the world was still uncertain about the pathology of the coronavirus and what vaccine technologies would be most effective to trigger immune reactions (i.e., RNA vaccines, inactivated virus vaccines, or live attenuated vaccines, etc.), Singapore already started its vaccine procurement plan. It was an early and aggressive move for Singapore to secure access to a diversified portfolio of vaccines when all vaccines were still in the development stage. The first agreement was signed in June 2020 with Moderna. Before the end of 2020, Singapore had signed more than 40 advanced purchase agreements with all major international pharmaceutical companies and had spent almost 1 billion US dollars (Tan 2020b). These advance procurement agreements allowed Singapore to have more access to the progress of vaccine development worldwide.

Singapore's aggressive vaccine procurement strategy eventually payed off. Singapore became Asia's first nation to receive the Pfizer vaccines, only weeks after Britain and the United States received theirs (Tan 2020a). As a result, Singapore had one of the most successful vaccination programs globally due to its early access to vaccines. Around 77 percent of Singaporeans were fully vaccinated as of August 31, 2021. By comparison, less than 25 percent of the South Korean population, and less than 4 percent of the Taiwanese population were fully vaccinated around the same time (Mathieu et al. 2020).

The Economic Development Board (EDB), a central element of Singapore's developmental state model, played a significant role in the successful execution of advanced purchase agreements with major pharmaceutical firms. The strategy of Singapore to depend on MNCs and FDI for additional competitive advantage has been a defining feature of its developmental state model, and in its efforts to develop the biomedical industry, it has consistently drawn on foreign companies to contribute high-level technology and expertise to the city-state. As such, even before the pandemic, Singapore already had a strong presence in the biomedical sector, and numerous pharmaceutical companies have established bases there. The EDB has nurtured a broad spectrum of relationships with many leading pharmaceutical companies. These pre-existing networks have positioned Singapore advantageously for negotiations and have minimized many of the communication expenses associated with securing bilateral agreements. In a discussion, Leo Yip, the head civil

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

servant who also chaired a vaccine procurement planning group, stated, "We leveraged the strong relationships built up between EDB Singapore and pharmaceutical companies like Pfizer, as well as biotech companies like Moderna and BioNTech" (Tan 2020b). International pharmaceutical companies also acknowledge Singapore as a biomedical hub and are motivated to sustain positive governmental relations by entering into these agreements.

In contrast to its proactive approach to vaccination, Singapore's efforts in mass testing and mask production were less assertive. Its heavy dependence on multinational corporations for development implies that the government lacks local industries to rely on for the rapid increase in the supply of other crucial health resources needed to combat the virus. As previously stated, Singapore's testing capacity was not adequate, a fact that becomes evident when compared to South Korea's testing capacity. Consequently, Singapore was compelled to implement strategic testing in 2020, mirroring the approach taken by Taiwan. All PCR tests had to be centrally managed. The Testing Operations Centre consolidated demand, prioritized, and balanced needs across healthcare facilities, with only cases that met the testing criteria being approved (Chen et al. 2021). In May 2020, Singapore successfully developed a new test kit. As one might expect, this accomplishment was made possible through a collaboration with international biotech firms and the utilization of the Duke–NUS medical school partnership.

Regarding facemasks, Singapore also faced the issue of mask scarcity when the virus hit. Singapore has long outsourced its mask production to its neighboring countries, and at the time of the crisis, Singapore did not have any factories producing surgical masks (The Star Online 2020). The media first reported this problem in late January 2020. However, Singapore had no sufficient textile industry to increase production. The government was left with no alternative but to step in and regulate the distribution system. In response to the mask shortage, the Singapore government implemented two strategies. First, they assured the citizens that there were plenty of masks provided as long as masks were used "sensibly and responsibly" (Singapore Government 2020a; Low 2020). To guarantee there were enough masks, the government ordered to distribute 5.2 million masks to all households (four masks per household). However, 5.2 million masks were not a large quantity by comparison, for example, with South Korea, which already had the ability to produce six million masks per day prior to the pandemic.

