

ESRI International Roundtable Conference

Summary of ESRI research project

**Research on COVID-19 crisis and
post-COVID economy and society**

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Overview of the workshop

- **WS1 “Impacts of COVID-19 and policy responses: employment, households and consumption”**
 - Moderator: Prof. Hiroshi Teruyama (Kyoto University)
 - Seven presentations: 10/18, 10/25
- **WS2 “Impacts of COVID-19 and policy responses on firms”**
 - Moderator: Prof. Miho Takizawa (Gakushuin University)
 - Four presentations: 10/29, 11/12
- **WS3 “Impacts of behavior changes of people and firms on the economic and social system”**
 - Moderator: Prof. Takashi Oshio (Hitotsubashi University)
 - Six presentations: 9/29, 11/30

Summary: WS1

1. Stay-home behavior and consumption	
Tsutomu Watanabe (University of Tokyo)	Japan's Voluntary Lockdown https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0252468
Yoshiyuki Nakazono (ESRI)	Fear of COVID-19 Contagion: The Idiosyncratic Effects of an Aggregate Pandemic Shock https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3940719
2. Changes in employment rate	
Taiyo Fukai (ESRI)	Describing the impacts of COVID-19 on the labor market in Japan until June 2020 https://link.springer.com/article/10.1007/s42973-021-00081-z
Shintaro Yamaguchi (University of Tokyo)	COVID-19 and the Employment Gender Gap https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3852432
3. Telework and inequality	
Toshihiro Okubo (Keio University)	Telework in the spread of COVID-19 https://ies.keio.ac.jp/en/publications/14419/
Tomohiro Takami (JILPT)	Changes in time use due to working from home during COVID-19: the 'new normal' of everyday life https://www.jil.go.jp/english/jli/documents/2021/033-03.pdf
Kayoko Ishii (Keio University)	The rapid increase of teleworking during the COVID-19 pandemic and the emergence of new inequality https://www.pdrc.keio.ac.jp/en/publications/dp/7436/

1. Stay-home behavior and consumption

- **Watanabe's presentation "Japan's voluntary lockdown"**
 - Mechanism of behavioral change during COVID-19 pandemic
 - Daily prefecture-level stay-at-home measure from smartphone location data
 - DD strategy to identify the effect of government intervention on the people's behavior of leaving homes.
 - ✓ The effect of the state of emergency: 8.5% decline (similar magnitude in the U.S.)
 - ✓ The effect of the SOE < information (people's voluntary behavior)
 - Information effect can be interpreted as the effect of "fear"
(Large differences in the scale of infection > Similar economic loss)

- **Nakazono's presentation "Fear of COVID-19 Contagion: The Idiosyncratic Effects of an Aggregate Pandemic Shock"**
 - The effect of the fear of COVID-19 contagion on consumption
 - Monthly individual panel data of consumption expenditure
 - DD strategy to test whether the elderly decreased their expenditure due to the fear of COVID-19 compared to the younger generation
 - ✓ The elderly spend less than the younger generation by at least 5%
 - ✓ Those aged above 60 significantly decreased their spending even on food and drink products by 13%
 - ✓ The elderly forgo shopping in favor of the younger generation
 - These heterogeneous responses are likely to be due to the fear of the COVID-19 infection

2. Changes in employment rate

- **Fukai's presentation "Describing the impacts of COVID-19 on the labor market in Japan until June 2020"**
 - Heterogeneous effect of COVID-19 pandemic on employment
 - Monthly data of Labor Force Survey (from Jan. to Dec. 2020)
 - Causal forest algorithm to estimate the average treatment effect
 - ✓ 25–30% of employees were adversely affected in April 2020
 - ✓ 10% of employees experienced more than 10% decline in employment probability in April 2020
 - ✓ The most affected employees were those who were the unemployed and part-time workers in the hotel and restaurant industry and service occupations
 - ✓ Younger and female respondents are more affected than are older and male respondents

- **Yamaguchi's presentation "COVID-19 and the Employment Gender Gap"**
 - The effect of COVID-19 pandemic on female employment
 - Monthly data of Labor Force Survey (from Jan. to Dec. 2020)
 - DID-RDD strategy to identify the effect of pandemic on employment rate of married women
 - ✓ The employment rate of married women with children decreased by 4%, implying that increased childcare responsibilities caused a sharp decline in mothers' employment
 - ✓ Mothers who left or lost their jobs appear to have dropped out of the labor force even several months after school reopening
 - ✓ The employment rate of married men with children was not affected
 - This heterogeneous effect hindered progress in narrowing the employment gender gap

3. Telework and inequality

- **Okubo's presentation "Telework in the spread of COVID-19"**
 - The factors to promote teleworking during COVID-19 pandemic
 - Workers panel data (from March 2020 to April 2021, NIRA)
 - Construct occupational indices for teleworkability and the risk exposure to infection
 - Descriptive analysis and panel estimation
 - ✓ Educated, high ICTskilled, younger, and female workers who engage in less teamwork and less routine tasks tend to use telework
 - ✓ Working environments such as the richness of IT communication tools, digitalized offices, flexible-hour working systems, and companywide reform for teleworking can all promote telework use.

