



Adaptive control of COVID-19 outbreaks: Policy Approaches

23 September 2020, 10:00-11:30 (Manila Time), via Microsoft Teams

I. Background and Context

1. The ongoing coronavirus disease (COVID-19)¹ outbreak continues to severely affect health and economic systems worldwide. As of 13 September 2020, COVID-19 has infected over 28 million people globally and taken more than 900,000 lives, according to the latest count of the World Health Organization. In Asia and the Pacific, there have been a total of over 5.8 million confirmed cases and more than 102,000 deaths recorded.
2. The COVID-19 pandemic has also crippled economies around the world due to imposed lockdowns and ongoing mobility restrictions. The Asian Development Banks's latest estimate shows that the global economic cumulative losses in 2020 will reach \$5.8 to \$8.8 trillion. Asia and the Pacific could suffer between \$1.7 trillion and \$2.5 trillion in losses, with the region accounting for about 30% of the overall decline in global output. Economic activity in Southeast Asia is expected to contract by 2.7% in 2020 before growing by 5.2% in 2021. Estimated contraction figures for Southeast Asian economies hit hard by COVID-19 are at -1.0% for Indonesia, -3.8% for the Philippines, and -6.5% for Thailand given containment measures affect their domestic consumption and investment.
3. Countries continue to wrestle with the COVID-19's impact and face the immense task of protecting both lives and livelihoods. Early in the pandemic, policymakers are faced with uncertainty about the likely spread and impact of COVID-19 and grapple to ensure no further waves of outbreaks occur. Many countries have had to lock down and are in varying stages of unlocking or easing containment measures. Epidemic control measures come with attendant societal and economic costs. So, there is hesitation over what are the minimum measures that should be retained, what measures can be relaxed, and in what sequence to pave the way for cautious economic reopening.
4. Different countries have vastly different resources with very different transmission and socio-political contexts, and these will drive the practical implementation and lifting of restrictions.² While several epidemiological models exist, predictions can vary regarding potential outcomes. The unpredictability of the COVID-19 trajectory leads to ambiguity around the optimal policy regime for managing and controlling infection and progressively allowing economic activities. Moreover, several governments lack evidence-based frameworks to assess a whole range of policy options including testing, tracing and treatment, social or safe distancing,

¹ COVID-19 is the short term for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

² Lim, Jeremy. Harmonizing Health Standards for Post-Quarantine COVID-19 settings. Development Asia Policy Brief. Accessed on 12 September 2020 from <https://development.asia/policy-brief/harmonizing-health-standards-post-quarantine-covid-19-settings>

health care systems capacities, social assistance delivery, mobility, and opening key sectors of the economy, among others.

II. Twelfth PACER Dialogue

5. Experience in India has shown that a gradual and localized approach allows for safer reopening and reductions of infection rates. India has more than 4.7 million cases of COVID-19 and with several parts of the country experiencing a resurgence, state governments reinstated lockdown measures. Decisions on effective policies with specific location and durations were guided by an approach called adaptive control. Adaptive control is a flexible counter-cyclical policy approach, whereby different areas release from lockdown in potentially different gradual ways, dependent on the local progression of the disease.³ Adaptive control requires flexibility to decrease or increase social distancing in response to observed and projected dynamics of the disease outbreak.⁴

6. Dr. Anup Malani and his team has developed a strategy to inform state policy in India using adaptive control with three main parts: (i) gradual introduction of activities; (ii) setting and tracking epidemiological targets, such as reducing the reproductive rate below 1, and adjusting social distancing every week or two to meet those targets; and (iii) adoption of different policies in different districts or cities based on local conditions.⁵ Together with his team, Dr. Malani also developed and advised on the execution of an action plan with four steps: (i) identifying gaps in existing data and decision-analysis tools; (ii) gathering more comprehensive COVID-related data to fill gaps in existing data; (iii) building evidence-based models of epidemiological outcomes and economic activity to address gaps in existing decision-analysis tools; and (iv) leverage the epidemiological and economic outcomes to extract actionable recommendations from data.

7. The implementation of the adaptive control paradigm and the modeling framework led to actionable recommendations in India based on key policy questions including: (i) how to regulate domestic travel? (ii) how does labor migration affect the spread of COVID-19? (iii) how should the government optimally construct containment zones to slow COVID-19? and, (iv) how to address distribution issues for a potential COVID-19 vaccine? Other recommendations focused on how to improve infection control or help the economy recover from COVID-19 and the COVID-19 associated lockdown. Smaller changes were revisited every one to three weeks to allow state governments to better learn how policies affect disease rates and employment levels and calibrate responses appropriately.

