

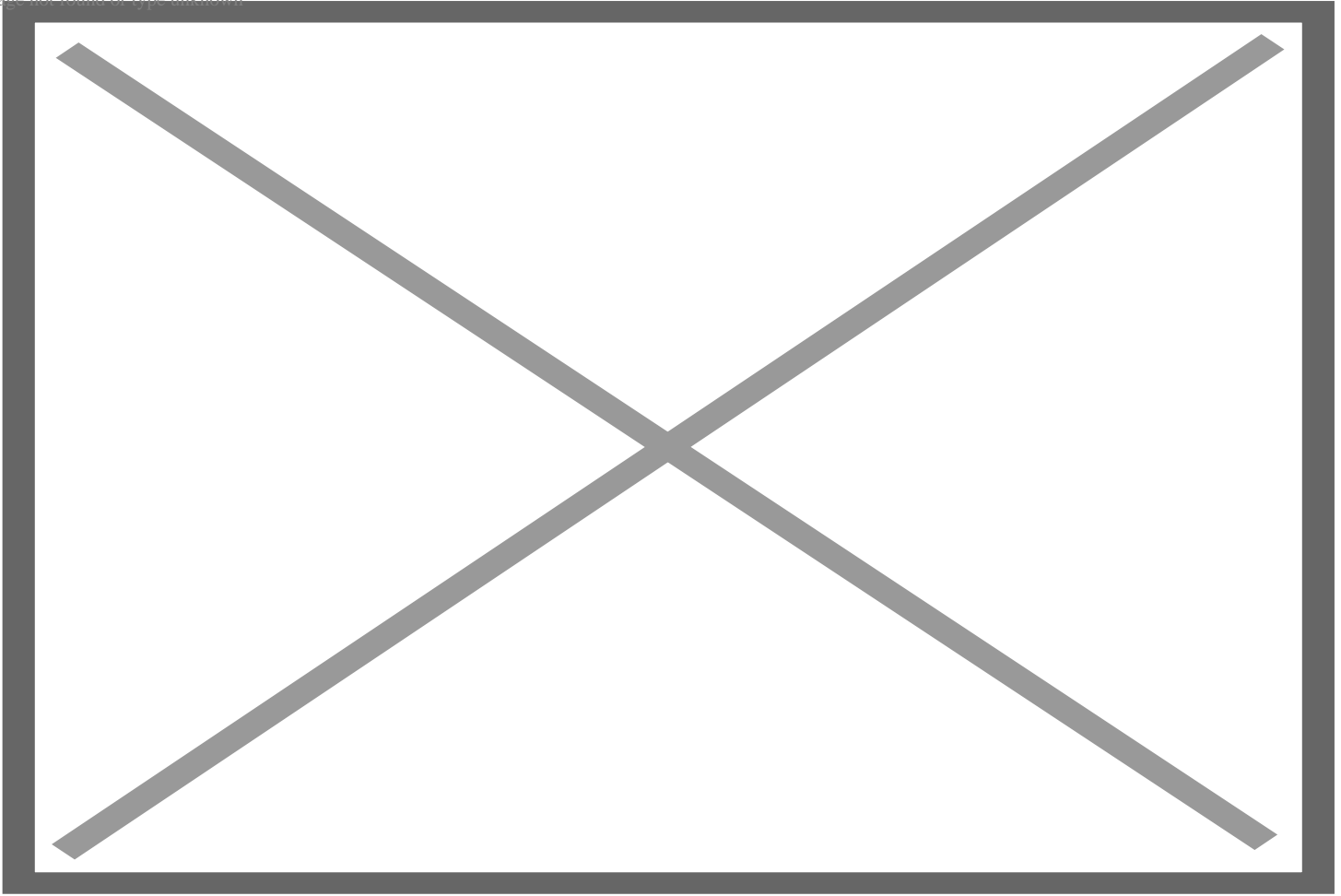
## How did Taiwan go from fortress impregnable to Asia's COVID hotspot?

