Hard and Soft, Broad and Partial: The Quality of Lockdowns and their Effects in Southeast Asia

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Abstract: As a response to the worsening number of Covid-19 cases in the first semester of 2020, many governments have placed their countries or parts of their countries on lockdown. However, differences in impact could be observed in the lockdown characteristics imposed by governments. Particularly, this paper attempts to generate hypotheses that would explain differences in Covid-19 mortality and morbidity performance as well as economic growth based on lockdowns along with other epidemic control measures such as contact tracing, testing, and isolation. As well, the strength of the public health system is considered particularly during the amplification stage of the epidemic.

The paper takes on three cases in Southeast Asia, namely: Thailand, Indonesia, and the Philippines. Both Thailand and the Philippines imposed hard, broad and extended lockdowns. Their economies suffered significantly than Indonesia's, which only observed partial and soft lockdowns. However, Thailand was more successful than the Philippines in lowering morbidity and mortality due to its effective epidemic control measures and strong public health system capacity. The study's results suggest that hard, broad, and prolonged lockdowns are unnecessary if only governments had focused their energy and resources on anticipating and conducting early detection and control of community transmission, including border control, contact tracing, testing, and isolation/treatment. Continually building epidemic control capabilities during the epidemic's amplification stage is necessary to prevent the large number of infections from overwhelming usually weak public health systems.

Keywords: Covid-19 Pandemic, Governance, Lockdown, Epidemic Control, Southeast Asia

Introduction

A lockdown is a preventive measure that restricts the mobility of people within a certain geographical area in order to prevent the spread of a threat to the larger population. Many countries have adopted this measure as a response to the SARS-Cov-2 virus, otherwise known as Covid-19. Yet there have been variations in the characteristics of the lockdowns implemented. Some were nationally mandated while others were locally directed. National government-directed lockdowns tended to be broad in scope although they could also declare partial lockdowns. In Southeast Asia, some national governments like the Philippines and Thailand have adopted hard and broad lockdowns for extended periods of time. Others like Indonesia have rejected the idea of a national lockdown due to political and economic considerations. Instead, local governments in coordination with central government agencies have imposed lockdowns, often for only a short period of time.

In view of such differences, the paper asks how different lockdown characteristics could affect a country's Covid-19 containment and economic performance. The study's aim is to provide some evidence albeit preliminary on the economic and

morbidity impacts of certain types of lockdowns with the end view of informing government policymakers of the choices and trade-offs faced during a pandemic such as Covid-19.

Methodology

The paper employs a comparative research design to generate findings regarding the different approaches to the pandemic in Southeast Asia. Particularly, it shall examine the Covid-19 responses of Thailand, the Philippines, and Indonesia. Thailand followed the Philippines in adopting a broad or national lockdown policy while Indonesia only had partial lockdowns initiated by local governments and communities.

The comparative analytical framework considers preventive and containment aspects of epidemic control, the timing and adequacy of which determines the health and economic effects (see Figure 1 for framework diagram). The WHO (2018, p. 28) identifies five crucial stages in this regard, namely:

1. Anticipation of the disease
2. Early detection
3. Early containment
4. Control and mitigation during the amplification phase and
5. Outbreak elimination or disease eradication.

Prevention includes stages 1-3 and highlights the importance of preparation, early detection based on public health surveillance (contact tracing), testing, and quarantine/isolation of suspected/infected persons and communities. It also includes the establishment, communication, and observance of hygiene and other health protocols to educate the general public. Stages 4-5 point to containment activities (vaccination, treatment) during the amplification stage of the epidemic. Early effective prevention and containment provides minimal losses to public health and economy.

In this paper, I separate lockdowns from other isolation interventions such as quarantine and treatment operations. The intention is to further examine the quality of lockdowns and their effects. It is necessary therefore to provide a discussion and classification of lockdowns as follows.

A lockdown in the context of the pandemic is a social isolation policy adopted as a necessary action to complement other preventive and containment measures of epidemic control. The policy generally includes restrictions or banning of social/public gatherings and recreational activities, the encouragement or imposition of home quarantines and curfews, the discouragement or shutdown of operations of non-essential businesses (goods and services), as well as domestic and international travel restrictions.

