DEPARTMENT OF ECONOMICS
ANNUAL NEWSLETTER
2020

NAVIGATING THE STORM OF COVID-19

Message from The Department Head

> **I** I hope that all students, alumni, faculty, staff, and friends of HKUST's Department of Economics will enjoy reading this newsletter to learn more about what has been happening recently in the Department. **II**

I began my appointment as Head of the Department just 2 weeks before the WHO declared the new coronavirus epidemic to be a public health emergency of international concern. As you know, the pandemic has been very disruptive to universities worldwide, and our faculty, staff, and students have had to make many adjustments to our work and study lives. Staying off campus has been especially hard on our 2020 graduates who missed the opportunity to interact with their classmates and teachers in their final weeks. HKUST moved all classes online during the spring and summer sessions, and also is starting the fall semester online. The faculty had several meetings to discuss how to make online teaching effective and make online exams secure, and thankfully the feedback from students

about online teaching has generally been positive. Faculty and staff have followed the work-at-home orders issued by the Hong Kong government, and nearly all activities – even faculty recruitment visits and seminars – have moved online.

Because responding to COVID-19 has influenced everything we do in the past year, we decided to make it the theme of this year's newsletter. One of our faculty members and one of our MSc students reflect upon how the pandemic affected teaching and exchange activities. We also report on research of our faculty on topics related to COVID-19, which highlights the leading role the Department is playing in deepening understanding of the economic and environmental impacts of the pandemic.

Despite all of these challenges, the life of the Department moves on. We were happy to welcome 2 new faculty this year and 5 new faculty last year who are conducting important research on a diverse range of topics. Seven of our faculty obtained grants in 2020 from the Hong Kong government's Research Grants Council. Prof. Siu Fai Leung was appointed to the Hong Kong government's Commission on Poverty. Our recent PhD graduates have taken academic appointments in Hong Kong and top mainland universities, and five of our undergraduate students won Academic Achievement Medals.

As we start a new academic year, I wish the Department a successful but hopefully less eventful 2021-22!

Professor Albert Park
Head of Department

Faculty Comings and Goings

The department is very happy to welcome two new faculty in 2020 – Junlong Feng and Hyuncheol Bryant Kim.

Five new faculty (pictured below) also arrived in 2019 and are finishing their first year with the Department.

Junlong FENG
Ph.D. Columbia University

Fields: Econometrics, Applied Microeconomics, Causal Inference, Machine Learning

Hyuncheol Bryant KIM
Ph.D. Columbia University

Previous Position: Assistant Professor, Cornell University

Fields: Development Economics, Health Economics, Labor Economics, Education Economics, Policy Evaluation

Pak Hung AU
Ph.D. Northwestern University

Previous Position: Assistant Professor, Nanyang Technological University

Field: Applied Economic Theory

Teaching in the Time of COVID-19

One day you're going off on Chinese New Year holiday, and next thing you're in a mask, sanitising everything in sight on your return trip. All courses move online. At first, we're told our courses should seamlessly switch back to face-to-face in a few weeks. Oka...y, let me figure that out.

Rethink your assessments. Your ways to engage with students. Your deadlines. Your team assignments.

A few weeks in: exchange-out students are returning, they need course places! You are all welcome, don't worry you won't be penalised. Watch all the video recordings and come to my office hours anytime you're stuck, okay? Post-its all over my desk so I can remember how to re-weight each student's assessments.

My students were a joy. The smiley upbeat ones, the ones who sent me photos of themselves in interesting places doing interesting things, the ones who turned on their video cameras each time I asked nicely, the ones that always had ideas, questions and comments.

Beware, though. Zoom has a sneaky way of making you think your students love you more than they do. Participants who engage actively rise to the top of your screen, like bubbles rise in water. The silent ones with their cameras off quietly fall. Hello, are you still there? Are you listening? Do you even care?

And then the evaluations came in. Well, I had one hater. After I read the comments all the positive feedback seemed to pale in comparison. The next day I anxiously scanned the faces of all the students who showed up to my office hours.[1] Do you hate me?

But no, if they hated me, they wouldn't be smiling this much, would they?

In summary. This was a LOT of work. I learned a lot about Zoom. I would say it mostly paid off – a) My students learned quite a lot, b) For the most part they seemed to enjoy it and c) I enjoyed teaching it. My teaching evaluation scores were even slightly better than the last time. And so I declare this experiment a success.

But the moral of the story? I don't know. I'm too tired to think about that right now. Can we please just rush the vaccine so that we can all have a life again? Thanking you in anticipation, dear God. Yours sincerely.

