

PHBS
Peking University HSBC Business School
University Town, Nanshan District
Shenzhen, 518055 China

Fourth Issue 2021

PHBS MAGAZINE

Peking University
HSBC Business School

LEARN GLOBALLY WITH CHINA'S INSIGHTS FROM OUR CROSS-BORDER STUDY PROGRAM

The PHBS UK Campus:

- Offering master's programs in management and finance
- Two-year cross-border programs
- An opportunity to develop networks between the UK and China, particularly, with one of most innovative cities in the world - Shenzhen

No Limit!



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Peking University
HSBC Business School

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- P41 Innovation is the Key Driver for Shenzhen's Reform and Development
- P45 When Bitcoin Meets Digital Renminbi (DCEP)



We should uphold the spirit of 'Innovate! No Limit!'
to build our own strength and cope
with the new challenges of a complex world,
as continuous innovation holds the key to greater achievement."

—Dean's remarks at PHBS 2021 New Year Party



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PHBS MAGAZINE

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NEWS BRIEFINGS

1 New Semester Starts after the Spring Festival

PHBS welcomed back its students from all over the country at the beginning of March to complete registration. During the winter holiday, more than 100 students remained on campus, including many international students and students from Hong Kong, Macao and Taiwan. Vice Dean Ren Ting and administrative staff visited the student dormitories, and expressed the school's concern to on-campus students, providing them some New Year snacks and fruits.



A student shows his green code to staff

To safeguard everyone on campus, PHBS has strictly implemented the provisions of epidemic prevention and control. Before being allowed on campus, students queued up for the temperature check and luggage sterilization. Additionally, they were asked to scan a QR code at the checkpoint with a mini-app embedded in WeChat producing a one-time color code pass. This semester, the school is offering 112 MA courses, 32 MBA courses, 15 EMBA courses and 11 doctoral courses, with the UK campus also offering 14 courses. All the on-campus teaching and courses have returned to normal.

2 Professor Young Joon Park Receives PKU Friendship Award



PHBS Assistant Dean Young Joon Park

The “Peking University Friendship Award” was conferred on six professors including PHBS Professor Young Joon Park. Park joined PHBS in 2009 right after earning his Ph.D. in economics from the University of California, San Diego. As PHBS assistant dean and teaching associate professor of economics, he has played multiple roles in both academics and administration. In the past 11 years, his dedication and commitment to research as well as teaching have been highly praised by faculty and students, winning him several awards. He is the first faculty member from the PKU Shenzhen campus to receive this honor. This award was established in 2018 to recognize high-level international experts who have worked at PKU for a long time and made outstanding contributions to the university. To date, only 12 faculty members have won the awards.



3 PHBS Professor Wang Pengfei Ranks High in Recent RePEc/IDEAS Economist Rankings



PHBS Associate Dean Wang Pengfei

Based on the publication and influence of academic papers in the past ten years, the world-renowned economic research database RePEc (Research Papers in Economics)/IDEAS released the rankings of more than 60,000 of the world's economists in February 2021. RePEc/IDEAS is the largest bibliographic database dedicated to economics, indexing over 3,400,000 items of research. According to the recent rankings, Professor Wang Pengfei, PHBS associate dean, ranks 216th among global economists, 8th among Chinese economists, 5th among economists in Chinese mainland, and the highest among Peking University scholars in this field.

Wang earned his Ph.D. in economics from Cornell University and then joined the Hong Kong University of Science and Technology. His research focuses on macroeconomics, business cycles, financial economics and monetary economics. He has published in *Econometrica*, *American Economic Review*, *Journal of Finance*, *Journal of Economic Theory*, *Journal of Monetary Economics*, *Journal of Financial Economics*, and *American Economic Journal: Macroeconomics*.

NEWS BRIEFINGS



4 People's Daily Interviews PHBS Professor on China's Poverty Alleviation

The year 2020 marked a milestone in China's history of poverty alleviation. How has China eliminated extreme poverty and how do foreign experts evaluate China's poverty alleviation efforts? The People's Daily interviewed several scholars from high-level institutes and key universities, including PHBS Assistant Professor Seungjoon Oh. He held that combined packages of poverty alleviation programs such as resettlement and relocation migration had been very effective. In addition, he pointed out that education is the prerequisite of successful human capital development and long-term poverty alleviation and that the nation has been improving rural education by providing both hardware support and qualified teachers. He concluded, "It's beyond just numbers; the meaningful experience of China can serve as the benchmark for other developing countries."

5 PHBS Financial Media Students Win at China Data Content Competition

To communicate information clearly and effectively, data visualization uses statistical graphics, plots, information graphics, and other tools. Themed "Data Visualization in Convergence: Scientific Storytelling and Open Data," the China Data Content Competition and Conference was held in Hangzhou last December to further promote visualization technology, and stimulate data opening and its public value. Among 615 nationwide submissions, a total of 7 works by PHBS financial



Financial media students receive awards. From left to right, Zhu Xiaomeng, Zhao Luming, Professor Ye Weiming, Zhao Bowen and Wu Xingying

media students were shortlisted. The work "A historical Slice of Cancer Villages" by Zhao Luming, Zhu Xiaomeng, and Zhao Bowen, won the Best Data Content Award, and "Period Poverty," the work of Zhang Xiang, Zhang Keyuan, and Wu Xingying won the Bronze Award for Best Data Video. This is the second time that PHBS financial media students have stood out in data journalism. In the 2019 China DataViz Competition, themed "Macro and Micro World in Data," the work "Way Back into Shanghai" produced by Lan Xingyu, Liang Yinyan and Ye Xiaoqi won the Best Data News Award.