**I**n September 2020, I arrived in Taiwan on a flight from New York. I had read much about the border protocols that had prevented COVID from entering the country, but many aspects of the arrival process appeared incongruent with the country's supposedly impermeable defenses. Staff in the airport interacted directly with me and other passengers with no distancing protocols. I asked if they were required to quarantine themselves. "No," came the reply. Taking a taxi to my quarantine hotel, I saw no barriers in the vehicle. I asked the driver a similar question. Was he required to isolate himself? "No," he said, adding, "they disinfect the vehicle every day." While checking into my quarantine room at the hotel, staff interacted with me at close distance, and would immediately interact with other guests before returning home to their families.

Witnessing these potential breaches at the gates of Taiwan's COVID fortress was disconcerting. In the months prior to my arrival, many headlines on former COVID success stories asked: "[What Went Wrong?](#)" I was afraid that such headlines would soon be applied to Taiwan. For nine months those fears appeared to be misplaced. Now, however, it seems that [Taiwan's turn has finally arrived](#). A gradually worsening outbreak exploded sixfold on May 15th, with the diagnosis of 180 [domestic cases](#). In addition, once the virus penetrated the borders, Taiwan's transition from border protection to virus suppression was slow and bungled, likely ensuring the outbreak would escalate.

Taiwan's recent outbreak raises the question: How strong were the Taiwanese COVID defenses in the first place? Judged only by its results prior to May 2021, Taiwan's performance appeared to be exemplary. The country had just 1,300 total COVID cases and 0.05 deaths per 100,000, compared to 214 deaths per 100,000 in Belgium, 205 in Italy, or 178 in the United States. Even among East Asian nations, which regionally performed well against the pandemic, Taiwan's results stood out. Life continued to be relatively normal in Taiwan as most countries saw massive disruptions.

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Articles appeared in global media outlets [touting](#) Taiwan as the country that “beat COVID” by employing a rational playbook that America and Europe could have also followed. But to what extent did such a “solution” exist? And if there is one, how closely was Taiwan following it? A review of its record shows that, while Taiwan did many things correctly, its policy response was still significantly flawed.