Aside from reducing Covid-19 incidence and mortality, such a policy benefits a particular country in at least a couple more ways. First, relieves the stress imposed on the health system which could be overwhelmed by the sudden influx of Covid-19 cases. Hospital personnel and facilities have been overtaxed by the sheer number of infections in many countries. Second, it saves on healthcare costs (both public and private), incurred from the deluge of cases. Such costs could have been otherwise invested in strengthening the health care system and other socio-economic priorities.

While a lockdown policy is primarily geared towards mitigating the global health crisis at the local level, its negative effects on the economy are obvious given the various measures that disrupt economic and social activities. As well, the policy entails psychological costs and as experienced, public financial outlays for economic relief to households and firms.

Not all lockdowns are however made equal. Different lockdown characteristics appear to explain varying performances on public health (as crudely measured by the total number of cases and deaths) as well as on economy (as measured by the growth rate of the gross domestic product). In terms of intensity and enforcement, governments could adopt either a soft or hard lockdown. A soft lockdown is essentially a government policy that, on top of restrictions on domestic and international travel and public/social gatherings, primarily uses moral suasion for people to follow social distancing and other protocols that prevent the potential spread of the virus. Home quarantine (stay at home) and other mobility restrictions are voluntary, with little or no involvement of the police. Japan's "invisible" lockdown is an example of a soft lockdown. Likewise, many of Indonesia' local governments' lockdown could also be considered as "soft" because of lax enforcement.

A hard lockdown is the opposite. Here, the government bans travel and public gatherings, mandatorily imposes home quarantine and health protocols, as well as curfews and closure of non-essential businesses. Hard lockdowns typically involve the police (and even the military) in restricting mobility of people and goods. The Philippines and Thailand are examples.

Lockdowns can be of short or long durations. Short lockdowns are those that are observed from days to about a month. Long lockdowns generally exceed a month or more. In terms of scope, governments have the choice of adopting broad or narrow (or area-specific) lockdowns. Broad lockdowns are those that are imposed nationwide or in several regions while narrow lockdowns are imposed on a limited number of areas in the country.

The analysis also includes two other independent variables, namely: crisis management capabilities (anticipatory measures, contact-tracing, testing, quarantine, treatment, hygiene/health protocol communication operations) as well as the strength of the national health system (WHO, 2018, p. 21). The study takes as its outcome variables the number of Covid-cases and deaths (representing public health effects) and annual and quarterly growth rates in gross domestic product (GDP) representing economic effects. The three countries varied in their rates of economic contraction in 2020. As well, they also showed different levels of Covid-19 infections.

Primary data to be gathered are official economic statistics and policy statements and declarations. Official data will be obtained from the country's official statistical agencies and other relevant government agencies. Secondary data will include statistics on Covid-19 cases as well as reports and articles from national newspapers, Worldometrics, the World Health Organization, and academic journals.

Results and Findings

At the very least, the three countries responded to the Covid-19 pandemic by encouraging their populations to observe social distancing and other health protocols. As well, international and domestic travel have been restricted. Depending on the rate of infections, other anti-pandemic measures adopted include lockdowns and curfews.

It is important to note that response effectiveness also depended on the timeliness and adequacy of anti-pandemic measures instituted. Early and late responders have been noted in Southeast Asia. Vietnam is an example of an early responder with adequate contact-tracing, isolation, quarantine, and treatment operations.

The Philippines, Thailand, and Indonesia are examples of late and inadequate responders. Thailand's public health system capacity has been described as strong and robust, as a result of four decades of government investment (WHO, 2020b). In contrast, the Philippines and Indonesia have weak public health systems. Both countries imposed international travel restrictions in February 2020. However, they severely underperformed in terms of contract-tracing, testing, isolation/quarantine, and treatment operations. In addition to selective international travel restrictions adopted earlier, the Philippine state-led lockdown policy started in mid-March.