6 PHBS Holds the First Corporate Cooperation Forum



PHBS Dean Hai gives remarks at the forum

PHBS held its first corporate cooperation forum on April 9, inviting nearly 100 practitioners from various enterprises in the fields of finance, media and Internet, including China Central Depository & Clearing Co., Ltd, E Fund Management Co., Ltd, China Renaissance, Bank of Communications, HSBC Bank (China) Company Limited, Huawei Technologies Co., Ltd, PingAn Bank Co., Ltd and Shenzhen Economic Daily. The forum featured two round table discussions focusing on employment in the post-COVID-19 era and the new school-enterprise cooperation, giving students a better understanding of the job market and career development paths. PHBS Dean Hai Wen hoped that the school could continuously enhance cooperation with businesses in terms of talent cultivation, employee development, research, and social responsibility.

Accreditation Supports the PHBS Vision for Worldwide Recognition

By Annie Jin

The Master of Economics program at Peking University HSBC Business School (PHBS) was recently reaccredited by the European Foundation for Management Development (EFMD) for the five-year period.

Founded in 1971, the mission of EFMD is to advance the development of management and business programs worldwide. Its EFMD program accreditation is recognized as the leading international system of quality assessment, improvement and accreditation of business programs. An accredited institution must enter a process of reaccreditation every three or five years to maintain its accredited status.

Located in Shenzhen, China's first Special Economic Zone, PHBS is poised to leverage its strength in the Pearl River Delta, making it an ideal setting for studying advanced topics in finance, economics, and management, where coursework for its master's programs is conducted in English. PHBS faculty members have published papers in top-tier international academic journals, and the school opened its UK Campus in 2018. Further, PHBS has estab-

lished several high-level think tanks, for example, the Sargent Institute of Quantitative Economics and Finance headed by Nobel Laureate in Economics Thomas J. Sargent.

Highly commending the school's teaching quality, academic development, and internationalization, EFMD accepted PHBS as an official member in December 2009 and conferred EPAS accreditation on its Master of Economics program in September 2011, making PHBS the first EPAS-accredited higher education institution in Chinese mainland.

Last September, the EFMD Peer Review Team conducted an online review during which they met via Zoom with the school's deans, management team, economics program faculty members, staff members, students, alumni, and company representatives. The re-

accreditation review covered PHBS's teaching quality, academic assessment, student development, internationalization, graduate placement, and IT resources, among other topics.

University accreditation is important, serving as a quality indicator for prospective students and employers. Holding multiple accreditations, then, speaks volumes about a school's standards and practices. In addition to EFMD, PHBS holds AACSB and AMBA accreditations, granted by the two most influential business school accreditation organizations, the Association to Advance Collegiate Schools of Business (AACSB) and the Association of MBAs (AMBA). AMBA accredits the MBA portfolio within a business school, while AACSB grants university-wide accreditation, the hallmark of excellence in business education worldwide.

"The Master of Economics program at PHBS was recently reaccredited by the European Foundation for Management Development (EFMD)."



PHBS Achieves WELL Health-Safety Rating

By Annie Jin

"PHBS building becomes the first academic institution in China to achieve the WELL Health-Safety Rating."



Peking University HSBC Business School's (PHBS) building recently passed the independent third-party verification of the International WELL Building Research Institute (IWBI), becoming the first academic institution in China to achieve the WELL Health-Safety Rating (WELL HSR).

The WELL Health-Safety Rating covers five core areas, including cleaning and sanitization procedures, emergency preparedness programs, health service resources, air and water quality management, and stakeholder engagement and communication.

To meet the high standards of the WELL HSR, the school building management team adopted strategies concerned with operational policies and maintenance protocols, and implemented relevant measures to support the health and well-being of our staff, visitors and other stakeholders.

During the COVID-19 pandemic, the team has made great efforts, including measures such as the provision of air purifiers, and instant hand sanitizers, to guarantee the safety of faculty, staff, and students.

After obtaining the WELL

HSR, it also adopted new health and safety protection measures for the building, including upgrading sanitation as well as cleaning facilities and regularly checking indoor air quality.

With a construction area of nearly 60,000 square meters, the PHBS building has multiple offices, many classrooms, a grand lecture hall, a financial lab and a media lab, and is able to accommodate more than three thousand faculty and students at the same time. It was designed to be environmentally friendly by using green technologies such as low-radiation glass walls, variable frequency air conditioners, and intelligent lighting.

Before achieving WELL Health-Safety Rating, the building was given the "outstanding designs" award by *American School & University Magazine* (AS&U) in its August issue, 2017. This magazine focuses on reports and research on the design, construction, and maintenance of education facilities in schools and universities. PHBS also obtained the National Quality Engineering Award and the LEED EBOM V3 platinum certification in 2017. LEED (Leadership in Energy and Environmental Design) is an internationally renowned green building certification system. Commented PHBS Dean Hai, "PHBS should not only shoulder the responsibility to impart knowledge and educate, but also to play a leading role in key societal issues such as environmental protection."



PHBS Holds 20th China Economics Annual Conference

By Annie Jin

The 20th China Economics Annual Conference was held at Peking University HSBC Business School (PHBS) from December 5 to 6, 2020. Initiated in 2001, the event aims to strengthen the exchanges and cooperation among economics departments of Chinese universities and research institutions at home and abroad, and build an open platform for scholars and students engaged in economics teaching and research. The conference featured 67 academic sessions, a luncheon for women economists, university recruitment fair, book exhibition, and academic journal panel. This year 112 papers were accepted out of more than 300 high-quality submissions.

CEA20

The 20th China Economics Annual Conference

More than 600 participants from key universities nationwide and high-level institutions, including Peking University and Fudan University, converged to discuss economic hotspots and exchange research insights, providing theoretical support for China's economic reform and development. Economics scholars from top universities and institutions delivered keynote speeches in the opening ceremony.