- **Takami's presentation "Changes in time use due to working from home during COVID-19: the 'new normal' of everyday life"**
 - The changes in time use due to teleworking during pandemic
 - Workers panel data (from May to December 2020, JILPT)
 - Descriptive analysis and ordered logit and IV estimation as of December 2020
 - ✓ Housework/childcare hours increased among those who had conducted teleworking (both men and women)
 - ✓ Such changes were only temporary for those who experienced teleworking but did not continue it
 - ✓ Teleworking increases life satisfaction and contributes to WLB, unless teleworking involves longer working hours

- **Ishii's presentation "The rapid increase of teleworking during the COVID-19 pandemic and the emergence of new inequality"**
 - Heterogeneous changes in work style (teleworking) and well-being, which are associated with income inequality
 - Workers panel data (from February 2020 to March 2021, Japan Household Panel Survey: JHPS)
 - Descriptive analysis and panel estimation
 - ✓ Increases in teleworking and decreases in work hours during COVID-19 pandemic are more evident for higher income groups
 - ✓ Relative increases in work engagement and employee engagement are more evident for higher income groups
 - Possibility of the increase in inequality in terms of resilience (such as telework) and well-being (such as engagement), which is linked with income inequality

Summary: WS2

Daisuke Miyakawa (Hitotsubashi Univ.)	Firm Dynamics during COVID-19 Pandemic
Ichiro Uesugi (Hitotsubashi Univ.)	Results of a Firm Survey after the Spread of COVID-19 in Japan https://www.rieti.go.jp/en/publications/summary/21060012.html
Takeshi Kurihara (Toyo Univ.) and Hideyuki Yamaji (ESRI)	Study on the impact of COVID19 infection on the accommodation industry
Ryo Kambayashi (Hitotsubashi Univ.)	Management, telework and technology

- **Miyakawa's presentation "Firm Dynamics during COVID-19 Pandemic"**

- Firm activity (sales, profit, exit) and corporate finance (Cash deposit holding ratio, borrowing ratio) during COVID-19 pandemic
- Firm data (before and after the pandemic, TSR database)
- Descriptive analysis
 - ✓ Decline in sales and profit, small changes in bankruptcy, and increase in business closing
 - ✓ Increase in inequality of cash holding ratio and borrowing ratio
 - ✓ Decrease in corr. (Δcash , Δsales) and recovery in corr. ($\Delta\text{borrowing}$, Δprofit)
- Precautionary liquidity holding and borrowing, which indicates a success of credit policy

- **Uesugi's presentation "Results of a Firm Survey after the Spread of COVID-19 in Japan"**
 - Types of COVID-19 shocks and responses by firms, and financial assistance measures of SMEs
 - Firm survey data (in November 2020, RIETI)
 - Descriptive analysis
 - ✓ Types of shocks: Decrease in sales to consumers > to firms
 - ✓ Responses: Increase in new loans and commitment line > furlough
 - ✓ Financial assistances: large interest-free and unsecured loan and low rejection rate of new loan (5.2%)
 - ✓ Larger financial assistances compared to the global financial crisis
 - Active assistance by the government may induce moral hazard of firms (only 20% of the withdrawal from overdraft)

- **Kurihara and Yamaji's presentation "Study on the impact of COVID19 infection on the accommodation industry"**
 - Effects of COVID-19 on accommodation industry
 - Microdata of government survey: Statistical survey on overnight travel
 - Descriptive and regression analysis
 - ✓ Polarization of occupation rates during the recovery period (resort hotels > business hotels)
 - ✓ Heterogeneous effects of the government's domestic tourism subsidy program: "Go To Travel"
 - ✓ The negative impact on hotels that relied on inbound travel from China was significant
 - ✓ Efforts to encourage people to stay longer may be successful

- **Kambayashi's presentation "Management, telework and technology"**
 - Association of telework with management and new technologies before and after the pandemic
 - Management and Organizational Practice Survey: MOPS (2017 and 2021 survey)
 - Regression analysis
 - ✓ Adoption of telework is associated with management practice (HR and non-HR)
 - ✓ Adoption of telework is associated with the adoption of new technologies (IoT, AI, 3D CAD/CAM)
 - ✓ Those associations were observed before and after the pandemic, indicating existing trend before the pandemic (?)

Summary: WS3

1. Structural problem of healthcare system and fiscal deficit	
Reo Takaku (Hitotsubashi Univ.)	Financial Meltdown in “Swing Hospitals” during the COVID-19 Outbreak https://www.medrxiv.org/content/10.1101/2021.06.06.21258442v1
Masako Ii (Hitotsubashi Univ.)	The paradox of the COVID-19 pandemic: the impact on patient demand in Japanese hospitals https://www.medrxiv.org/content/10.1101/2021.10.01.21264447v1
Ayako Honda (Hitotsubashi Univ.)	How healthcare financing responses to the COVID-19 pandemic vary in different health systems
Motohiro Sato (Hitotsubashi Univ.)	Political economy of fiscal deficit in the post Covid 19 era
2. Changes in people's behavior and lifestyle	
Takashi Oshio (Hitotsubashi Univ.)	The impact of the Covid-19 pandemic on people’s behavior and lifestyle, based on data from a nationwide survey on life satisfaction and quality of life
Ryota Nakamura (Hitotsubashi Univ.)	Alcohol purchasing during the Covid-19 pandemic