Secondly, they tried to downplay the necessity of facemasks by convincing the public that healthy individuals did not need to wear them. For example, in January and February 2020, when new cases with no apparent links to travelers from Wuhan began to emerge, demand for facemasks and other essential supplies skyrocketed. In his first remarks on COVID-19 after visiting the National Center for Infectious Disease, Prime Minister Lee Hsien Loong made the remark that masks can give people "a false sense of security" and that "the doctors do not advise us all to wear masks walking around" (Lee Hsien Loong 2020a). The COVID-19 multi-ministry taskforce later endorsed the stance and said in the press conference in early February 2020 that masks are not necessary unless one is ill (Ministry of Health, Singapore 2020a). On the day COVID-19 was officially recognized as a pandemic, March 12, 2020, Prime Minister Lee delivered his second national address on the matter. He again emphasized that there was no need for the public to stockpile masks, advising that they should only be worn when feeling unwell (Lee Hsien Loong 2020b). Nonetheless, during his third nationwide broadcast on the COVID-19 scenario in the

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

early part of April, where he proclaimed that Singapore would undergo a month-long 'circuit breaker,' he altered his position and urged the public to wear masks. However, he did not express any plans to increase the domestic supply of masks. He simply commended the individuals for producing reusable masks (Lee Hsien Loong 2020c). Despite the government's policy shift, Singapore's mask supply couldn't increase due to capacity constraints.

Alternative explanations and discussion

To fully construct the validity of the coordination capacity argument, it is necessary to evaluate alternative hypotheses with equal attention and determine if the evidence is strong enough to falsify alternative explanations. Of the existing accounts that explain the success of COVID-19 in Asia, this article considers the two most popular arguments. The first is the hypothesis of political will and the second is the hypothesis of past experience.

The first alternative explanation focuses on leadership. The argument is that competent leadership is essential to handle an unprecedented crisis like covid-19, which requires decisive and quick policy actions (Moon 2020). Strong and competent leaders make policy choices based on their beliefs about the best options for the nation. Political leadership can also compensate institutional weakness (e.g. weak health care system due to neoliberal reform in the 1980s) and develop creative responses to address governance challenges (Weiss and Thurbon 2022). This assertion suggests that the decision regarding which medical resources to utilize and enhance capacity is a direct result of the determination of leaders, and that policy success hinges solely on political will. To examine the hypothesis of political will, we would investigate whether effective resource mobilization is solely dependent on political will.

A key feature of the developmental state is its bureaucracy-led policymaking, insulated from political pressures, ensuring stable state–business linkages that persist regardless of changes in political leadership. It is important to state that for the argument of political capacity to work, the paper does not suggest that political will does not matter. In fact, it would be impossible to implement any policy choices if there was no political will, even if there was political capacity. The core of our argument is that political will is necessary, but not sufficient, for the successful mobilization of health resources during a crisis. For successful resource mobilization within a short period of time, the ability to mobilize and coordinate the private sector is also necessary.

To verify whether political will alone can lead to successful resource mobilization, it would be useful to identify key turning points during the pandemic and observe what happened afterward, as those moments demanded stronger political competence and major political decisions to address changes in the environment. If we observe political leaders showing willingness to utilize specific health resources, but such intention does not produce satisfactory outcomes or successful resource mobilization, we can infer that lack of capacity is the suspect to blame and it would be evidence disapproving that political will alone results in successful medical resource mobilization.

Combined evidence across the three cases also shows that political will plays an equally important role in pandemic governance, and political will has direct impacts

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

on the health resource a government chooses to focus on. Without clear political will, bureaucrats would not be able to organize and mobilize the private sector and specific health resources. However, the existence of political will does not guarantee successful resource mobilization, either. As the coronavirus changed from an epidemic to a pandemic from January to March 2020, it is observed that leaders across nations, facing mounting governance challenges, modified or strengthened their policy focus, but not all policy focuses led to successful resource mobilization subsequently.

The strategy of Singapore towards facemasks, particularly when compared to its vaccine policy, illustrates why political will is not sufficient for resource mobilization. As previously stated, the government initially dismissed the significance of facemasks, asserting that only those who were ill required them. This lack of intent resulted in no resource mobilization. However, the case of Singapore demonstrates that even when the government altered its stance on masks and began promoting their use, the country was still incapable of immediately and locally increasing mask production due to a lack of capacity (Yang 2020). Singapore was forced to depend on imported masks to restore its supply, a process that took several more months during the crisis. Consequently, even though the government had shifted its position, Singapore was unable to increase mask supply because of capacity constraints.