Sujata Visaria
Associate Professor

Find out more about Sujata Visaria
http://www.bm.ust.hk/econ/faculty-and-staff/directory/svisaria

[1] Why was I holding office hours after the semester had ended? That has something to do with a requirement called ECON 4670. A story for another day.

Some faculty also departed in the past year – Yuk-fai Fong (to Hong Kong University), Xun Lu (to Chinese University of Hong Kong), and Pengfei Wang (to Peking University in Shenzhen). We wish them well in their new positions.

Robin Kaiji GONG
Ph.D. Stanford University

Fields: Labor Economics, International Trade

Byoungchan LEE
Ph.D. University of California

Field: Macroeconomics

Xuan LI
Ph.D. Columbia University

Fields: Labor Economics, Organizational Economics, Behavioral Economics, Economics of Education, Development Economics.
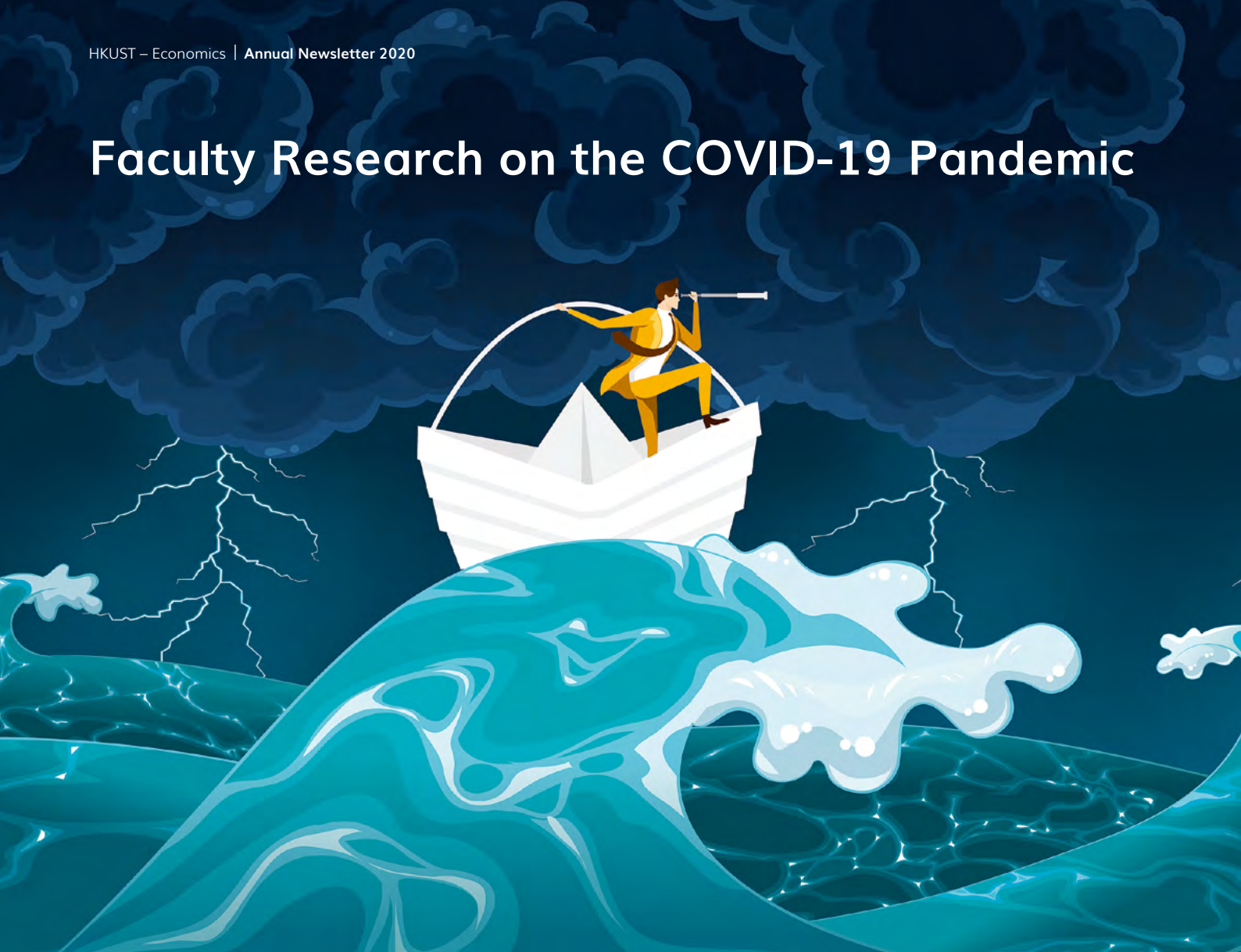
Qinggong WU
Ph.D. University of Michigan