Hai Wen
PHBS Dean and Vice
Chairman of Peking
University Council

Dean Hai spoke about the ambitions and aspirations of Chinese economists which have served as the impetus for the successful development of this annual conference over the past 20 years. He maintained that facing more challenges ahead, scholars should strive to make contributions and shoulder the responsibilities to deepen reform and opening up through academic research.



Zhou Qiren
Boya Chair Professor of Peking
University and Professor
of Economics at National
School of Development
at Peking University

Zhou elaborated on the development characteristics of China's economy, pointing out three challenges for future progress: relations between rich and poor countries under an open economy, China's huge and largely unbalanced economy, and the difficulty of maintaining sustainable development. Zhou urged economists to cope with these challenges and contribute to China's economic "take off" through academic research.



Lv Wei
President, Dongbei
University of Finance
& Economics

Lv focused on China's fiscal system to probe into the development of China's economic reforms, noting that China's central-local fiscal system has played an integral role. He also shared insights on the fiscal relationship between central and local governments, including policy mandates, resource allocation, budgeting process, and market incentives.



Fan Shenggen
Dean, Academy of Global
Food Economics and Policy
and Chair Professor at
China Agricultural University

Fan urged economists to pay more attention to the fields related to agriculture and rural regions, as these play a vital role in economic development. He pointed out that the current agriculture and food system faces multiple challenges and future transformation must be undertaken to enhance economic resilience. Fan noted that stable agricultural production can reflect not only the strength of China's economy, but also improve worldwide food security.



Zhang Jun

Dean, School of Economics
at Fudan University and
Founding Director, China
Center for Economic
Studies (CCES)

Zhang noted that China's opening-up has increased the world's trade and economic dependence on China, and narrowed technological gaps between China and technologically advanced economies. He said that if China wishes to maintain good relations with economies worldwide and gain respect, we should open up the domestic market instead of just relying on internal economic development. Zhang stressed the need to formulate long-term policies for technological development and cooperation among countries, as it takes time for self-reliance and technology breakthroughs to become the mainstream.

The China Economics Annual Conference marked its 20th anniversary, and Dean Hai, the event's founding chairman, ended his 20-year term. Yao Yang, dean, National School of Development at Peking University, assumed the role of chairman. Dean Hai thanked his counterparts for their support and announced that the annual conference would initiate "the Hai Wen Lecture," a lecture series to show his deep connection with the conference.

During the closing ceremony, the first "Hai Wen Lecture" was presented online by Thomas Sargent focusing on "Debts and Taxes: 1775-2020." Sargent introduced the

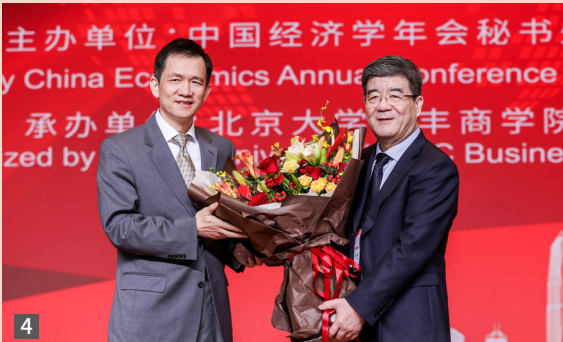


Thomas Sargent, 2011 Nobel Laureate in Economics, Professor of Economics, New York University, and Director of the Sargent Institute of Quantitative Economics and Finance of Peking University HSBC Business School.

data of the face prices, market prices and quantities of US government bills and bonds from 1775 to the present that he and his collaborators researched, as well as the historical data of the federal government expenditures and taxes. Later, Sargent detailed his own series of research results on debt and taxation during different stages of America's history. He combined these with government budget constraints and modern asset pricing theories to estimate the trajectory of the US government debt ceiling over time and eventually constructed the diagram of the proportion of government debt in GDP against government debt yields.

In the Q&A session, Sargent shared thoughts on the long-term impact of the COVID-19 pandemic on government debt and the impact of unconventional monetary policy on government decision-making.

- 1. Academic journal panel
- 2. University recruitment fair
- 3. Book exhibition
- 4. Yao Yang and Hai Wen
(from left to right)



PHBS Holds PKU Shenzhen Forum 2021

By Yang Mei

Editor's note

Peking University HSBC Business School (PHBS) held the Peking University Shenzhen Forum 2021 on March 27, with the theme of the "14th Five-Year Plan" and new opportunities for the development of the Guangdong-Hong Kong-Macao Greater Bay Area. PHBS Dean Hai Wen pointed out that the PKU Shenzhen Forum will be held every year, inviting renowned scholars and policymakers to provide insights into hotspot issues and cutting-edge fields.



Xie Fuzhan

Bi Jingquan

Long Yongtu

Zhang Xiaoqiang

Fan Gang

Huang YiPing

Officials, scholars and economists attending the PKU Shenzhen Forum 2021 provided their wisdom and insights on the new development opportunities for the Guangdong-Hong Kong-Macao Greater Bay Area (GBA). Chen Rugui, then Shenzhen mayor, and Wang Bo, vice president of Peking University (PKU), delivered opening speeches.

The forum, themed "The 14th Five-Year Plan and New Development Opportunities for the Guangdong-Hong Kong-Macao Greater Bay Area," was hosted by PHBS and attended by 1,300 PHBS faculty members, students, and alumni, as well as scholars and researchers, with many joining through livestreaming.

Speaking at the forum, Xie Fuzhan, president of the Chinese Academy of Social Sciences, stressed the need to build GBA into an international hub for scientific and technological innovation by giving full play to the high degree of marketization and integral industrial chains in the Pearl River Delta Region as well as Hong Kong's advantage in basic research.

Xie also suggested that GBA should aim to turn itself into an advanced manufacturing base with greater global competitiveness, a higher-level modern international financial hub, and a world-class city cluster based on a multi-center network.

