Balancing NPIs and economic activities

FEBRUARY 14, 2022

TAISUKE NAKATA (UNIVERSITY OF TOKYO)

OVERVIEW

- The project began in December 2020
  - Taisuke Nakata
    - Monetary policy, time-series analysis, experience with policy analysis in central bank
  - Daisuke Fujii
    - International trade, firm dynamics and network
  - 4 collaborators plus about 20 research assistants
    - Funded by the Cabinet Office AI-Simulation Project, RISTEX, TCER, and Kakenhi, among others.
- The main aim is to provide policymakers and the public with policy analyses related to how to balance NPIs and economy activity.
- The secondary aim is to provide policymakers and the public with policy analysis related to dynamics of COVID-19.

EXAMPLES

- Infection control and economy
  - Development of a macro-SIR model that can be flexibly used for policy analysis in real-time.
    - Macro SIR models: Eichenbaum et al. (2020), Alvarez et al. (2020), Jones et al (2020), Kubota et al. (2020), Kubota (2021).
    - A weekly outlook on COVID-19 in Tokyo.
  - Development of monthly state-level GDP
  - Analysis of the timing of the state-of-emergency (SOE)
  - Analysis of exit strategies
  - Analysis of the effects of the COVID-19 crisis on marriage, birth, and suicides
- Infection control
  - Vaccine allocations
  - Effects of the Tokyo 2020 Olympic and Paralympic Games on infection
  - Factors contributing to the rapid decline in infection in Tokyo, Summer 2021
  - Daily update of the estimate of the ratio of severe cases and death to PCR positives
  - Developing a projection tool for cases and ICU beds for Japanese prefectures and municipalities

SELECT POLICY BRIEFINGS

- The Subcommittee on Novel Coronavirus Disease Control, and the Advisory Committee on the Basic Action Policy
  - February 10
- The Advisory Board on COVID-19 for the Ministry of Health, Labor, and Welfare (March 31, June 2, June 16, June 30, November 9)
- Tokyo Governor's Office (April 7)
- Prime Minister's Office (May 8, June 22)
- Round-table Meeting with Experts by the Tokyo Organizing Committee of the Olympic and Paralympic Games
  - May 28, June 17, August 20
- Council of Ministers (June 30)
- Frequent requests for simulation analysis by the members of the Subcommittee and the Office for COVID-19 and Other Emerging Infectious Disease Control (Cabinet Secretariat)
  - "Recommendations about COVID-19 risks related to holding the 2020 Tokyo Olympic and Paralympic Games" by A Voluntary Independent Group of Experts for COVID-19 Response in Japan.
  - Currently working on developing a projection tool for cases and ICU beds for Japanese prefectures and municipalities.

COMMUNICATION WITH PUBLIC

- Our analysis as well as our unique communication style have led to media attention as well.
- Within Japan
  - Frequent citations by newspapers and TVs
  - Frequent seminars and speeches at various institutions.
  - Occasional appearance on radios and TVs
- Outside Japan
  - Financial Times, Wall Street Journal, Washington Post, USA Today, ESPN, ABC News, BBC, The Globe and Mail
- https://covid19outputjapan.github.io/JP/media.html

KEY TAKEAWAYS

- 1. In a standard macro-SIR model, there may not be tradeoff between infection control and economy in the long-run.

- 2. If you want to think about how to balance NPIs and economy, you need to first know what's happening in the economy (or society in general).
  - We have analyzed output, suicides, marriage, and birth
  - Others have worked on the cost of NPIs on education, health, etc.

- 3. The optimal "balancing" depends on the objective function (or "value judgment")
  - Fujii et al. "Value of a COVID-19 Death"

KEY TAKEAWAY 1

- 1. In a standard macro-SIR model, there may not be a tradeoff between infection control and economy in the long-run.
  - In two completely different ways…
  - A. Before vaccination, and taking as given the medical resource constraint, continuing the state-of-emergency (SOE) until the number of new cases is very low can lead to lower cumulative deaths without increasing economic loss.
    - Fujii and Nakata "COVID-19 and Output in Japan" (2021)
    - "Buy time until vaccination arrives." "The good infection control is also a good economic policy"
  - B. After vaccination, expanding the medical resource constraint can lead to smaller economic loss without necessarily increasing the cumulative deaths in the long-run.
    - Nakata et al. "Balancing NPIs and economic activities: The Role of Medical Capacity" (2022)
    - Slowing down infection in the short-run has an aspect of "postponing the attainment of herd immunity." Thus, a short-run reduction in the number of deaths does not necessarily lead to a long-run reduction in the number of deaths.

REFERENCES

- Weekly outlook：https://Covid19OutputJapan.github.io/JP/
- Reports：https://covid19outputjapan.github.io/JP/resources.html
- Videos of weekly Zoom meetings：https://covid19outputjapan.github.io/JP/recording.html
- Behind-the-scene interview
  - https://note.com/keisemi/n/n9d8f9c9b72af、https://note.com/keisemi/n/n7f38099d0fa2
  - https://note.com/keisemi/n/nd1a6da98f00e 、https://note.com/keisemi/n/n430f8178c663
- Paper：https://link.springer.com/article/10.1007%2Fs42973-021-00098-4
- Twitter: https://twitter.com/NakataTaisuke
- Questions and requests, etc.
  - taisuke.nakata@e.u-tokyo.ac.jp