Previous Position: Assistant Professor, Chinese University of Hong Kong

Field: Microeconomic Theory

Faculty Research on the COVID-19 Pandemic

City Lockdowns and Air Pollution: Evidence from China

Guojun He (with Yuhang Pan and Takanao Tanaka)

The study evaluates the Air Quality Index (AQI) and the concentration of PM2.5 in cities in China during COVID-19 lockdowns, using difference-in-differences models to compare cities with and without lockdown policies. It finds that lockdowns reduced AQI and PM2.5 by 25%, which may have averted 24,000 to 36,000 premature deaths.

https://doi.org/10.1038/s41893-020-0581-y

Reality Shock for External-funding Dependent Emerging Economies

Alicia GARCIA-HERRERO (with Elina RIBAKOVA)

This research examines how the COVID-19 crisis has revealed a vulnerability not fully appreciated before the pandemic – the excessive dependence of many emerging market countries on external finance. Reduced economic activities and the sudden outflow of international capital has made it challenging for such countries to repay outstanding dollar-denominated debt. Possible responses such as stimulative monetary policy, imposing capital controls, drawing upon foreign reserves, and relying on regional insurance arrangements are unlikely to be sufficient. The IMF is the most obvious lender of last resort, but for their assistance to be effective requires that substantially more resources are mobilized from donor countries and that funds can be disbursed quickly and without conditionality.

http://bmvh29.ust.hk/econ/files/Research/iemswp2020-73.pdf

Small Business under the COVID-19 Crisis: Expected Short- and Medium-Run Effects of Anti-Contagion and Economic Policies

Kohei Kawaguchi (with Naomi Kodama and Mari Tanaka)

This study evaluates the short-run trade-off between epidemiological and economic goals as well as the potential medium-run benefits of anti-contagion and economic policies based on a survey of Japanese small business managers. It finds that the emergency declaration due to COVID-19 lowered firm sales by 5% in the short run, and that unconditional subsidies targeting adversely affected firms helped them survive. Finally, expected medium-term firm performance is affected to a large extent by infection containment and the possibility of hosting the Olympics.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3634544

Riding Out the COVID-19 Storm: How Government Policies Affect SMEs in China

Robin Kaiji Gong (with Joy Chen, Zijun Cheng and Jinlin Li)

The impact of government policy interventions on SMEs during the COVID-19 pandemic is examined based on a nationally representative survey of SMEs in China. It is found that lock-down policies limit SMEs' access to the market and suppress the recovery of their activities. While social security payment deferrals and rent reductions significantly increase SMEs' probability of re-opening, policies that provide external financing opportunities do not appear to be effective in alleviating SMEs' distress. These findings shed new light on the policy debates about how best to support SMEs during the COVID-19 pandemic.

http://bmvh29.ust.hk/econ/files/Research/covid19_china.pdf

Herd Immunity and a Vaccination Game: An Experimental Study

Wooyoung Lim (with Pengfei Zhang)

This study investigates people's vaccination choices in the context of a public goods game, trying to answer the question "Would affected communities voluntarily obtain herd immunity if a cure for COVID-19 was available?". A "vaccination game" is defined in which costly commitments (vaccination) are required of a fraction of the population to reach the critical level needed for herd immunity, without which defectors are punished by the natural contagion of epidemics. The authors find that, from a social planner's perspective, voluntary vaccination can approximate elimination of any disease if the relative benefit of vaccination is large enough, i.e., when the individual benefit from vaccination is sufficiently larger than the individual's utility cost of vaccination.

A mandatory vaccination program, however, is not necessary to achieve the social optimum.

This paper was shared with The World Health Organization due to its potential impact on the development of new policies to deal with COVID-19.

Read more about these papers on http://www.bm.ust.hk/econ/research/covid_research
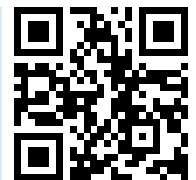
My Exchange Experience at Mannheim University, Germany

45 days of freedom

Things went quite well when I arrived in Germany in Feb 2020. I attended the welcome week and joined a campus tour. At first, I was busy selecting courses since there were a large number of courses available (at least 20 courses). It is interesting that I could change my course schedule at any point in a term, and even decide whether to attend the exam just several days before the exam date. Meanwhile, I took part in many activities organized by the international office. There were many sightseeing tours to places including museums, the European Central Bank, and even famous factories. So, I am sure you will enjoy being here regardless of whether you want to take interesting courses or just want to have fun.