The limit of political will can also be observed in Taiwan's vaccine policy during the pandemic. Since the onset of the crisis, Taiwan was determined to take a "self-help" approach due to its exclusion from the World Health Organization. The leadership believed that self-sufficiency is crucial for Taiwan to survive the pandemic. As a result, both masks and vaccines were defined as "essential war-time material" and it was safer to self-produce than to rely on other countries for import (Chang, Yen, and Liu 2023). Nevertheless, the vaccine development was not successful due to the deficiency in capacity and knowledge regarding the drug commercialization process. To conclude, the article does not undermine the significance of political will. Indeed, political will is crucial, yet it is not sufficient for effective resource mobilization. Having the capacity is also an essential requirement.

An additional prevalent reasoning for Asia's effective response to COVID-19 is the region's prior encounters with significant public health emergencies. These past crises have equipped Asia with the necessary experience to tackle the COVID-19 crisis in a unique and more successful manner. For example, the SARS outbreak in 2003 had a profound impact on Singapore and Taiwan, while South Korea was heavily affected by the MERS crisis in 2015. These historical experiences and lessons learned contribute to their current success (Wong 2020; Park and Chung 2020). This also influenced the choice of medical resources each country decided to deploy.

If the hypothesis of past experience holds true, it implies that the health resources each developmental state prioritized and deployed during the latest COVID-19 crisis are directly linked to the insights gained from their previous public health crisis. Consequently, if the hypothesis of prior experience is accurate, we should notice that, first, policymakers consider the previous public health crisis when formulating policy decisions, and second, the resources that were deficient during the previous crisis become the focus of the government's mobilization efforts during the current crisis. It is worth mentioning that the arguments of political will and past experience don't necessarily conflict with each other, as past experiences can also influence leaders' reactions in the present situation.

Regarding the explanatory power of prior epidemic experiences, a comprehensive analysis of all accessible evidence suggests that the insights gained from earlier

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

epidemics exert a significant influence, mainly in two domains. To begin with, the distressing experiences of past epidemics have a direct bearing on the capacity of South Korea, Taiwan, and Singapore to promptly mobilize centralized emergency institutions and endow these institutions with substantial authority and independence in policy-making decisions (Yen 2020; Yen et al. 2022). All instances reacted as swiftly as the beginning of January 2020. Their emergency institutions are noticeably more centralized and vested with greater authority relative to their equivalents in other western societies, and this resemblance is a direct outcome of previous epidemics. Each of the three cases revamped their legal and institutional underpinnings for disease control following the most recent significant epidemic outbreaks (Yen 2020; Low 2020; Moon 2020). Past legal and institutional modifications laid the organizational groundwork for South Korea, Taiwan, and Singapore for interagency collaboration in the event of public health emergencies (An and Tang 2020).

Second, the leaders' political will and the resources on which they attempted to focus, especially at the onset of the crisis, were influenced by past experience. Political leaders in all three cases mentioned the past public health crises immediately after the new coronavirus was spotted in the nation and expressed their readiness for the new challenge. For instance, in Singapore, the prime minister, during his first media interview on the new coronavirus in late January, 2020, said Singpaore has "actually been preparing for a situation like this ever since we had SARS in 2003, 17 years ago" (Lee Hsien Loong 2020a). Similar discourse appeared in leaders' public addresses in South Korea and Taiwan.

Past experiences also shaped the leaders' understanding about what essential health resources should be during the COVID-19 pandemic. The learning and correction process influenced what was considered important in the new crisis. However, as mentioned previously, strong political will does not necessarily result in successful mobilization. For example, Taiwan adopted a self-help strategy out of fear that it would not receive help from the international community, a fear rooted in its traumatic experiences with SARS in 2003. The self-help mentality led the country to broadly define war-time material and strive to develop the ability to produce all of such materials locally, including masks, testing kits, and vaccines. However, strong political will only led to inconsistent outcomes in all policy areas. Similarly, South Korea's emphasis on mass testing can be partially traced back to the lessons learned from the MERS crisis (Park and Chung 2020). Despite its achievement in mass testing kit production, South Korea did not achieve the same level of success in vaccine development. In Singapore, the SARS outbreak motivated the city state to improve its medical capacity, but as the situation deteriorated, Singapore had to change its approach and began to depend on other health resources. Once again, in Singapore, only the mobilization for vaccine acquisition was successful, due to its strong coordination capacity in the biotech industry.