In Indonesia, the central government could not respond with stringent measures because of their obvious effects on the economy. Likewise, the national government feared of a possible politically volatile situation considering the country's uneven socio-economic and political conditions. Instead, regional governments, in coordination with the national government, imposed lockdowns and other anti-pandemic measures. Central-regional government coordination has been described as poor and slow, which unnecessarily caused the rapid spread of the Sars-Cov-2 virus in the country (Morris, 2020). Indonesia had about 80,000 thousand doctors while the Philippines had about 40,000 with doctor-to-population ratios lower than the ideal ratio of 1 doctor to 1,000 people.

The following sections provide the lockdown cases of Thailand, Indonesia, and the Philippines and the preliminary findings on their effects on public health (anti-Covid 19) and economic performances.

Thailand: Long and Hard Lockdown with Adequate Health Crisis Management

Thailand represents a case of a country instituting hard lockdown that effectively contained the spread of Covid-19 but experienced serious effects on economic growth. With less than 7,000

cases at the end of the year 2020, its response to the pandemic could be regarded as successful. However, the lockdown led to its first economic slump since the 1997-98 Asian financial crisis.

On March 25, 2020 the Thai government announced a national state of emergency (SOE) due to the local transmissions and threat of further spread of Covid-19. The SOE gave the government the authority to take coercive outbreak control measures and quarantine orders. The lockdown which was originally scheduled to end on April 30 was later extended several times up to November 30. However, due to prolonged street protests, the government lifted the SOE on October 22 (Regan, 2020).

Even before the SOE however the authorities had been taking steps in reaction to the virus. Days after learning about the virus, the government began temperature screenings at airports of travellers arriving from Wuhan. The first confirmed case of viral pneumonia was reported on January 12, making Thailand the first country outside China to detect the virus. As cases mounted, Thai Airways suspended its flights to and from China.

On March 1, the first fatality was reported. In response the government announced new quarantine measures and other restrictions for travellers coming from countries known to have a high number of infections. By March 18, with 170 confirmed cases, cross-border travel restrictions with Laos, Malaysia, and Cambodia were imposed.

The rapid increase in infections in March led to more drastic measures, including a partial lockdown in Bangkok and later a broad lockdown in the entire country. Around March 15, Bangkok authorities closed down sports and recreation venues including gyms, cinemas, bars, spas, schools, and sports stadiums (Garda.com). Shopping malls were later closed. With over 1,000 confirmed cases reported, the government announced a broad lockdown and harsher restrictions on international and domestic travel as part of the SOE measures. The Centre for Covid-19 Situation Awareness. (CCSA) was formed to oversee the government's anti-pandemic efforts.

On April 3, the government further imposed a nightly curfew, exempting only health care and other essential services workers. Violators faced a stiff fine of 40,000 Thai Baht or a two-year jail term.

Lockdown restrictions were gradually eased beginning on May 4. Certain types of businesses were reopened, including restaurants (not located in malls and department stores), markets, public and private park, as well as sports venues (golf courses, driving range, tennis, badminton, etc.) and clinics. Business operations were subject to observance of health protocols (social distancing of 2 meters, wearing of masks and gloves, and temperature screenings). In addition, domestic flights were resumed though still limited.

On June 1, other businesses were allowed to operate again but at limited capacity and subject to health protocols. These include cinemas, theatres, zoos, spas, beauty clinics, Traditional Thai massage parlours. By mid-June, the government lifted its curfew. As well, schools with 200 students were allowed to open, along with amusement parks, playgrounds, and exhibition halls. The ban on international commercial flights was lifted on July 1 but entry was restricted to business travellers, permanent residents, work permit holders and academics.

The earlier opening of businesses in Thailand was important when comparing second quarter economic growth with that of the Philippines. The latter, which extended its harsh lockdown on many businesses that involved close contact and crowded spaces, suffered its biggest drop in GDP growth during that quarter.

Thailand's lockdown was argued to have produced a positive impact on Covid-19 control. In a study by Chulalongkorn University medical doctors led by Sinsuda Dechsupa, confirmed cases kept rising around the time of the SOE declaration. But after the implementation of the national lockdown and curfew, the number of cases began to decline. By April 12, less than 50 new cases were reported daily. The curve completely flattened by May, with less than ten cases per day reported daily (Bechsuda et al 2020).