1. Structural problem of healthcare system and fiscal deficit

- **Takaku's presentation "Financial Meltdown in "Swing Hospitals" during the COVID-19 Outbreak"**
 - Effect of admitting COVID-19 patients on hospital profits
 - Hospital data (from February to May 2020, Tokyo Met. Government)
 - IV estimation to identify the effect
 - ✓ Monthly profits per bed decreased by approximately JPY 600,000 (USD 6,000) among swing hospitals, which is 15 times the average monthly profits in 2019
 - ✓ It would be costly for swing hospitals to treat COVID-19 patients because of their low suitability for admitting such patients
 - Specialization and differentiation are important: to admit COVID-19 patients to large hospitals and encourage others to continue their usual medical care, as was done in the UK and other countries

- **li's presentation "The paradox of the COVID-19 pandemic: the impact on patient demand in Japanese hospitals"**
 - Patient demand during the pandemic and structural problems of Japanese health care system (Was it at the brink of collapse?)
 - Hospital panel data (from Feb.2019 to June 2021)
 - ✓ A dramatic decline in both inpatient and outpatient volumes during the pandemic: mostly by patient's behavioral change (including decrease in consultations relating to chronic diseases)
 - ✓ Revenue of hospitals and clinics recovered from April 2021 due to additions of the receipt points and subsidy.
 - ✓ Systematic issues continued to exist in health care system.
 - Specialization and differentiation of medical functions among hospitals, strengthening governance, and introducing appropriate payment reform are necessary.

- **Honda's presentation "How healthcare financing responses to the COVID-19 pandemic vary in different health systems"**
 - Resilience of health care system during the COVID-19 pandemic
 - Overview of the country differences in the provider payment system and responses to the pandemic
 - ✓ Large heterogeneity in the healthcare system among countries (e.g. pay-for-fee system, fixed fee system)
 - ✓ Large heterogeneity in the responses against the pandemic among countries
 - For resilient health care system, flexibility to quickly change and adjust payment methods is important

- **Sato's presentation "Political economy of fiscal deficit in the post Covid 19 era"**
 - Structural problems of Japanese fiscal deficit under the super aging society
 - Various evidence and theoretical implication
 - ✓ Probability of fiscal collapse: 8.7% in 2020 and 99.9 in 2035
 - ✓ Necessary increase in consumption tax rates: 10%→18% in 2040
 - ✓ Fiscal deficit is explained by "War of attrition" (a model of the delay of stabilization)
 - ✓ Need 'triage' (contingency plan) in terms of government expenditure: expenditure reduction of 20 trillion yen is necessary
 - ✓ Common knowledge regarding the rule of fiscal reform is important

2. Changes in people's behavior and lifestyle

- **Oshio's presentation "The impact of the Covid-19 pandemic on people's behavior and lifestyle, based on data from a nationwide survey on life satisfaction and quality of life"**
 - People's behavioral changes during the pandemic such as medical examination, health, and lifestyle habit.
 - Individual panel data (Jan. 2019, Feb. 2020, and Mar. 2021, ESRI)
 - Descriptive analysis
 - ✓ Decrease in physical activity and increase in body weight
 - ✓ Decrease in the number of medical examination
 - ✓ Increase in subjective health after the SOE
 - ✓ Decrease in interactions and connections with friends but increase in the use of SNS

- **Nakamura's presentation "Alcohol purchasing during the Covid-19 pandemic"**
 - Changes in drinking behavior during the SOE
 - Daily data on the alcohol purchasing (amount of money and quantity of ethanol) of individual consumers
 - DD and event study analysis to identify the effect of SOE on alcohol purchasing behavior
 - ✓ Alcohol purchases and ethanol consumption increased significantly during the SOE
 - ✓ A possibility of the spread of so-called "home drinking" (although this analysis does not cover the consumption of alcohol in restaurants)

Possible research agenda for next year

1. Policy response under infectious disease crisis

- How to deal with excessive behavioral restraint (consumption and labor supply behavior) based on “fear”?
- Conversely, how do we increase the small intervention effects on stay-home when behavioral restraint is necessary?
- Have the various measures to support companies been too generous? Do they delay firm exit decision in the medium to long term or create moral hazard for the next shock?
- How should fiscal discipline be maintained?

2. Reconsideration of structural problems and megatrends

- Health care system: Can the vulnerability of Japan's health care system, exposed by the pandemic, be remedied and made more efficient?
- Tourism: Should the megatrend to promote inbound tourism be revisited?
- Promotion of women's advancement: how can we overcome the situation where women are forced to take on childcare and housework in emergencies?
- Work style reform: Has the megatrend of promoting flexible work styles really accelerated due to COVID-19 pandemic? Will new forms of inequality, such as the resilience inequality in work styles, continue to exist?