Conclusion

South Korea, Taiwan, and Singapore serve as successful examples in managing COVID-19 and possess robust state capacities. Although these nations share high state capacities, they exhibit notable variances in their selection and mobilization of medical resources, especially evident during the early stages of the pandemic. This article employs process tracing and comparative case studies to demonstrate that the ability of a state to mobilize and improve the production of particular medical resources depends on its existing coordination capabilities prior to the crisis. South

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

Korea capitalized on its *Chaebol* and technology transfer to invest substantially in test kits. Taiwan prioritized ramping up mask production, leveraging the government's ability to orchestrate the entire textile sector. Singapore, utilizing its global pharmaceutical industry connections, effectively mobilized vaccine resources.

This article offers insights into why certain countries managed to enhance their domestic resource capacity during crises, as well as the variations in their ability to mobilize and expand capacity for specific medical resources. To understand what health resources each country prioritizes in response to COVID-19, it is crucial to analyze how different states embed themselves into the market before the pandemic. Because crisis management is marked by considerable uncertainty and is a race against time, challenges such as the dilemma of the principal agent and communication issues can create additional barriers to successful resource coordination and mobilization. Utilizing pre-existing networks known to the government saves time and effort. Therefore, sectors where the government already has a strong presence in the market have a higher probability of success.

We do not argue that a state's coordination capacity can account for every policy choice during the COVID-19 crisis, nor that prioritizing certain policies means ignoring others. Governments can learn from each other and gradually converge on policy practices. What this paper tries to contribute is that the way the state embeds itself in the market makes it easier for the state to focus and mobilize particular health resources, especially at the early stage of the pandemic, when nations still know little about the emerging virus and have to rely on their instincts and existing resources to develop their responses.

The article also illustrates that successful selection and mobilization of specific health resources requires both political capacity and political will. The current political economy structure predominantly affects political capacity, while past experiences and expertise can shape the direction of political will. In instances where political will was present but political capacity was lacking (such as the case of test kits in Taiwan), or where political capacity was available but not political will (such as the situation with masks in South Korea before March 2020), or even in situations where both conditions were absent (such as with masks in Singapore), the mobilization and production of these health resources proved challenging.

The critical role of institutions and existing infrastructure in managing crises is paramount, as they explain the differences in national governance during such times. To build a quick response, the government usually relies on existing infrastructure. This article underscores the fact that a country's domestic production capacity, an often overlooked institutional arrangement, can facilitate a more efficient response in a short period of time and contribute to a stronger response in crisis management.

Competing interests. The author declares none.

Note

1. The US mask policy highlights coordination failures due to a lack of mutual trust and prior collaboration. During mask shortage, a conflict emerged between President Donald Trump and 3M about the export of N95 masks (Koenig and Miller 2020). 3M resisted restricting exports solely to the US. Despite invoking the Defense Production Act, the Trump administration struggled with coordination and collaboration with mask producers, merely increasing contracts to individual firms (Vazquez 2020). The government failed to boost production or encourage cooperation between companies. Issues such as the principal–agent problem, collective action challenges, and communication breakdowns were prevalent, hindering the US's ability to

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

enhance mask production quickly. This situation emphasizes the importance of established coordination mechanisms in crisis management.

References

Amsden, Alice. 1989. *Asia's Next Giant: South Korea and Late Industrialization*. New York: Oxford University Press.

An, Brian Y., and Shui-Yan Tang. 2020. "Lessons From COVID-19 Responses in East Asia: Institutional Infrastructure and Enduring Policy Instruments." *American Review of Public Administration* **50** (6–7): 790–800.

Ansell, Chris, Arjen Boin, and Ann Keller. 2010. "Managing Transboundary Crises: Identifying the Building Blocks of an Effective Response System." *Journal of Contingencies and Crisis Management* **18** (4): 195–207.

Arirang News. 2020. "South Korea exporting COVID-19 test kits to 117 countries." *Arirang News*. www.youtube.com/watch?v=02UcV9tv_10.

Bennett, Andrew, and Jeffrey T Checkel, eds. 2015. *Process Tracing: From Metaphor to Analytic Tool*. Cambridge: Cambridge University Press.

Chang, Chia-Chien, Wei-Ting Yen, and Li-Yin Liu. 2023. "Fighting the Pandemic with "Shields": Successful COVID-19 Securitization and Mask Policy in Taiwan." *Journal of Asian and African Studies* **58** (2): 214–231.

Chen, Jacinta I-pei, Khin Chaw Ko, Amelia Leow, Jason C. H. Yap, and Jeremy Lim. 2021. *COVID-19 Health System Response Monitor*. Singapore. Technical report World Health Organization Regional Office for South-East Asia. https://iris.who.int/handle/10665/341403.