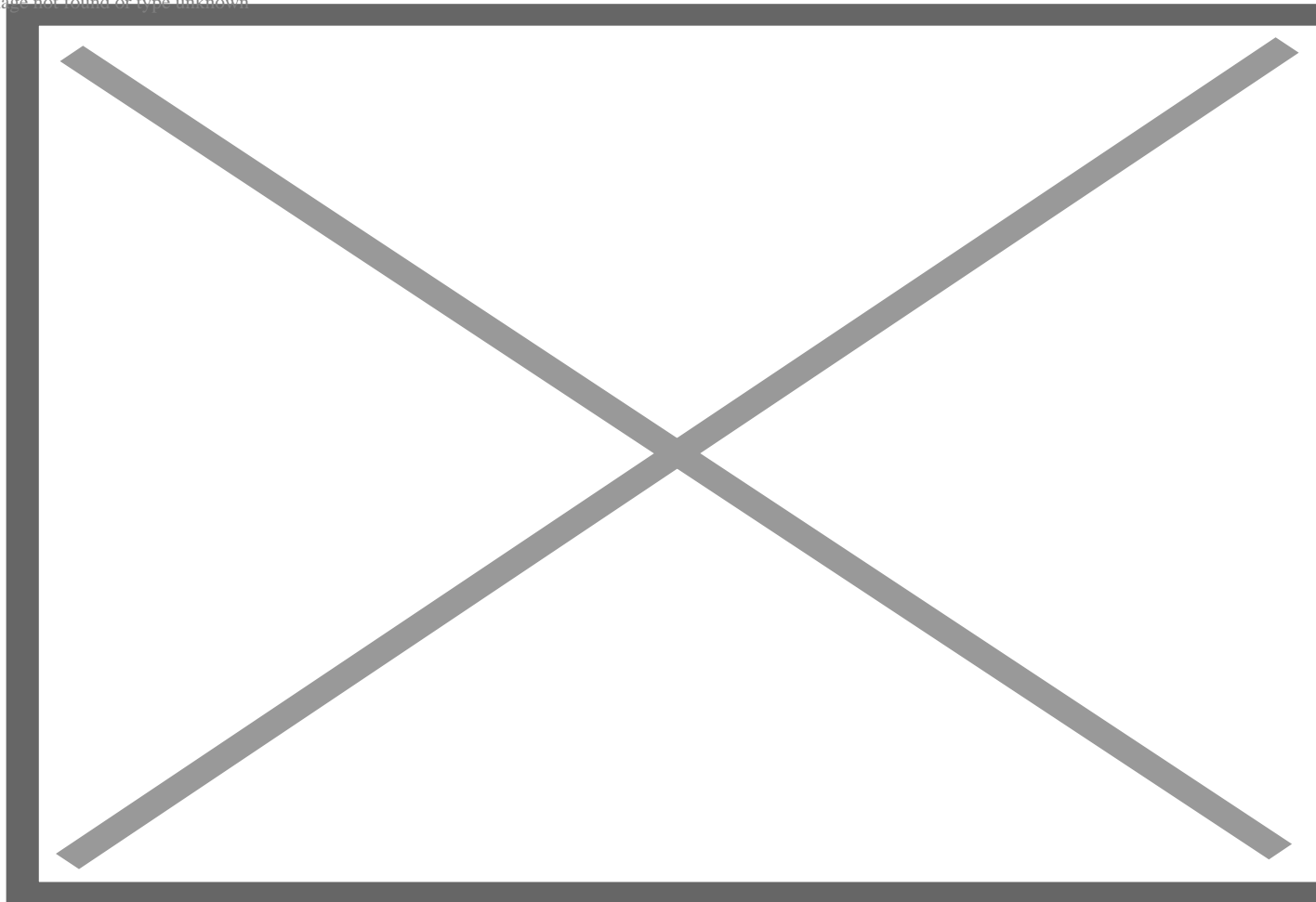
## **A weak defense**

In the early days of COVID-19, the actions taken by Taiwan were indeed unique—and effective. Taiwan acted extraordinarily early against the virus by screening all flights from Wuhan on December 31st, 2019 and banning all flights from that city on [January 23rd](#). All visitors from China were barred by [February 5th](#). Non-resident foreigners that had visited China were also prohibited from entering the country. The policy successfully prevented entry of infected individuals. At that time in the United States, many media outlets still proclaimed travel restrictions to be an antiquated form of “[political theater](#).”

When the virus exploded across the world in late February 2020, Taiwan continued its strict tactics, closing its borders completely on [March 18th](#). False negative tests from a January COVID outbreak on the [Diamond Princess](#) cruise ship demonstrated to Taiwanese health authorities that testing alone would not

effectively stop the virus, which in turn encouraged [the country](#) to implement a strict 14-day quarantine policy for all arrivals.

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Diamond Princess cruise ship. Credit: Getty Images

Unfortunately, any system designed to prevent a disease as contagious as COVID from entering a country's borders only functions if defenses are airtight. A single breach can be enough to start an outbreak, and once widespread community transmission begins, border defenses are of limited use. The protocols Taiwan established in early 2020 appeared to be robust and free of leaks, but a series of small breaches in late 2020 and early 2021 proved that Taiwan's tactics might not be as reliable as they initially appeared.

The first significant breach occurred in December 2020, when a COVID-positive pilot from New Zealand [traveled around Northern Taiwan](#). While his sojourns included many crowded department stores, he only infected one Taiwanese person. As a pilot, he had been subject to a quarantine of only three days—and while airline pilots were required to avoid public spaces, private airlines were expected to enforce these policies themselves. The airline escaped with a fine of only around [\\$1 million NTD](#) (US \$34,746). Taiwan should have been aware of the pitfalls of delegating COVID responsibility to private corporations. Australia

had to impose a four-month lockdown after the employees at the private security firm responsible for guarding quarantine hotels had [inappropriate relations with](#) infected [guests](#). In addition, the restrictions imposed on Taiwanese pilots were far from exhaustive, only including crowded spaces and public transit.