Bi Jingquan, executive vice chairman of the China Center for International Economic

Exchanges (CCIEE) and former commissioner of the China Food and Drug Administration, highlighted the importance of IPR protection and the creation of a high-standard environment for innovation.

Long Yongtu, chairman of the Advisory Board of the Center for China and Globalization, a Chinese think tank, and China's former minister of foreign trade and economic cooperation, pointed out that GBA plays a unique role in China's regional development plan and its success will significantly push forward the country's overall economic growth and opening up.

As the secretary general of the Boao Forum for Asia from 2003 to 2010, which is held annually in Boao, Hainan Province, Long envisioned integrating Hainan into GBA develop-

ment for a win-win outcome.

Zhang Xiaoqiang, executive vice chairman of CCIEE, called for the efficient and free flow of talents and data between Guangdong, Hong Kong and Macao as well as the connection and formulation of international economic and trade rules.

Fan Gang, professor of PHBS and director of the National Institute of Economic Research, talked about China's carbon peak as well as carbon neutrality and its responses in this regard. Huang Yiping, professor and vice dean of economics at the National School of Development, spoke about China's financial reform during the "14th Five-Year Plan" period and future financial cooperation in the Greater Bay Area.

From Shenzhen Daily



Chen Rugui

Wang Bo

Hai Wen





SIQEF Launches Program in Computational Economics and Finance

By Annie Jin

“Advancements in computational power over the last 30 years have led to significant steps forward in how we do economics and finance, creating an entirely new class of computational economists.”

As technology is shaping the business landscape, several top universities have pioneered training in computational economics and finance at the graduate level that combines mathematical and computational rigor with deep understanding of economics and finance. The Sargent Institute of Quantitative Economics and Finance (SIQFE) has also launched the Computational Economics and Finance sequence. The sequence is open to those who hold undergraduate degrees or have mastery of undergraduate mathematics and statistics.

“A computational economist must understand a number of tools beyond those that a typical undergraduate program in economics has time to deliver,” Professor Thomas Sargent remarked, adding that understanding must include mastery of topics from many distinct disciplines including computer science, data science, mathematics, and statistics.

Professor Sargent designed the sequence together with Chase Coleman and Spencer Lyon, and taught the classes starting from fall 2020. The sequence consists of four one-module long classes together with an online preparatory “bootcamp” class to be completed during the summer preced-

ing the program sequence.

SIQFE launched the online summer pre-class in July, taught by three eminent professors: Spencer Lyon, Chase Coleman and Thomas Sargent. They are all experienced python users who are patient and ebullient. For those who don’t have solid knowledge in computer science, the pre-class will prepare them to learn computer science at a level typically taught in a good undergraduate class.

“The curriculum is well-designed and interesting. It begins with definition of elements, then introduces different types of loops, ends with interaction with git,” said PHBS economics student Chen Yongqiao. Chen added, “It further deepened my understanding of Python’s programming. After a detailed introduction of python basic functions, I knew some tricks on writing efficient code. More importantly, I gained a preliminary insight on how to use programming to calculate prices for financial products. These examples have broadened my horizon and enable me to study finance from a computational perspective.”

“The summer pre-class uses Python as the main programming language, which is in line with the current mainstream of macro-research in academia. Since the course is not mandatory, the biggest challenge for me was how to maintain curiosity and enthusiasm in the learning process, especially when I couldn’t communicate with the professor face to face. However, it was a good way to establish study groups and communicate with classmates,” said Zhang Xizi, a PHBS student of economics.

“It’s a good chance for me to review and learn more about Python programming language and other tools. The courses are well designed and arranged by the teaching team. The topics are thorough and practicable, which gradually deepen from theory to practice, and

2011 Nobel Laureate
Thomas Sargent
Director of the
Sargent Institute
of Quantitative
Economics and
Finance



Professor Sargent gave us some valuable advice,” commented SIQEF PhD student Liu Xing, who has already taken some training courses that combine economics and computer language.

Four core courses come in pairs, with two courses to be taken each semester, including “Mathematical Foundations for Computational Economics and Finance”, “Data Tools for Computational Economics and Finance”, “Dynamic Models for Computational Economics and Finance”, and “Machine Learning for Computational Economics and Finance.”

With topics focusing on cutting-edge research, those courses are designed to teach students how to build state-of-the-art models, arm them with cutting-edge data manipulation and management tools, and empower them to apply a variety of classical and cutting-edge machine learning techniques to problems in the social sciences.

According to Professor Sargent, the sequence will prepare students for careers as technically knowledgeable data scientists and computational economists, as they can acquire special skills useful for universities, research institutions, business entities, and even tech companies like Alibaba and Tencent. He further pointed out, “It will also provide invaluable technical skills for graduates who might want to pursue a PhD program in economics, finance, or other social sciences.”

From SIQEF Newsletter Issue 02

Moving into Our Student Accommodation on PHBS UK Campus

By Carryn Yong

Editor's note

Since the opening of its UK campus, PHBS has completed a number of internal renovations and site improvements while maintaining the integrity of the original building and green environment. After a nine-month construction, the first dormitory has recently been put into use.

The new academic year of 2020/21 is off to a fantastic new start at the UK campus of PHBS as we welcome our first group of international students who will be staying on campus in our brand new, state-of-the-art accommodation.

This building has been converted, restored, and upgraded over the summer into two single ensuite and eight twin ensuite rooms. Each is fully equipped with the students' needs in mind and includes a wardrobe, bedside table and lamp, and kettle, as well as work desk and chair. As for the communal areas, the accommodation building is home to a large open-plan, fully equipped kitchen with eight hobs, three fridges, two washing machines, and one dryer. The building and the students will be looked after by our dedicated accommodation manager, Zhang Shumin.