Significantly contributing to the effectiveness of Thailand's lockdown policy in terms of virus containment was the strong health infrastructure as well as adequate contact-tracing and quarantining operations. The country benefited from investments in the public health system and

particularly in building its epidemic control capacity through the Field Epidemiology Training Programme (FETP), which since 1980 had trained thousands of experts at local levels in epidemic investigation and control (WHO 2020b). Thus, though there was an initial bout of rapid infection in March, the curve was effectively flattened in May. Since then, as a WHO report stated, for 102 days between May and September, the country had no local transmissions.

Several sectors and industries were adversely affected by the lockdown. Particularly, the manufacturing and service sectors (including tourism and tourism-related industries) were hard hit, dragging the economy down. The negative performances for year-on-year (YOY) changes in the GDP were understandable because of the overall negative impact of restricted economic and social activity in 2020.

More suggestive of what happened therefore is the seasonally adjusted quarterly change in GDP. In this case, the second quarter (April-June) produced the most damaging impact. With harsh measures gradually undertaken from January to April, the negative effect on quarterly growth is suggested during the first semester of 2020. With government easing measures especially in June, positive rates of growth were experienced starting in the third quarter. However, the second semester performance is not enough to overcome the damaging impact of the previous semester's performance. Table 1 provides a summary of Thailand's lockdown and its effects, 2020.

Indonesia: Partial, Soft Lockdown

Indonesia is a case of a partial lockdown and rapid infection but is among Southeast Asian countries that suffered the least negative economic impact. The number of confirmed Covid-19 cases as of December 31, 2020 was the highest in the region, with close to 750,000. The central government did not declare a national lockdown policy, primarily because of economic considerations. Instead, local governments were allowed to take containment measures but only after securing the approval of central government agencies, particularly the Ministry of Health. However, the Indonesian government declared a nationwide state of emergency on March 31, which

With news of the virus coming out early in 2020, on February 5 Indonesia suspended flights to and from China, and restricted entry of those transiting and entering the country if they came from China within 14 to 28 days. Thermal scanning in airports as well in Jakarta's MRT were initiated between February and early March.

On March 2, the first confirmed cases were reported by President Joko Widodo and a little over a week later the country's Covid-related death. On March 5, entry restrictions were imposed on travellers from Iran, Italy, and South Korea, which were countries reputed with high infections outside of China at that time.

In March, the central government intensified preparations for the pandemic. It identified more than 100 facilities that could be used for isolation and treatment of patients with mild and severe symptoms. In addition, on March 13, the Covid-19 Response Acceleration Task Force was formed.

On March 31, a national state of emergency was declared with the central government having the prerogative to take harsh or appropriate measures to control the outbreak. The authorizing law, Government Regulation 21 series of 2020, called for large-scale social restrictions (Pembatasan Sosial Berskala Besar, or PSBB) to be applied for and implemented by local governments. A region considered as a "red zone" could be placed under PSBB. Once a local government's PSBB application was approved by the Health Ministry, the local government could close down schools and workplaces, impose curfews, limit local public transportation,

The law made clear that the Widodo government would not place the entire country on lockdown. Apparently, the leadership believed that a national lockdown could lead to a highly political volatile and unstable economic situation. Instead, it relied on the voluntary cooperation of the public and also conditionally allowed local governments to impose lockdowns as they saw fit. As such, the central government provided a supporting rather than an orchestrating role in the fight against Covid-19. Its interventions in early 2020 were limited to:

- Issuance of health protocols to the public
- Use of moral suasion for citizens to practice social distancing

- Ordering workers of state enterprises to work from home
- Release of 30,000 prison inmates to prevent the spread of the virus in jails
- Suspension/restriction of international flights effective March 31
- Ban of the Eid'l Fitr mudik (exodus) and the associated inter-regional travel starting on April 24

Even before the national SOE, the Jakarta provincial government had been taking action in containing the outbreak. Jakarta had the highest number of confirmed Covid-19 cases in the country. On March 16, the Jakarta governor Anies Baswedan ordered the closure of schools as well as a two-week suspension of religious activities. Then, on March 20, he declared a state of emergency in the province effective March 23. The Jakarta SOE entailed the closure of bars, spas, cinemas as well as the limiting of public transportation. With Indonesia's SOE guidelines out in early April, the Jakarta government applied for and was granted the PBSS, which took into effect on April 10 and ended on June 4. Following Jakarta, other local governments with the go-signal of the central government implemented the PBSS. Durations varied but many local governments decided on short lockdowns.