As warning flags piled up, Taiwan failed to adjust its approach. A fugitive was returned from abroad in late November 2020 and released into prison before [testing positive](#). In January 2021, when a doctor treating a COVID patient at Taoyuan General Hospital tested positive, another breach occurred, infecting [over 20 individuals](#) before the spread was finally contained. Many of the individuals that tested positive had traveled to crowded locations, where potential contacts were merely warned to seek help [only if they developed symptoms](#).

## Policy alone?

Each of these incidents caused a scare, but did not result in a significant community outbreak. On the surface, the most obvious explanation for Taiwan's ability to suppress these outbreaks was a robust scheme of contact tracing, and a cooperative population willing to accept pandemic control protocols. While these measures likely played a significant role in curtailing the outbreaks, were they the only factors? The New Zealand pilot had entered at least three large department stores in Taipei. Individuals who tested positive in the Taoyuan hospital cluster had visited many crowded public locations. And what to make of all the airport staff members, taxi drivers, hotel staff, and medical professionals that encountered potentially COVID-positive individuals on a daily basis?

It seems that other variables we do not yet entirely understand also play a significant role in the spread of COVID-19. To the bafflement of many observers, strict measures taken in certain countries still resulted in high rates of COVID, while other regions with fairly weak mechanisms against the disease faced a much lower incidence of cases and deaths. [Among US states](#) for instance, New Jersey and New York, respectively, have the [highest COVID deaths per capita](#), although their mitigating measures were among the strictest. Texas and Florida, on the other hand, enacted far weaker COVID restrictions, yet have deaths per capita closer to the median. Texas's cases declined after the state ended [mask mandates and capacity requirements](#). While these results do not signify that business closures and mask mandates are meaningless, they do show the multifaceted variables underlying COVID's spread.

Other potential variables may include climate, population density, age demographics, trust in government, or the disproportionate ability of certain individuals to [spread the disease](#). As journalist David Wallace-Wells [points out](#), the most consistent factor correlating with a country's success against the virus is the region in which it is located. In Europe and the Americas, cases and deaths remain very high, while in East Asia they remain low. East Asian nations have radically different climates, population structures, and levels of development, and have used very different techniques to address COVID. The worst performing nation in East Asia, Malaysia, [has a case rate](#) lower than the best performing nation in Europe, Finland. Can such strong regional correlation only be due to consistent government policies? This correlation could also be attributable to factors that cannot be superficially assessed, such as [genetics](#), or immunity gained from [exposure to previous epidemics](#). Among countries with a significant population beyond East Asia, only Australia and New Zealand were able to entirely suppress COVID prior to the release of vaccines, and only after highly restrictive lockdowns. The reasons for these varied results remain a mystery, with

many epidemiologists admitting that they [“just don’t know.”](#)

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It is possible that additional variables helped Taiwan keep out COVID, coupled with the government’s border policy. Given the imperfections in Taiwan’s border defenses, positive individuals might merely have entered the country, but not transmitted the disease to anybody. The COVID-positive individuals we know traveled within the country’s borders used public transportation and went to restaurants, markets, and department stores, but no individual tested positive by means of contact in a crowded location. In the Taoyuan cluster for instance, all positive cases [were close contacts](#). Were these results solely due to Taiwan’s contact tracing policy? Given the many people who likely passed through the same areas as infected individuals, most were not tested or contact traced. Rather, the government merely issued a message encouraging individuals who had been to potentially impacted areas to begin [“self health monitoring”](#)—a noble gesture, but one that means far less than testing, tracing, and isolation. Time and additional research will help to determine if any additional factors assisted Taiwan in controlling the disease.

## The walls crumble

It was another breach involving airline pilots and private corporations that finally broke through Taiwan’s defenses, causing widespread community transmission. On April 15th, 2021, Taiwan reduced its quarantine requirement for those on long-haul flights to [three days](#), followed by a COVID test. Foreign flight crews were required to stay at the hotel, but they were [not tested](#) at all. Quarantine rules were [entirely rolled back](#) for vaccinated flight crew members on April 15th, 2021. A number of leaks occurred as one pilot after another tested positive, some after visiting crowded public areas. [On April 23rd](#), for example, a pilot and his son tested positive after attending Ramadan prayers at Taipei Grand Mosque. Over the subsequent days, [more](#) pilots tested positive after appearing in crowded locations—a [bar in New Taipei](#); a [mall in Taoyuan](#); a [dance hall](#). In each of these instances, some contacts were told to isolate, while others were merely told to [monitor their health](#). The Taiwanese government did not impose any additional restrictions, perhaps complacent following the limited fallout from previous breaches.