It is our hope at PHBS that our resident students will not only have a comfortable room in which to stay and study,



Oxford from Hinksey Hill by William Turner

"On a clear day, you can see the dreaming spires of Oxford. What a treat to be able to wake up every morning and enjoy such a beautiful and inspiring view, which is so deeply enshrined in art history!"



but also an area where they can relax, interact with each other, and build lasting friendships. With this in mind, during the planning, we wanted the kitchen with its large dining area to serve as a communal space for the students to interact and bond over a hot meal. As they say, friendship is catching up over good food and something nice to drink! Greenery and fresh air are the best cures after lectures on a tiring school day. With that in mind, the kitchen area opens out on to a patio which also provides students access to a landscaped garden. On beautiful sunny days it will also serve as an area for picnics and lawn games. On cold winter nights, the patio would be a breath of fresh air after being inside all day.

The accommodation building also overlooks the picturesque Hinksey Hill, just across the road from the campus. The view from the accommodation building is known locally as the Turner view after being famously depicted by

Single Ensuite



The kitchen area opens out on to a patio which also provides students access to a landscaped garden.



Kitchen

On beautiful sunny days, it will also serve as an area for picnics and lawn games.

On cold winter nights, the patio would be a breath of fresh air after being inside all day.



Bathroom

William Turner of Oxford in his painting 'Oxford from Hinksey Hill'. On a clear day, you can see the dreaming spires of Oxford from there. What a treat to be able to wake up every morning and enjoy such a beautiful and inspiring view, which is so deeply enshrined in art history!

Living on campus, particularly here at the UK campus, truly has its benefits. Not only do the students not have to travel to classes, saving money on transport and cutting down on carbon emissions, they also have easy access to all the facilities that the UK campus has to offer! During their free time, they can sit in our cozy library to self-study, play ping pong in the Grand Hall, or enjoy our award-winning woodland-lake walk.

Amidst all these benefits, personally, I believe the best perk of staying on campus is the ability to order home-cooked food from our in-house chef! Our students will be able to order from a large repertoire of dishes for lunch and dinner, such as roast chicken, beef stew, sweet and sour pork, and many other delicious options. The menu changes every week and students have the opportunity to view it online the week before placing orders for their favorite foods. Not having to worry about cooking and food is truly one of the best things about living on campus!

We truly hope that staying at our UK campus on Boars Hill in the historic Oxfordshire will add to the learning experience of our international students. As we grow and develop as a family and community, we at PHBS look forward to welcoming all our future students to our UK home!

It's really comfortable, convenient, and the surroundings are beautiful; so many trees, nature, inside and outside the campus... really thanks for providing all these things for us (microwave ovens, washing machine, the dryer! fridges, lamps, etc.) - it helps us perform better, work harder, and enjoy our time here more - I think all of us were really pleasantly surprised, because it was A LOT better than we expected based on our assumptions and past life experiences."

—Adel Moin
(1st Year Management Program)

I'd like to say thank you so much for your hard work, patience, and professionalism. Everything is organized perfectly: thank you for meal boxes, wonderful accommodation, the hotel, shuttle bus from the hotel to the dorm, everyday shuttle buses to the city. PHBS is an amazing place and I am so happy to be part of the PHBS family. I appreciate all you do for us."

—Evgeny Khvatskov
(1st Year Management Program)

The accommodation at PHBS UK campus is very favorably located for PKU students. The rooms are clean and comfortable and provide a very good atmosphere for intense study hours. The area around the PHBS UK accommodation is historical and in general, a beautifully shaped landscape providing the best combination between British nature and the prestige of the Chinese Peking University. "

—Til Andreas
(2nd Year Management Program)

“The city gives me the feeling of a Western metropolitan city and it's not really like other traditional and conventional cities in China,” said Ha, comparing Shenzhen to a strong, good-looking youngster with marvelous achievement.”

Chang Yong Ha: Shenzhen Is a City with Dynamic Development

By Wang Haolan

Professor Ha (in the middle) discusses with his students



The upper reaches of Dasha River run through Xili University Town in Nanshan District. When an egret sets out from a shoal in the middle of the river, it may pass by the glass facade of Peking University HSBC Business School (PHBS).

In the eyes of Chang Yong Ha from South Korea, the school has not changed much since the first time he arrived in 2014, yet tremendous changes have taken place in its surroundings and the city it is based in.

“The school’s surroundings were still being developed when I first came here, as there were still some barren areas that were not taken care of. Now the environment has become more hospitable and livable,” said Ha. The assistant professor is currently teaching asset valuation theory and behavior finance at PHBS.

Ha earned his bachelor’s degree in finance from Korea University in South Korea and moved to the United States to further his studies. He obtained a doctorate in finance and economics from the Business School of Columbia University. Ha worked as an assistant professor in finance and accounting at the Lally School of Management at Rensselaer Polytechnic Institute in New York between 2007 and 2014.

It was in late 2013 when he started to consider exploring new experiences in his life and career, and China popped up in his head, as he had been interested in the country for years. “I’ve met many overseas students from China in the U.S. They are smart, hardworking, laborious, and respectful, making me consistently interested in and curious about their home country. Then I had a conversation with one of my friends who used to teach at PHBS in Shenzhen. He suggested I contact the

school if I wanted to work there,” said Ha.

“I did some brief research about Shenzhen before coming here and realized that it is a dynamic city. The city gives me the feeling of a Western metropolitan city and it’s not really like other traditional and conventional cities in China,” said Ha, comparing Shenzhen to a strong, good-looking youngster with marvelous achievement.

As he wished, Ha was able to get in touch with many smart, hardworking and respectful Chinese students at PHBS, and he bore witness to the development of higher education in Shenzhen.

“The local government and schools in Shenzhen have attached great emphasis on recruiting high-level talent from overseas to improve the quality of education in the city and to promote the development of technological research and development,” said Ha.