Chen, Terrence Ting-Yen. 2022. "The Developmental State and its Discontent: The Evolution of the Open Government Data Policy in Taiwan." *Third World Quarterly* **43** (5): 1056–1073.

Doner, Richard F., Bryan K. Ritchie, and Dan Slater. 2005. "Systemic Vulnerability and the Origins of Developmental States: Northeast and Southeast Asia in Comparative Perspective." *International Organization* **59** (02): 327–361.

Evans, Peter B. 1995. *Embedded Autonomy: States and Industrial Transformation*. Princeton: Princeton University Press.

Greer, Scott L., Elizabeth J. King, Elize Massard da Fonseca, and Andre Peralta-Santos. 2020. "The Comparative Politics of COVID-19: The Need to Understand Government Responses." *Global Public Health* **15** (9): 1413–1416.

Greer, Scott, Elizabeth King, Elize Massard da Fonseca, and Andre Peralta-Santos. 2021. *Coronavirus Politics: The Comparative Politics and Policy of COVID-19*. Ann Arbor: University of Michigan Press.

Haggard, Stephan. 2018. *Developmental States*. Cambridge: Cambridge University Press.

Jayasuriya, K. 2001. "Globalization and the Changing Architecture of The State: The Regulatory State and the Politics of Negative Co-Ordination." *Journal of European Public Policy* **8** (1): 101–123.

——— 2005. "Beyond Institutional Fetishism: From the Developmental to the Regulatory State." *New Political Economy* **10** (3): 381–387.

Jeong, Andrew. 2020. "South Korea Rations Face Masks in Coronavirus Fight." *The Wall Street Journal*, March 15, www.wsj.com/articles/south-korea-rations-face-masks-in-coronavirus-fight-11584283720.

Johnson, Chalmers. 1982. *MITI and the Japanese Miracle*. Stanford: Standford University Press.

Jung, Dong-Hyeon. 2004. "Korean Chaebol in Transition." *China Report* **40** (3): 299–303.

Kapucu, Naim. 2006. "Interagency Communication Networks During Emergencies: Boundary Spanners in Multiagency Coordination." *American Review of Public Administration* **36** (2): 207–225.

Kettl, Donald F. 2003. "Contingent Coordination: Practical and Theoretical Puzzles for Homeland Security." *American Review of Public Administration* **33** (3): 253–277.

Kim, Myoung-Hee. 2020. "How South Korea Stopped COVID-19 Early." *Project Syndicate*, April 27, www.project-syndicate.org/commentary/how-south-korea-stopped-covid19-early-by-myoung-hee-kim-2020-04. Accessed April 8, 2025.

Kim, S.-Y. 2019. "Hybridized Industrial Ecosystems and the Makings of a New Developmental Infrastructure in East Asia's Green Energy Sector." *Review of International Political Economy* **26** (1): 158–182.

Klingler-Vidra, Robyn, and Ramon Pacheco Pardo. 2019. "Beyond the Chaebol? The Social Purpose of Entrepreneurship Promotion in South Korea." *Asian Studies Review* **43** (4): 637–656.

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

Koenig, David, and Zeke Miller. 2020. "Trump, 3M Clash over Order to Produce More Face Masks for US." *AP News*, April 5, https://apnews.com/article/cbed1f366882b07ecc5a45cdee9f4e1e.

Kumar, Rajiv. 2021. "Bringing the Developmental State Back In: Explaining South Korea's Successful Management of COVID-19." *Third World Quarterly* **42** (7): 1397–1416.

———. 2023. "Taking the Developmental State Seriously: Why South Korea Outperformed Neoliberal Regulatory States in Rapid Coronavirus Disease 2019 Vaccinations and Saving Lives." *International Area Studies Review* **26** (4), 319–340.

Kuo, Cheng-Tian. 1995. *Global Competitiveness and Industrial Growth in Taiwan and the Philippines*. Pittsburgh: University of Pittsburgh Press.

Lee Hsien Loong. 2020a. "PM Lee Hsien Loong's doorstop interview with local media at National Centre for Infectious Diseases (NCID)." https://www.pmo.gov.sg/Newsroom/PM-Lee-Doorstop-Interview-at-NCID. Accessed February 28, 2023.