The lockdowns were not as harsh as that of Thailand and the Philippines. In an interview, a foreign resident said that malls and shopping centers were closed but essential economic activities even deliveries and take-outs continued. This was a similar to the general community quarantine followed in the Philippines.

Despite this seemingly soft role taken by central government authorities, the national police were ordered to enforce social distancing protocols and disperse public gatherings and assemblies. But rampant violations were observed, especially during the Eid'l Fitr *mudik* (exodus), mass gatherings, and passenger build-ups in transportation nodes. This suggested lax enforcement and policy inconsistencies (Sutrisno, 2020).

Yet the country had a weak public health infrastructure. Likewise, it did not have adequate contact-tracing and testing capabilities, especially during the first few months of the epidemic. By the end of 2020, the country had over 740,000 confirmed cases and about 22,000 deaths, the highest in Southeast Asia (see Table 2).

However, Indonesia, along with Cambodia and Lao PDR, was among those that experienced the smallest economic contraction in the region with a 2.2% drop in annual GDP. Only Vietnam and Myanmar were expected to achieve positive GDP growth in 2020. Generally, the manufacturing and service sectors were hard hit hard. Only the most but essential sectors and industries like agriculture, information and communication, and financial activities grew. In terms of expenditures, Indonesia's economy was lifted by government spending as household and investment spending declined. Transportation and storage for industries and gross fixed capital formation (investment) for expenditures were the sources of deepest contraction (*Statistics Indonesia* 2021).

The Philippines: Long, Hard, Broad Lockdown

The Philippines represents a country that imposed a long, hard, and broad-based lockdown but had poor health crisis management, which proximately explain its dismal epidemic control and economic performances. It was the first country in Southeast Asia to impose a hard, broad-based lockdown. However, even after a couple of months after the government's SOE declaration, its contact-tracing, testing, and isolation capabilities could be considered weak. This voided the gains of the costly lockdown. As such, the country's Covid-19 morbidity and mortality rates were high in the region, second to that of Indonesia. Furthermore, economic contraction was worst in the region, with a -9.5% growth in 2020.

On January 20, 2020 the first reported case of Covid-19 was that of a female Chinese national. Despite its claims, the Department of Health's investigation and contact-tracing efforts appeared to be inadequate. That female's companion, a Chinese male who died on February 1, was the first reported fatality in the Philippines.

Following the initial report of a confirmed case, on January 23, 2020 the Civil Aeronautics Board suspended all flights from Wuhan. Purportedly, entry of passengers coming from China was also restricted. However, there was lax enforcement as many passengers coming from China being reported. The third case was also that of a 60-year old Chinese female (WHO 2020a). For some diplomatic reasons, the government hesitated on a

travel ban to and from China. The ban on travellers to and from China and other countries known to have high infections came very late, which Philippine senators blamed on Health Secretary Duque (Palatino, 2020).

By early March, confirmed cases of local transmission have been reported. Upon the advice of the Inter-Agency Task Force on Emerging and Infectious Diseases and Health Secretary, on March 8 President Rodrigo Duterte issued Proclamation 922, declaring a public health emergency in the country (Official Gazette, 2020a). Then, on March 12, the government announced a lockdown on the National Capital Region (NCR). This was followed by a state of calamity declaration and imposition of an "enhanced community quarantine" (ECQ) on the entire island of Luzon through the issuance of Proclamation 929 signed on March 16, 2020 (Official Gazette, 2020b).

Notwithstanding the nomenclature, the Luzon-wide ECQ was practically a hard lockdown that saw:

- restrictions in inter-municipality (and even inter-barangay) travel,
- suspension of public transportation and commercial flights,
- strict observancer of stay-at-home orders and curfews
- mandatory wearing of face masks and face shields
- Limited business operations as well as closure of non-essential businesses

Initially, it was intended to stay in force until April 12 but was later extended to May 31. Thus, unlike Thailand's was lasted for 40 days, the Philippines' broad-based lockdown took 76 days.

