

The New Zealand Asia Institute (NZAI) undertakes research focusing on engagement with Asia, provides a forum for informed debates, and offers a bridge to Asia-related expertise and research within the University of Auckland.

Meeting facemask demand: The interdependence of state and private sector institutions in Taiwan's COVID-19 response

New research** on Taiwan's facemask production and distribution in 2020 showcases how institutional cooperation within and between state and business enabled its success in fighting COVID-19. Having learned from SARS in 2003, Taiwan foresaw the need to address demand for facemasks, underpinned by three tasks: increasing mask production capacity; managing output; and distribution and sales monitoring.

In task one, the Ministry of Economic Affairs (MOEA) rapidly identified current and needed daily production capacity: 1.88 million and 10 million, respectively. Sixty-six mask manufacturers and only two manufacturers of mask machines were left in Taiwan. Besides the state's strong legal mandate and organisational structures, beefed up post-SARS, scaling up production required voluntary business-state cooperation. The Taiwan Machine Tool & Accessory Builders' Association (TMBA) teamed up with public research institutes, volunteering top engineers and equipment and offering to assist the two machine manufacturer, who lent their precious know-how only upon TMBA's public assurance not to enter their market. Impressively, an initial target of 60 production lines was met in just 25 days: usually developing each line takes two to six months.

In task two, output was managed by negotiations and incentives. Revealing a *negative* legacy of SARS, mask and textile manufacturers feared being left with sunk costs and no demand post-epidemic. But MOEA apologised for abandoning them last time and promised a Made-in-Taiwan purchase policy and supports for developing export capabilities.

In task three, government commandeered production and distribution and regulated prices, and imposed rationing preventing the bottlenecks and price spikes seen in the US, where hospitals and local governments fought over stocks. Manufacturers complied more consensually once permitted to sell freely any surplus above their quotas. High-visibility sanctions for rule breakers further embedded compliance.

Across these tasks the research teased out three types of cooperation problems, and Taiwan's institutional solutions. First, *coordination problems* prevent mutually beneficial cooperation when transaction costs impede multi-party agreements, or some players corner the gains. Taiwan used existing state-private relationships and post-SARS institutional capacities to identify relevant actors, assess production capacities and connect key players.

Second, eliciting private investment posed *commitment problems*: where would-be cooperators pre-emptively forgo beneficial coordination because they suspect others will renege. State promises of market support, made credible by established links with the industry, overcame these. Third were *collective action dilemmas*: where some players have ongoing incentives to defect despite others' cooperation being guaranteed. In taking the risk of sharing technical information and resources, firms relied partly on social capital and previous interfirm cooperation. TMBA members kept their word, while those high-visibility sanctions buttressed compliance.

The findings confirm that Taiwan's version of the government-led East Asian "developmental state" has not retreated but evolved since democratisation. Business-government and business-business cooperation remain complementary and interdependent. Taiwan's COVID response vastly outperformed both the UK's neoliberal regulatory state, which ordinarily only remedies market failures; and the chaotically uncoordinated US, proving demand alone cannot guarantee supply. It further helped (re)embed core industrial manufacturing capability.

** The full study results are available in an article authored by Frank Siedlok, Natasha Hamilton-Hart and Hsiao-Chen Shen: "Taiwan's COVID-19 Response: The Interdependence of State and Private Sector Institutions". *Institutions*. Development and Change (open access). First published: 30 December 2021 <https://doi.org/10.1111/dech.12702>