He cited PHBS as an example: the school supports the teachers in improving their teaching and research quality by offering research funds to academic projects and incentives for the publication of outstanding papers in top-level journals. It also launched an initiative to enhance communication and exchanges with other eminent schools across the world and to encourage those schools to open branches or launch programs in Shenzhen.

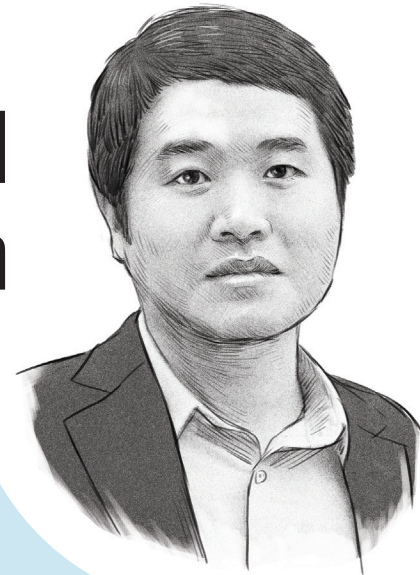
Having been in Shenzhen for over six years, Ha has also felt the rapid development of the city from many other perspectives. Compared to the time when he first came here, more research institutes and foreign companies have chosen to settle down in Shenzhen and more construction projects are being built in the city due to the increasing population and the growing demand for housing.

From Shenzhen Daily



“The local government and schools in Shenzhen have attached great emphasis on recruiting high-level talent from overseas to improve the quality of education in the city and to promote the development of technological research and development.”

Wang Pengfei: Future Direction and Method of Macroeconomic Research



Wang Pengfei
Professor and
Associate Dean of
Peking University
HSBC Business
School

We, our center, do not want students who just ‘TRY MY BEST’. We want ‘THE BEST’ students.’ 20 years ago in 2000, at the China Center for Economic Research of Peking University (CCER, founded by Justin Lin Yifu and Hai Wen in 1994), Hai Wen, the vice president of CCER, said these words to Wang Pengfei, who was applying for the CCER Master of Economics Program. At that time, Wang Pengfei did not perform well during the interview, so he blocked Hai Wen’s path to the door and argued ‘I have tried my best’.

Fourteen years later, at the 20th anniversary of CCER’s founding, Wang Pengfei recalled the scene in his famous article ‘Legends of CCER’. He wrote that ‘Professor Hai’s words shocked me... I felt excited and a little depressed at the same time. I stepped into the Center, and the following three years completely changed my life.’ Wang Pengfei, who has now become an Associate Dean and Professor of Economics at Peking University’s HSBC Business School, was a legendary figure at CCER back in those days. Renowned for his research in macroeconomics, he has become one of the most outstanding graduates of Peking University. Since 2012, he has published more than 30 papers in academic journals, including six papers published by top journals such as *American Economic Review*, *Econometrica*, *Journal of Finance* and so on. He has been hailed as one of the most productive young economists in the world.

Credit Constraints and Heterogeneous Agent Models (HAMs) Will Become an Important Research Area in the Future

As economic integration and globalization deepen, the cross-border economic shock from one economy to another is becoming stronger and stronger. In 2008, the U.S. economic crisis broke out and gradually spread into a global financial crisis, which finally led to a worldwide economic recession. Over the past decade, more and more research has been conducted on the financial crisis. However, the complicated mechanisms behind the financial crisis are still puzzling the macroeconomics research community. Among all the research topics, debt problems and credit management are important factors in the financial crisis, and Wang Pengfei believes that in the next decade, credit will be an important research area in macroeconomics.

In addition, he has said that heterogeneous agent models (HAMs) and their combination with information frictions would be the future direction of macroeconomics research. Existing macro models focused on economy as a whole, and observable variables are limited to GDP, consumption, investment, stock and real estate prices, and interest rates. These features

make it difficult to judge correctness of the implications given by different models. However, HAMs adopt micro data to identify differences between models, and researchers can use them to study the transmission path of how exogenous shocks affect economic variables. Thus, HAMs are able to explain economic phenomena more accurately than traditional macroeconomic models. For example, most of the existing policy research discusses the impact of economics policies on economic aggregates. But in fact, the influence of policies varies from one group of people to another. So, the same monetary or fiscal policy can have distinct impact when the income distributions are different. In a word, macroeconomic policy research also needs a micro perspective.

On the use of data, Wang Pengfei suggested supplementing macro data with micro data. One of the reasons is that Chinese microeconomic data (such as industrial survey data, customs data, and household survey data) are of better quality. He said that nowadays few micro data were currently being used by macroeconomists. He believed that, if a researcher could understand these databases and use them in macro studies, his or her innovation in these fields would be very promising.

Why Am I Interested in Asset Bubbles?

Not only did Wang Pengfei recognize the importance of these models, but he is also diligently carrying out research on three major topics: asset bubbles, credit, and information asymmetry. In a paper published in the *American Economic Review*, he and his co-authors suggested that credit constraints could lead to asset bubbles. As a result of corporate credit constraints, there is a positive feedback rela-





relationship between the price of collateral and credit. Since firms use their physical capital and firm's intrinsic value as collateral for loans. As asset bubbles push up firms' stock prices, banks lend more to firms, which in turn boosts firms' investment, and generates positive returns. Thus, this mechanism creates a positive feedback effect that leads to a further strengthening of asset bubbles in stock prices.

In fact, Wang was interested in this area 20 years ago. In the 1980s, there was a huge wave of orchid speculation in China, and the price of the monarch orchid rocketed up to ten million RMB and above. Besides, there was a philatelic fever in the early 1990s, when the price of monkey stamps boomed. At that time, the domestic financial market was opening up to ordinary Chinese citizens and people were eager to spec-

ulate and get rich overnight after the shortage of food and clothing had been solved. Wang Pengfei was confused by these phenomena at that time, so he went to read some introductory literature on asset bubbles. He learnt that in the early days of the Netherlands, there was a similar situation, when the price of a single tulip bulb could be equal to the lifetime earnings of 20 skilled workers. Then, the bubble quickly burst, and the price of tulips slumped to the level of other flowers.