Additional blunders by private entities to which the Taiwanese government had ceded partial control of its COVID defenses made the situation worse. Novohotel, an airport hotel responsible for quarantining pilots, was also hosting a China Airlines program which allowed individuals to watch planes take off and land. Unfortunately, these two groups of individuals were housed together [in the same building](#). [Hotel employees](#) and possibly other guests were infected. Although many tested positive for COVID, no national policies were changed until May 3rd, 2021, when foreign pilots were separated from other guests. Only on May 10th did Taiwan finally impose a [14-day quarantine](#) on pilots, and only on those from China Airlines.



Credit: Alarbiya

On Monday, May 11th, documented cases moved beyond known positive individuals. At this point, the country's response fell apart. On that day, five individuals with no history of travelling abroad [tested positive](#) for COVID in Yilan County, without any confirmed contact with positive individuals. Cases continued to climb, with 16 people testing positive the following day. But life still continued as normal. By Friday, cases had [increased to 29](#). Taipei was placed under level two restrictions, which only limited indoor gatherings to 100 individuals. The government [waited](#) until Saturday, when cases reached 180 COVID-positive individuals, to implement serious level three restrictions, which limited indoor gatherings to five people. Yet these restrictions still did not close schools or impose restrictions at work.

In Australia and New Zealand—both of which were able to bring COVID community transmission to zero—isolated COVID cases led both nations to repeatedly call “[snap lockdowns](#)” from three to seven days, designed to prevent community transmission while the government carries out contact tracing. After squeezing out community transmission, these countries have not seen cases spiral out of control. Faced with a similar situation, Taiwan waited. On Friday, May 14th, as cases continued to climb, Taiwan's Premier Su Tseng-chang [stated](#) that there was no need to increase restrictions, since the country had the resources it needed to combat the pandemic. Taiwan [increased restrictions](#) just one day later, but officials continued to insist that there was [no need for mass testing](#), despite the fact that this strategy had proved successful in other countries, such as [South Korea](#).



Taiwan's hesitation until 180 community cases tested positive is perplexing. Health Minister Chen Shih-chung [indicated](#) that he was reluctant to implement an intense lockdown due to the psychological impact it would have on residents. After isolated cases emerged, Taiwan should have followed the snap lockdown model set by Australia and New Zealand. The lockdowns now required to stamp out community spread will last far longer, if community spread is completely eliminated at all.

### **What's next?**

Taiwan's policies had mostly focused on the border, through strong quarantines, travel restrictions, and contact tracing. It has never managed a lockdown policy, the strategy and implementation of which are radically different. Travel restrictions have marginal value in stopping the spread of COVID once the disease is embedded within a country's borders. Likewise, contact tracing loses much of its efficacy when community transmission is widespread. Even Taipei's mayor [admitted](#) that government contact tracing was ineffective after 1,000 individuals had tested positive. Many in Taiwan still seem to be unaware of the length and severity of the coming lockdown. Organizations intend to proceed with events two to three weeks from now. Americans who remember the maxim "two weeks to stop the spread" will know that such optimism is simply not realistic.

After a year of lockdowns and endemic spread, badly hit regions of the United States and Western Europe have learned to bring COVID to low levels before reopening. Given the Taiwanese experience to date, however, Taiwan will likely not settle for a future in which community transmission is rampant, but only one with zero COVID, in which they can return to the coveted normality the country maintained for the past year.