The island of Luzon had the largest share of the country's GDP. In 2018, it contributed more than 70% of the national GDP. Thus, the ECQ practically halted a substantial portion of national production for more than two months. The ECQ was further extended to Cebu/Western Visayas and Davao, whose combined output translated to an additional 10% of GDP. Other parts of the country, which were not under ECQ, also experienced similar conditions.

On March 23, Congress passed a law declaring a state of national emergency and providing the President additional powers and the budget to address the epidemic. The law took into effect on March 25. Republic Act 11469 placed the entire country on varying degrees of lockdown.

Harsh restrictions were gradually eased on June 1. Many places in the Philippines, including NCR, were placed under general community quarantine (GCQ), a level of restrictions lower than the ECQ. However, many businesses either remained closed or opened with limited operation per guidelines of the IATF. Inter-town and inter-provincial travel restrictions were also prolonged. Not surprisingly, the Philippine economy became the hardest hit in the region.

The Covid-19 pandemic exposed the weaknesses of governance, data management, science, and the health system in the Philippines. Whatever gains in epidemic control the long and hard lockdown sought to achieve were negated by the weak health infrastructure as well as poor contact tracing, testing, quarantine and treatment operations. As a medical doctor and university professor Ronnie Baticulon put it in March last year, "the Philippine health system is not ready for a pandemic…We never were." (Baticulon, 2020).

Also, despite a hefty health budget and enhanced presidential powers, the country suffered from poor public health crisis management, with wanting leadership and health infrastructure investments for epidemic control. Some of the reasons why government investments were not made heavily even at the outset of the pandemic were ludicrous. These include: 1) belittling the seriousness of the Covid-19; 2) the belief of the national leadership that the Covid-19 virus would naturally die out in hot, tropical weather; and 3) the belief of some heads of government agencies on the potency of certain unverified quack solutions such as the use of virgin coconut oil and other natural remedies,

As such, local governments, the private sector, and non-profit organizations took notable initiatives for improved testing, contact tracing, and quarantine operations. They also provided economic and social relief on top of the national government's economic relief program.

Further hampering sound decision-making were 1) problems of data reporting and data management and also 2) limitations on expert engagement in decision-making. Noticeable in monitoring Covid-19 cases were data inaccuracies.

Such inaccuracies were blamed by Secretary Duque on problems of data reporting between local governments and the Department of Health. But this generally suggests data management problems of the government as a whole. Likewise, while the government sought various experts, the quality of expert advice and policy-decision making was uncertain and questionable. As such, the medical support remained weak, the soft lockdown (GCQ) continued, and the economy continued to dive.

Most industries and firms suffered losses while hundreds of thousands of people lost their jobs. The first semester of 2020 took a particularly heavily toll on the economy. Quarter-to-quarter GDP growth registered -5.1% and -15.2% during the 1st and 2nd quarters, respectively (see Table 3). In terms of year-on-year quarterly performance, the country consistently posted negative GDP growth, with the 2nd quarter again registering the highest contraction. The 2nd quarter of 2020 was the height of the ECQ.

Private consumption, investments and foreign trade registered negative growth in 2020; only government spending showed positive growth at 4.4%. All three economic sectors contracted — Agriculture (-0.2), Services (-9.1%), and Industry (-13.1%). Net primary income, which has been a major source of growth, fell by 27% for the year. During the 4th quarter usually a time where highest remittances flowed, net primary income dove by 53%.

Discussion

Based on the cases presented above, we can observe differences in the morbidity/morality and economic performances. Indonesia and the Philippines experienced a huge volume of Covid-19 cases and deaths generally due to poor public health crisis management capabilities and a weak public health system. The Philippines pursued an extended, broad-based and harsh lockdown which Indonesia did not follow. That lockdown may somehow explain why, given common weaknesses in health and crisis management systems, Indonesia's high morbidity/mortality record. Many local governments were also reportedly lax in their enforcement of partial lockdowns, especially during the *murdik*, the religious exodus undertaken before the Ramadan. But the absence of a national or broadbased lockdown also helps to explain why Indonesia's economic contraction was low and the Philippines' the highest in the region.