Unfortunately, China still witnesses orchid fever every few years. During the bubble, many buyers simply consign the flowers to the florists, where the orchid is sold directly to other speculators without physical delivery. 'The orchid itself did not bring utility to the investors,' Wang claimed. He cited a vivid example: In

2006, a Hong Kong investor bought an orchid in Yunnan at a price of 660,000 RMB. Seven years later, the price dropped to only 100 RMB, and that was because a scarce breed that was costly 7 years ago could become commonplace 7 years later. Ironically, the orchid buyer went to court, claiming that he had not made a physical settlement and so did not recognize the deal.

When Wang was a graduate student, there was a huge debate in the academia on the Chinese stock market. Some scholars argued that the Chinese stock market was a casino, while others believed that it provided a great impetus for economic reform. At that time, Chinese stock prices were extremely volatile, and a number of famous speculators rushed to overhype and speculate their stocks. One of the most famous examples was the so-called 'Kind Dealer' Delong Group, whose stock price collapsed after extracting a huge amount of wealth from the stock market by speculating their stock price. In the real estate sector, house prices in major cities such as Beijing, Shanghai and Guangzhou, are now about a thousand times higher than their monthly rents. 'These phenomena are related to the asset bubble' Wang said.

Asset bubbles are there, around us, and closely related to our daily lives. They sparked Wang's interest and, since graduate school, his research has focused on macroeconomics, asset bubbles, and information frictions.

The theoretical model of Wang and his co-workers covered the weaknesses of existing theories. In the field of asset bubbles, traditional research mostly used two-period models, which had the advantage of simplicity in theoretical analysis. However, their weakness is that it is difficult to use the real economic data to validate the theory, since real data frequency match poorly with the model. In addition, tra-



ditional models emphasize the dynamic ineffectiveness of markets, which can lead to a negative linkage between asset prices and the real economy. These models predict that increasing investment in bubble assets would crowd out investment in real assets and thus reduce aggregate output. However, the theory cannot explain why the economy would suffer a recession after the bubble burst.

Wang and his co-workers found that, most of the historical short-term volatility in U.S. stock prices is due to asset bubbles. Based on this finding, their latest theoretical model further explained the mechanism of economic volatility, including the impact of asset bubbles on capital inflows, the impact of government policy on asset bubbles, and what is the optimal policy.

What Caused the Asset Bubble?

Since 2008, China's economy has been experiencing a capital bubble fever. In 2008, 4 trillion RMB in monetary injections opened up the cycle of currency expansion, causing as-

set bubbles. One of the consequences was excessive leverage. According to the estimation from the IMF, China's macro leverage ratio is currently about 256%, which means that the annual macro interest cost is up to 12 trillion RMB.

In China, asset bubbles are mainly real estate bubbles. According to the 2015 National Urban Housing Market Survey Report, jointly released by Tencent, China Real Estate Business News, and other institutions, China's major housing vacancy rate in major cities ranges from 22% to 26%. According to international empirical data, when the vacancy rate for commercial housing reaches 10%, serious economic bubbles will be formed. In addition, statistics reveal that the average annual increase

"Credit expansion is one of the main causes of asset bubbles, especially real estate bubbles."

in housing prices of second-hand houses was 14.3% in Beijing from 2013 to 2018, which is 8.3 percentage points higher than the increase in rents. These phenomena indicate the existence of asset bubbles in the current Chinese real estate market.

So, what caused the asset bubbles? Typically, real estate has two functions, a residential utility function and an investment function.

Wang Pengfei pointed out that different people had different demand for houses, or in other words, different marginal utility on housing. Marginal buyers in the market determine house prices, and during credit expansion,

the utility of marginal buyers increases. However, house rents represent the average utility of all housing demanders, and they do not increase with the credit expansion. This explains why house prices have risen far more than rents.

Wang further explained that credit expansion is one of the main causes of asset bubbles, especially real estate bubbles. For example, the Federal Reserve cut interest rates 11 times, from 6.5 percent to 1.75 percent in 2001, and since then, the U.S. has witnessed the biggest real estate bubbles in history.

In addition, high savings rate is a special feature of China's economic development. China's savings rate ranks first among large countries and Chinese people have strong saving motives. The reason is that, in a state-run economy during the past, people had a good pension and medical benefit provided by SOEs, and those benefits are no longer provided by private enterprises since China turned to a market economy. This benefit cut, coupled with an imperfect social security system and the One-child Policy, drove people to save more. Wang thought this was also an important reason in the creation of asset bubbles.

However, it is difficult to fully explain the build-up of massive asset bubbles in the Chinese market through credit expansion and high savings rates, because bubble assets do not generate cash flow, and they are easily replaced by other high-quality assets. Wang pointed out that the lack of incentive mechanism and the weak value discovery function of the Chinese capital market, lead to a shortage of quality assets. This is another reason explaining why the problem of asset bubbles remains even though the Chinese savings rate has been in decline since 2010.

From SIQEF Newsletter Issue 02

International Students Clocking in as Interns in Shenzhen

By Su Jianxin

This semester, several of our international students in Shenzhen stepped into the workplace for some interesting internship opportunities. They have been soaking up experience and expertise in a wide range of industries, from AI, to international commerce, to consumer goods.

For most, it was their first experience working in China. After a year of hard study in the classroom, they had the chance to apply their new skills and learn from a new environment. Internship experience is a great boost for the resume. As international students, it can be quite difficult to find the right position to accommodate for potential language barriers and unique expertise. However, these exceptional students also satisfy a growing need for international talent in many




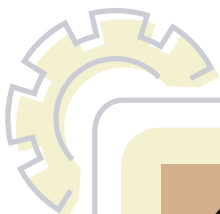
Chinese corporations, startups, and institutions.