And zero COVID is very difficult to achieve. After punishing lockdowns in March 2020, low cases in many European nations encouraged countries like Italy, France, and Spain to reopen, only to see their caseloads explode when winter arrived. When Melbourne saw rising cases in June 2020, it waited several weeks before implementing stringent restrictions, under which residents could only go outside for an hour each day, and even then, only so long as they remained within a five kilometer radius of their homes. These restrictions lasted over 110 days, before bringing community transmission to zero. Singapore also imposed a very harsh [lockdown](#) lasting several months in 2020 to bring cases back to zero. It did not make the mistake of delaying again. When 24 domestic cases cropped up in May 2021, it [rapidly entered](#) another strict lockdown.

Taiwan failed to learn from the examples set by these countries. Lockdowns are not always effective, and are often incredibly destructive when implemented piecemeal, or after a delay. Lockdown measures in the United States, Western Europe, and many South American countries for instance, which continued for over a year have shuttered many businesses and kept kids out of school, despite not significantly [reducing cases](#). And unless cases are brought to zero, when measures are relaxed, infections can skyrocket again. When countries see very low levels of transmission following a period of zero domestic COVID cases, a short, strict lockdown has been [shown to be effective](#), but only if implemented soon after community transmission occurs. Taiwan appears to have ignored this principle when cases cropped up in early May, and instead demonstrated a reluctance to increase lockdown measures, fearful that

disproportionate measures would have a negative impact on individual attitudes and the economy. The longer Taiwan waits, however, the more difficult an effective lockdown becomes.

A large number of individuals are still required to show up to work. And Taiwan's conservative labor culture, which generally emphasizes traditional, in-person office work, [will make a transition to remote work difficult](#). Hopefully, Taiwan will recognize soon that cases will not go down if they do not increase restrictions, rather than trying to continue to delay the inevitable. Even so, a long lockdown now likely lies ahead.

In addition, the government and many individuals continue to rely on debunked and ineffective scientific measures. Taiwan has aggressively disinfected public spaces throughout the pandemic, despite the lack of evidence that such "[hygiene theater](#)" functions as anything but a placebo. The government has also instituted a strict indoor and outdoor mask mandate in northern Taiwan, even though we now know that outdoor transmission is [extremely rare](#), even without masks. Many open public spaces, such as beaches, playgrounds, and forests have been closed, though these are extremely unlikely locations of COVID spread.



Disinfection team sprays disinfection in the street in Wanhua District, Taipei, Taiwan. Credit: Annabelle Chih/NurPhoto

Finally, prior to this outbreak, Taiwan had only managed to vaccinate around [one percent](#) of its population. Even when Taiwan had received only 120,000 doses, the government had difficulty finding people willing to take them. Many doctors [refused](#) the shot, aggravating skepticism among the population. Many also assumed the risk of COVID was minimal given the lack of community spread in Taiwan. Only after the current COVID wave started were many [more people willing](#) to receive their first dose. The initial



skepticism means that many elderly individuals, or individuals in vulnerable professions, were still unvaccinated when community transmission began to accelerate. In addition, Taiwan [waited significantly longer](#) than other countries to place vaccine orders, forcing them to the back of the line, ensuring that vaccine supply would be low, even if demand was high.

At this point, it appears that there are no magic solutions. Maintaining a perfect border defense system against a highly contagious virus is difficult, and often takes a significant economic toll. And once COVID slips across a country's borders, as has now occurred in nearly every country on Earth, options are not bright. One can attempt to mitigate the disease, as the United States and many European countries are doing now, which involves a massive loss of human life. Or countries can engage in incredibly strict lockdowns to completely eliminate community transmission, as Singapore, Australia, and New Zealand have done successfully. These lockdowns are not easy to enforce, however, and deprive millions of citizens of basic liberties, livelihoods, and education. Moreover, sometimes they don't succeed in suppressing the disease at all. And once zero COVID is attained any small slip up can easily force a country back into lockdown.

Taiwan's COVID response will likely be remembered as one of the world's best. It was not, however, without serious errors that should be critically evaluated. It is important that we understand that there are no perfect solutions, no set playbook that any country can follow to ensure a smooth trip through the pandemic. The options available are instead imperfect, onerous, and subject to forces of nature beyond government control.

**Ben Weinstein is a teacher living in Taipei, Taiwan. You can follow him on Twitter [@benweinstein10](#)**

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