60 days of COVID-19

The situation became uncertain because the government and school did not know how the COVID-19 pandemic would develop. At first, classes continued after the first confirmed case. Then, classes switched to online and we were told that face-to-face classes would be available after Easter. However, after Easter, the classes continued online and no information about the exam was available. In early May, the school finally announced that all classes and exams would be online. I finally could make plans to return home. During the whole process, I could only stay in the dorm and read news (mostly bad news). The worst thing was the feeling that everything is out of control!

To my relief, the German government did quite well in controlling the COVID-19 pandemic compared to other European countries. Citizens were required to wear face masks on public transportation and in public places. In May, restrictions were eased, and more people went out on the streets. I could finally have a chance to visit nearby museums, parks, and cathedrals.

I really appreciated HKUST for the abundant resources provided during the days when classes were suspended in Germany. I joined many HKUST activities including short courses offered by the Language Center, mock online job interviews, spoken English consultation, and Fintech seminars.

Conclusion

Cancelled activities and changes in plans because of the pandemic made this exchange experience worse than it should have been. However, this was my first time learning and living in a multi-cultural environment, which broadened my horizons. I think it was worth joining the exchange program after all.

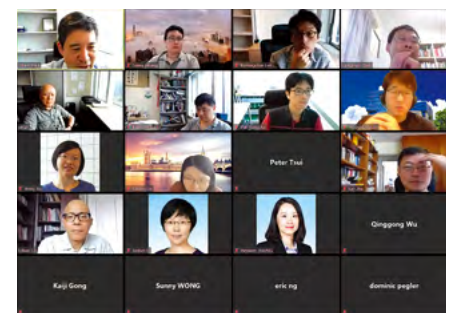**Pengbo ZOU**
MSc (Econ) Class of 2020

Preventive Measures Against COVID-19

Anti-microbial coating is applied to faculty offices and the department office.

Face masks are distributed to all department staff.

Face-to-face meetings are replaced by online meetings, like this faculty meeting, to follow social distancing guidelines.

When Will Workers Follow an Algorithm?: A Field Experiment with a Retail Business

Algorithms have been assisting human decision-making processes in various business activities. In the retail industry, partial automation helps managers give workers algorithmic advice on decisions regarding pricing, product assortment, and inventory control.

However, there is no guarantee that workers follow the algorithmic advice. In most cases workers would adopt a new technology only if their incentives are aligned with the firm's. It is therefore important for managers to understand when and under what conditions workers are more or less willing to follow the algorithmic advice, to maximize the benefit from the adoption of an algorithm.

Kohei Kawaguchi conducted a field experiment with a beverage vending machine business operating in Japan to test if workers would be more willing to follow algorithmic advice if they could be involved with the design of the algorithm.

In the experiment, **Kohei Kawaguchi** surveyed the workers' forecast for the demand of new products and used the information to tune the initial parameter of an algorithm developed to optimize the dynamic product assortment for the vending machines — an algorithm that sequentially selects product lines that maximize the revenue from the vending machines when the demand for new products is uncertain.

Workers were randomly divided into 3 groups: the first group was given no algorithmic advice, the second group was given plain algorithmic advice that did not use the worker's forecast, and the third group was given algorithmic advice that used the worker's forecast and informed them that their forecasts were used. Monthly algorithmic advice was provided, and workers' product selection behaviours were tracked for half a year.

The result was clear: providing plain algorithmic advice did not influence workers' product selection behaviours, whereas incorporating the workers' opinions substantially increased the workers' conformity to the algorithmic advice. This was so even though the output of the algorithm was almost the same after incorporating workers' opinions.

This effect of incorporating workers' opinions was more pronounced among workers who performed well in the previous season. Moreover, the response of workers was substantially heterogeneous depending on the worker's characteristics and the context. The results highlight that there is a distance between the nominal and actual performance of an algorithm once it is practically applied. The conditions highlighted in this paper could help managers design the way workers' input and algorithms are integrated in their business.

Find out more about Kohei Kawaguchi
http://www.bm.ust.hk/econ/faculty-and-staff/directory/kkawaguchi

Financial Fraud And Investor Awareness

Financial market liberalization allows individuals to make their own wealth management choices among various financial products in the market. However, many investors are unaware of the high risk of high-return financial products, especially as many products have become increasingly complex.