Both Thailand and the Philippines imposed first partial, then total lockdowns in March. Both suffered from high negative GDP growth, which a hard and broad-based lockdown seems to have produced. But the duration of the hard-lockdown suggests why the Philippine economy suffered more than Thailand's. Thailand's first hard and broad-based lockdown lasted for 40 days before easing measures were employed; the Philippines' lockdown went on for 76 days.

In addition, the contrasting strengths in epidemic control capabilities and health systems would explain why Covid-19's spread was faster and greater in the Philippines than in Thailand. Thailand was able to contain the virus because of its recent experience with epidemics, its ability to immediately conduct contact-tracing, testing, and isolation and the strength of its public health system. The Philippines were weak in these areas. Likewise, there appears to be errors in crisis decision-making due to foreign policy considerations (healthy bilateral relations with China delayed the travel ban), military dominance in policymaking, misguided public investment priorities, and poor data management. Thus, the Philippines experienced both high economic contraction and Covid-19 morbidity/mortality.

Conclusion

The Covid-19 pandemic revealed the difficulties of minimizing its damage to public health and the economy. Governments faced policy trade-offs. One of these was whether to impose a national lockdown or not, and if they did, what kind of lockdown would it be (hard or soft) and for how long? This paper is a preliminary study to generate hypotheses about effects of lockdowns and other epidemic control measures on viral spread and the economy. Indeed, it is important to determine the optimal policy mix to control the pandemic and minimize its harmful effects.

One of the hypotheses that surfaced questions the benefits of a hard, broad, (and extended) lockdown. Indeed, the debate is still on in regard to the merits of such a policy. Certainly, such a policy would favour the goal of epidemic containment but at the same time threaten economic

growth. The Philippine case further suggests that there are other variables crucial to epidemic containment, which arguably benefits the economy's growth. These would include anticipation, early detection and containment capabilities, the strength of the public health system, as well as the quality of crisis management decisions and enforcement. These seem to be the better focus for governments. A hard, broad, and extended lockdown as demonstrated in the Philippine case does not automatically translate to lower Covid-19 morbidity and mortality rates.

Relatedly, it could be hypothesized that more than a hard, broad, and extended lockdown is the speed and adequacy of control measures in the early stages of the epidemic. This would reflect the quality of crisis-management decision-making of government leaders. Late responders tend to have a tougher time dealing with the epidemic. Given the magnitude of Covid-19's spread, the existing public health infrastructure is suddenly overwhelmed and the need for a harsher, broader, and extended lockdown becomes apparent.

Continually investing and building epidemic control capabilities (especially contact-tracing, testing, and isolation) and applying them at critical times is essential in epidemic containment and mitigation. The adequacy of this intervention was seen lagging in the Philippines, suggesting issues in organization and leadership decision-making. Weaknesses in coordination and communication between national policymaking body and implementing LGUs and government agencies further point to problems in data-management, timely policy formulation and proper execution in the Philippines.

A limitation of this study is that due to data and time constraints, the case of Vietnam was not included. Vietnam is the region's highest economic performer in 2020 and has been able to effectively contain Covid-19 within its borders, despite weaknesses in its public health system. It could have been argued that its early and superior epidemic control capabilities prevented the need for a harsh and broad lockdown. This argument could be tested further in a future study.