8. Nearly all governments in Southeast Asia face similar challenges in developing the appropriate policy regime for managing and controlling infection and for gradually opening the economy towards recovery. Governments overall need evidenced-based modelling than can help facilitate balancing infection risks against economic impact. Adaptive control is beneficial as a tool that could allow countries, states, or cities to bring infection rates under control – through policies like voluntary social or safe distancing – while allowing modest levels of economic activity.⁶

³ Malani, A. et al. Adaptive control of COVID-19 outbreaks in India: Local, gradual, and trigger-based exit paths from lockdown. White Paper. 12 May 2020. Accessed on 12 September from https://adaptivecontrol.org/static/media/adaptive_control_whitepaper.ba860c78.pdf

⁴ Ibid.

⁵ Cowen, T. COVID-19 India Prize. 27 June 2020. Accessed on 12 September 2020 from <https://marginalrevolution.com/marginalrevolution/2020/06/covid-19-india-prize.html>

⁶ Malani, A. Tackling COVID-19 through adaptive control: lessons from India. 7 August 2020. Accessed on 13 September 2020 from https://apolitical.co/en/solution_article/tackling-covid-19-through-adaptive-control-lessons-from-india?fbclid=IwAR1j6nQifwYGpEHIRE5TGxHXXqPPKD3druj4v0Fhyu5lCv5WmZCkHH2D0vI

9. In this context the Asian Development Bank (ADB) will convene the twelfth **Policy Actions for COVID-19 Economic Recovery (PACER) Dialogue** in virtual format on 23 September 2020 (Wednesday) from 10:00–11:30 (Manila time) using Microsoft Teams. The title of the twelfth PACER Dialogue is **Adaptive control of COVID-19 outbreaks: Policy Approaches**. PACER Dialogues are organized under the ADB-supported BIMP-EAGA, IMT-GT, and GMS (B-I-G) Capacity Building Program, and will explore measures that can help “B-I-G” member countries, Singapore, and Timor-Leste “bounce back better” from the COVID-19 pandemic.

III. Objectives

10. The twelfth PACER Dialogue will feature adaptive control policy approaches and actionable recommendations to manage and mitigate COVID-19 impacts, and build-back more resilient economies. The objectives are to:

- promote a better understanding of adaptive control policy approaches to reduce infection rates, ensure gradual economic activities, and calibrate responses accordingly;
- feature the experience and lessons of India in tackling COVID-19 through adaptive control; and,
- provide a platform for policy makers and health practitioners to share knowledge and experience and collaboratively learn from each other.

11. At the end of the dialogue, a Policy Brief will be produced to summarize the policy options and recommendations discussed.

IV. PACER Dialogue Background Paper, Structure and Timing

12. The PACER Dialogues are envisaged to help decision makers broaden their perspectives, appreciate the wider implications of critical policy choices, and identify concrete policy actions. During the open discussions, lead participants are requested to provide inputs, share analysis, country experiences and lessons on policies on easing lockdowns and other public health interventions taken to mitigate the negative effects of the COVID-19 pandemic and accelerate recovery.

13. A background paper will be circulated to all participants as advance reading. The indicative structure of the 1.5-hour (90 minute) PACER Dialogue is summarized in the attached program.

Adaptive control of COVID-19 outbreaks: Policy Approaches

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TIME	DETAILS
10:00-10:05	<p>Twelfth PACER Dialogue – Overview and Objectives <i>Moderator: Mr. Ramesh Subramaniam</i> <i>Director General, Southeast Asia Department (SERD), Asian Development Bank (ADB)</i></p> <p>Moderator to deliver introductory remarks on the twelfth PACER Dialogue context, objectives, and structure.</p>
10:05-10:35	<p>Adaptive control of COVID-19 outbreaks: Policy Approaches <i>Anup Malani, Professor at the University of Chicago Pritzker School of Medicine, and Lee and Brena Freeman Professor at the University of Chicago Law School</i></p> <p>Presentation on tackling COVID-19 through adaptive control for safer reopenings and reducing infection rates. Experience and lessons of India in gradual and localized adaptive control and modeling COVID-19 in India which won the Emergent Ventures Prize in June 2020 will be featured.</p>
10:35-11:25	<p>Open Discussion and Questions <i>Moderator: Mr. Ramesh Subramaniam</i></p> <p>PACER Dialogue participants exchange information on public health policies and measures in reopening economies in an open discussion format.</p> <p>To enrich the PACER dialogue discussions, the moderator will request country delegations to provide inputs and share analysis, country experiences, and lessons on public health interventions aimed at mitigating the negative effects of the COVID-19 pandemic and achieving economic recovery.</p>
11:25-11:30	<p>Synthesis and Summary Closing Remarks <i>Mr. Ramesh Subramaniam, Director General, SERD, ADB</i></p> <p>Moderator summarizes the policy discussions, key recommendations, and closes the Dialogue.</p>