Yangguang Huang (with Zhengqing Gui and Xiaojian Zhao) designed an experiment and survey to elicit the reason that investors purchase fraudulent financial products: Is it because of risk-seeking preferences or the unawareness of the high risk associated with financial fraud? They conducted an eye-opening education program about the possibility of financial fraud for products with unrealistically high returns and measured investors' risk preferences using the multiple-price-list method.

Although the education program was simple, respondents' hypothetical investment decisions indicate that it significantly reduced the likelihood that investors would purchase fraudulent products. In fact, the education program was the most effective for risk-averse investors. These results suggest that some investors were unaware of the underlying risks behind the high returns before receiving the education program.

If the proportion of naive investors drops below a certain threshold, firms will find that offering fraudulent products targeting a tiny proportion of naïve investors is less profitable than behaving honestly. It follows that fraudulent products disappear even if doing so is costless.

After studying the case with a monopoly firm, Huang et al. explore an important question: Does competition mitigate the problem? Surprisingly, they find that, under competition, firms have a stronger incentive to commit financial fraud than in the monopoly case because competition lowers the profit from normal products, making offering fraudulent products more desirable.

Next, they study firms' private incentive to provide education to investors about financial fraud. Suppose that each firm can costlessly disclose the possibility of financial fraud, which reduces the proportion of naive investors. Huang et al. find an interesting trade-off: The honest firm has an incentive to increase the proportion of sophisticated investors for a larger market share. However, it does NOT want to increase this proportion too much because if exploiting naive investors becomes unprofitable, the other firm will deviate from offering a fraudulent product and start competing for sophisticated investors.

All in all, an eye-opening education program not only can help to improve boundedly rational investors' awareness of financial fraud but also attenuates the firms' incentive to commit financial fraud. In the presence of naïve investors, promoting competition can worsen the problem of financial fraud as firms may switch to offering fraudulent products targeting naïve investors when normal financial products become less profitable under intense competition. Meanwhile, policymakers should take firms' strategic reaction into account as policy interventions such as an interest rate ceiling or a public education program may discourage honest firms from unshrouding information that is beneficial to investors.

Find out more about Yangguang (Sunny) HUANG
http://www.bm.ust.hk/econ/faculty-and-staff/directory/huangyg
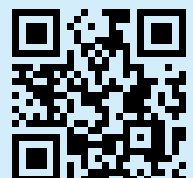
Siu Fai Leung appointed to the Commission on Poverty

This year, Professor Siu Fai Leung was appointed to serve a one-and-a-half years term on the HKSAR Commission on Poverty. Together with 19 non-official members and other ex-officio members, Prof. Siu Fai Leung will keep track of the poverty situation, review existing policies, and explore new measures to achieve the objective of preventing and alleviating poverty in Hong Kong.

General Research Fund 2020-2021

Principal Investigator	Project Title
Prof AU, Pak Hung	Correlated Persuasion
Prof CHEN, Songnian	Semiparametric Estimation of the Accelerated Failure Time Models with Time-Varying Regressors
Prof HUANG, Yangguang	Structural Analysis of Competing Auctions with an Application to Taobao Judicial Auction Platform
Prof LAI, Edwin Lun-Cheung	The Determinants of Inter-country RMB Payments Flows and the Effects of the Belt and Road Initiative on RMB Internationalization
Prof LIN, Yatang	Sea Level Rise and Urban Development
Prof WANG, Peng	Robust Test of Asset Pricing Models with Latent or Spurious Common Factors
Prof XU, Juanyi	Heterogenous Agent and International Distributional Effect of Shocks

Ph.D. Program Placement

Class of 2020

LEI, Haoran – Hunan University

ZHOU, Fei – Hong Kong Baptist University

Class of 2019

CHEN, Sihao – Fudan University

CHEN, Xiu – Southern University of Science and Technology

GUI, Zhengqing – Wuhan University

HU, Xiaoxiao – Wuhan University

WANG, Bo – Zhejiang Gongshang University

WANG, Shufei – Wuhan University

XU, Sichuang – Chinese University of Hong Kong (Shenzhen)

ZHANG, Zilei – CITIC International

ZOU, Xianqiang – Renmin University

2019 Academic Achievement Medal

CHEN, Weili – BSc in Mathematics and Economics

KWOK, Ka Ying – BBA in Global Business, and in Economics

OUYANG, Jing – BSc in Mathematics and Economics

TSANG, Sin Kiu – BSc in Economics and Finance

XU, Feiting – BSc in Mathematics and Economics, and in Computer Science

ZHAI, Qinwen – BSc in Mathematics and Economics