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Figures and Tables

Figure 1. Analytical Framework

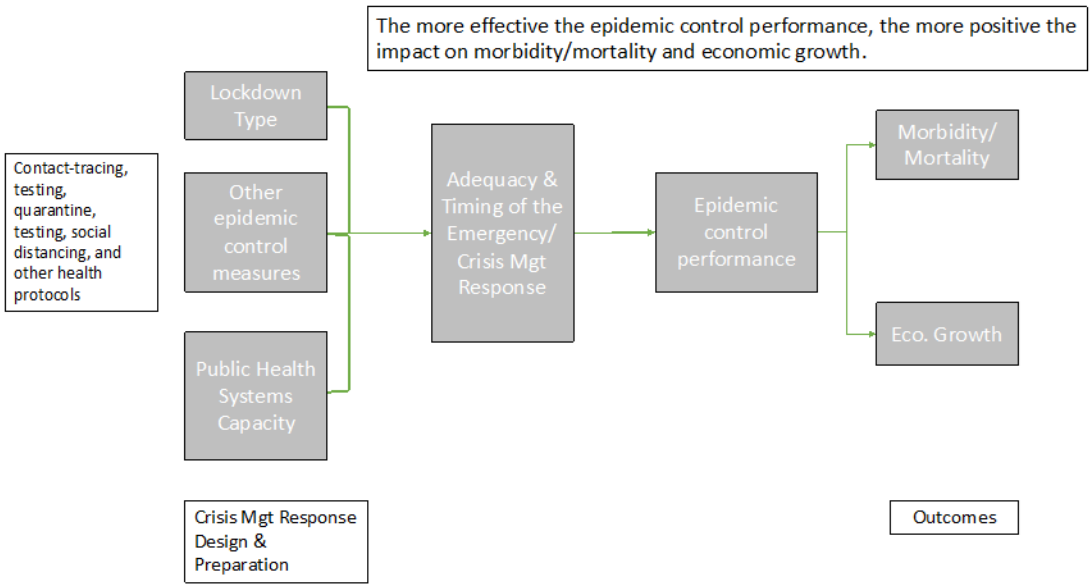

Table 1. Thailand's Lockdown and its effects in 2020

Thailand	
Timeliness and Adequacy of Response	Late, Adequate
Public Health Crisis Management	Strong
Start of Bangkok Lockdown	March 15
Start of Broad-based Lockdown	March 25
Start of Gradual Easing	May 4
Morbidity/Mortality	
Cases/Million Feb. 5, 2021	1,377
Deaths/Million Feb. 5, 2021	1

	Mar 18	**Aug. 17**	**Dec. 31**	
Number of Confirmed Cases	177	3,378	6,884	
Number of Deaths		58	61	
GDP Growth				
Year 2020	-6.6			
GDP Growth/Quarter	**Q1**	**Q2**	**Q3**	**Q4**

YOY GDP change	-2.1	-12.1	-6.4	-4.2
SA Quarterly GDP change	-1.7	-9.4	6.2	1.3

Source: Worldometers, National Economic and Social Development Council

Table 2. Lockdown in Indonesia and its effects

Indonesia				
Timeliness, Adequacy of Measures	Late, inadequate			
Public Health Crisis Management	Weak			
Start of Lockdown	Varies by LGU			
Start of Gradual Easing	Varies by LGU			
Morbidity/Mortality				
Cases/Million Feb. 5, 2021	4,080			
Deaths/Million Feb. 5, 2021	1			
	March 18	**Aug. 17**	**Dec. 31**	
Number of Confirmed Cases	172	139,549	743,198	
Number of Deaths		6,150	21,944	
GDP Growth				
Year 2020	-2.2			
GDP Growth/Quarter	**Q1**	**Q2**	**Q3**	**Q4**
YOY GDP change	2.97	-5.32	-3.49	-2.2
SA Quarterly GDP change	-0.69	-6.95	5.05	-0.42

Source: Worldometers, *Statistics Indonesia*

Table 3. Philippine Lockdown and effects

Philippines			
Timeliness & Adequacy of Measures	Late, inadequate		
Public Health Crisis Management	Weak		
Start of NCR Lockdown	March 15, 2020		
Start of Broadbased Lockdown	March 17, 2020		
Start of Gradual Easing	June 1, 2020		
Morbidity/Mortality			
Cases/Million Feb. 5, 2021	4,814		
Deaths/Million Feb. 5, 2021	100		
	March 18, 2020	Aug. 17, 2020	Dec. 31, 2020

Number of Confirmed Cases	187	161,253	474,055
Number of Deaths		2,665	9,244

GDP Growth				
Year 2020	-9.5			
Quarter Growth	Q1	Q2	Q3	Q4
YOY GDP change/quarter	-0.7	-16.9	-11.5	-8.3
SA Quarterly GDP change	-5.1	-15.2	6.2	5.6

Source: Worldometers, Philippine Statistics Authority