———. 2020b. "PM Lee Hsien Loong on the COVID-19 situation in Singapore on 12 March 2020." Prime Minister's Office, Singapore, www.pmo.gov.sg/Newsroom/PM-Lee-remarks-COVID-19-Outbreak-12-Mar-2020. Accessed April 18, 2024.

———. 2020c. "PM Lee Hsien Loong on the COVID-19 situation in Singapore on 3 April 2020." https://www.pmo.gov.sg/Newsroom/PM-Lee-Hsien-Loong-on-the-COVID19-situation-in-Singapore-on-3-April-2020. Accessed March 12, 2023.

Low, James. 2020. "COVID-19 Crisis Management: An Early Look." Civil Service College, Singapore, www.csc.gov.sg/articles/covid-19-crisis-management-an-early-look. Accessed August 8, 2022.

Mathieu, Edouard, Hannah Ritchie, Lucas Rodés-Guirao, Cameron Appel, Charlie Giattino, Joe Hasell, Bobbie Macdonald, Saloni Dattani, Diana Beltekian, Esteban Ortiz-Ospina, and Max Roser. 2020. "COVID-19 Pandemic." Our World in Data, https://ourworldindata.org/coronavirus. Accessed March 12, 2023.

Ministry of Food and Drug Safety. 2020. "K-Quarantine Testing Reagents in the Post-Corona Era." www.mfds.go.kr/eng/brd/m_64/view.do?seq=26&srchFr=&srchTo=&srchWord=&srchTp=&itm_seq_1=0&itm_seq_2=0&multi_itm_seq=0&company_cd=&company_nm=&page=5. Accessed April 17, 2025.

Ministry of Health and Welfare. 2020. "Press Release (February 13, 2020)." www.mohw.go.kr/board.es?mid=a20401000000&bid=0032&act=view&list_no=352865&tag=&nPage=38. Accessed April 17, 2025.

Moon, M Jae. 2020. "Fighting COVID-19 with Agility, Transparency, and Participation: Wicked Policy Problems and New Governance Challenges." *Public Administration Review* **80** (4): 651–656.

Novavax 2021. "Novavax and SK bioscience Expand Manufacturing Agreement." https://ir.novavax.com/press-releases/2021-12-23-Novavax-and-SK-bioscience-Expand-Manufacturing-Agreement. Accessed April 16, 2024.

Park, June, and Eunbin Chung. 2020. "Learning from Past Pandemic Governance: Early Response and Public-Private Partnerships in Testing of COVID-19 in South Korea." *World Development* **137**: 105198.

Pepinsky, Tom. 2020. "Political Economy and Democratic Capacity to Respond to Pandemics." https://items.ssrc.org/covid-19-and-the-social-sciences/democracy-and-pandemics/political-economy-and-democratic-capacity-to-respond-to-pandemics/. Accessed May 21, 2020.

Pirie, Iain. 2009. *The Korean Developmental State: From Dirigisme to Neo-Liberalism*. London: Routledge.

———. 2018. "Korea and Taiwan: The Crisis of Investment-Led Growth and the End of the Developmental State." *Journal of Contemporary Asia* **48** (1): 133–158.

Reuters. 2022. "South Korea Approves First Domestically Developed COVID Vaccine." *Reuters*, https://www.reuters.com/business/healthcare-pharmaceuticals/skorea-approves-first-domestically-developed-covid-vaccine-2022-06-29/.

Reynolds, Barbara, and Matthew W Seeger. 2005. "Crisis and Emergency Risk Communication as an Integrative Model." *Journal of Health Communication* **10** (1): 43–55.

Rodrik, Dani. 1995. "Getting Interventions Right: How South Korea and Taiwan Grew Rich." *Economic Policy* **10** (20): 53.

Rosenthal, Uriel, Arjen Boin, and Louise K Comfort. 2001. *MANAGING CRISES: Threats, Dilemmas, Opportunities*. Springfield: Charles C. Thomas.

Schein, Edgar H. 1996. *Strategic Pragmatism: The Culture of Singapore's Economics Development Board*. Cambridge: MIT Press.

Singapore Government. 2020a. "Corrections and Clarifications Regarding Falsehoods Published by States Times Review on Availability of Face Masks." www.factually.gov.sg/corrections-and-clarifications/

https://doi.org/10.1017/jea.2025.3 Published online by Cambridge University Press

factually-clarifications-on-falsehoods-posted-by-str-on-availability-of-face-masks. Accessed September 7, 2022.
Singapore, Ministry of Health. 2020a. "Ministerial Statement on Whole-of-Government Response To The 2019 Novel Coronavirus (2019-Ncov)." www.moh.gov.sg/newsroom/ministerial-statement-on-whole-of-government-response-to-the-2019-novel-coronavirus-(2019-ncov). Accessed April 8, 2025.
———. 2020b. "Scaling Up Of Covid-19 Testing." www.moh.gov.sg/newsroom/scaling-up-of-covid-19-testing. Accessed April 2, 2024.
———. 2020c. "Steady Progress In Dormitory Clearance; Aggressive Testing And Tracing In Phase 2." https://www.moh.gov.sg/newsroom/steady-progress-in-dormitory-clearance-aggressive-testing-and-tracing-in-phase-2. Accessed: April 2, 2024.
The Star. 2020. "Mask Stockpile Replenished." *The Star*, March 9. www.thestar.com.my/news/regional/2020/03/09/mask-stockpile-replenished. Accessed April 17, 2025
Taiwan Food and Drug Administration. 2021. "List of Approved Home COVID-19 Test Kits." www.fda.gov.tw/TC/site.aspx?sid=11740&r=1263143763. Accessed September 6, 2022.
Tan, Audrey. 2020a. "First shipments of Pfizer-BioNTech vaccine in Singapore by end-Dec; enough vaccines for all by Q3 2021." *The Straits Times.* Accessed April **17**, 2025.
———. 2020b. "Identify, investigate, negotiate: How Singapore took steps to ensure access to Covid-19 vaccines." *The Strait Times.*
Terhune, Chad, Dan Levine, Hyunjoo Jin, and Jane Lanhee Lee. 2020. "Special Report: How Korea Trounced U.S. in Race to Test People for Coronavirus." *Reuters*, March 18, www.reuters.com/article/us-health-coronavirus-testing-specialrep/special-report-how-korea-trounced-u-s-in-race-to-test-people-for-coronavirus-idUSKBN2153BW/.
Vazquez, Maegan. 2020. "Trump Invokes Defense Production Act for Ventilator Equipment and N95 Masks." *CNN*, April 2, https://edition.cnn.com/2020/04/02/politics/defense-production-act-ventilator-supplies/index.html.
Wade, Robert. 1990. *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*. Princeton: Princeton University Press.
Weiss, Linda. 2000. "Developmental States in Transition: Adapting, Dismantling, Innovating, Not 'Normalizing.'" *Pacific Review* **13** (1): 21–55.
Weiss, Linda, and Elizabeth Thurbon. 2022. "Explaining Divergent National Responses to Covid-19: An Enhanced State Capacity Framework." *New Political Economy* **27** (4): 697–712.
Wong, Joseph. 2005. "Re-Making the Developmental State in Taiwan: The Challenges of Biotechnology." *International Political Science Review* **26** (2): 169–191.
———. 2011. *Betting on Biotech: Innovation and the Limits of Asia's Developmental State*. Ithaca: Cornell University Press.
———. 2020. "Combating COVID-19 in democratic Taiwan and South Korea." *Current History* **119** (818): 210–216.
World Bank. 1993. *The East Asian Miracle: Economic Growth and Public Policy*. Oxford: Oxford University Press.
Yang, Calvin. 2020. "Singapore Looking to Make Masks, Seeking New Sources: Lawrence Wong." www.tnp.sg/news/singapore/singapore-looking-make-masks-seeking-new-sources-lawrence-wong. Accessed March 2, 2023.
Yen, Wei-Ting. 2020. "Taiwan's COVID-19 Management: Developmental State, Digital Governance, and State-Society Synergy." *Asian Politics & Policy* **12** (3): 455–468.
Yen, Wei-Ting, Li-Yin Liu, Eunji Won, and Testriono. 2022. "The Imperative of State Capacity in Public Health Crisis: Asia's Early COVID-19 Policy Responses." *Governance* **35** (3): 777–798.

Wei-Ting Yen is Assistant Research Fellow at the Institute of Political Science at Academia Sinica. She holds a PhD in political science from The Ohio State University. Dr. Yen is a political economist with research focus on governance issue and welfare state development in Asia.

Cite this article: Yen, Wei-Ting. 2025. "Leveraging Coordination Capacity: Medical Resource Mobilization in Asia's Developmental States During COVID-19." *Journal of East Asian Studies* **25**, 1–20. doi:10.1017/jea.2025.3