Today's interns are tomorrow's change makers and business leaders. These internships are an important start in opening up a bright future with plenty of career development potential. But, there are also many questions! How could foreign students find an internship in China? How do they feel about the internship? Here are some answers:

For this particular internship position, I didn't face many difficulties. It was actually posted in a WeChat Group. I sent out my CV, got invited for an interview, and passed. However, it can be challenging to get an internship with flexible working days since we still have to take classes. I am subscribed to some pages on WeChat that post jobs and internship positions on a regular basis. I recommend others



Gillian in front of the Skylark Global office

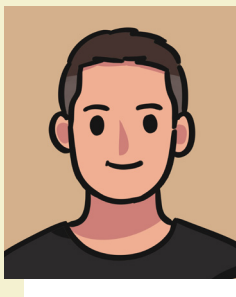



Gillian Mutyambizi
Year 2
Management, Zimbabwe
@Skylark Global

to do the same.

The company is a new start-up that recently received funding from Venture Capitals. I am in the Business Development department and some of the tasks include writing press releases for the company, drafting contracts and proposals, digital marketing strategy and business development as well as digital market testing and commercialization.

Besides the work experience in general, I get to understand how Chinese people work and do business. China's economy is growing fast; therefore, understanding the people behind the economy's growth is amazing. The working environment is good and comfortable. Working there has been a good experience as there is so much to learn.



Cristiano Chiang
Year 2
Management, Italy
@FJ Dynamics



I found this internship on a job recruiting platform. It is not very easy because you need to invest a lot of time looking for a job and there are not so many positions for foreigners. However, if you commit enough time and carefully target companies related to high-tech industry, it is possible to find jobs that need foreigners for business development or marketing.

I worked at FJ Dynamics from September to December. My colleagues were quite friendly to me, since this was the first time they had hired a foreigner, so they tried to make me feel comfortable and let me understand the daily tasks, especially the daily meeting. Every morning, I had to make a report; it was pressuring at first because I was not used to report my daily work. It got better after the first month. I really appreciated the way they behaved, because it was important for me to find

the confidence to get along with them.

Some marketing theories and data management that I had learned during courses were useful, but I learned more on the job. During this period, I got to know the corporate environment better. There are differences between westerners and Chinese in managing the company, e.g., different requirements, pressure. Once you get to know the way to manage the company from the inside, you will have the advantage to develop from outside. Such knowledge is valuable both in Chinese and the overseas market.

The highlight of these 3 months was our global product launch. The company needed to introduce products to the overseas market, and I represented the company to deliver a speech. We recorded this event for the whole day. It was very stressful for me because I had to memorize many characteristics of each product. Those products were about agricultural robots, so it was completely new for me. But after that, I gained a lot of confidence, especially leadership and public speaking.

From the Nanyan Observer

Cristiano with fellow team members



Period Poverty: Neglected Female Nightmare

By Wu Xingying

Editor's note

In the China Data Content Competition of 2020, "Data Visualization in Convergence: Scientific Storytelling and Open Data," "Period Poverty," the work of three PHBS financial media students (Wu Xingying, Zhang Keyuan, and Zhang Xiang), stood out from 60 submissions to win third place in the video category. This is the second year that Financial Media students have won awards in the Data Content Competition.



1. Team members Zhang Xiang, Zhang Keyuan and Wu Xingying (from left to right) discuss their project
2. Award Winning Trophy

During the summer vacation of 2020, I saw the theme of "Period Poverty" on Facebook. Period poverty refers to the lack of access to sanitary products, menstrual hygiene education, toilets, hand washing facilities, and, or, waste management. Words cannot describe how I feel about this issue. Period poverty has been of great concern abroad for many years. However, it has not been taken seriously in China.

Spark of Inspiration

By chance, I saw that my tutor, Ye Weiming, released the link of the China Data Content Competition in the WeChat group. At the same time, a neat little idea popped into my head. I wanted to take part in the competition because it might be a good way to deliver the message to the public.

Therefore, I decided to organize a team. I found three members: Zhang Xiang, Zhang Keyuan, and Ma Xiaochun. Zhang Keyuan and I were responsible for writing scripts, Ma Xiaochun took charge of collecting data, and Zhang Xiang edited film. All the team members had the expertise and carried out their roles effectively.

It was very difficult to collect data because many countries did not have relevant statistics, for example, the proportion of women dropping out of school. However, our work really needed these data for further analysis. Finding another way, we identified relevant research conducted by NGOs. This reflected that many NGOs were concerned about the issue of menstrual poverty and occupied an important role in promoting recognition and understanding of this serious issue.

When the initial problem of data was solved, we were confronted by another big

After referring to a lot of current works we discovered that film was most suitable because video is more likely to attract users' attention in the current social media."

problem: we were unsure in which form our work would be presented; by web page or video? At this stage, the team could not agree on which platform to use.

After referring to a lot of current works we discovered that film was most suitable because video is more likely to attract users' attention on current social media. Moreover, a film inclined to tell a story could highlight our narrative ability and potentially promote understanding to a wider audience.

Period Poverty Matters

We discovered that period poverty was far more serious than even we had imagined. In fact, 500 million women in the world cannot access clean sanitary supplies [1].

This has two main causes: Firstly, some countries have weak economic foundations and insufficient national infrastructure. People suffer from a lack of knowledge and unen-

lightened sex education, and hygiene problems are especially common among women who are unable to obtain clean products during menstruation.

For example, in Nepal, there was a centuries-old social tradition called “chaupadi” which held that discharge produced during menstruation and childbirth were impure.

Women were not allowed to stay at home during menstruation because their “unclean bodies” would irritate the gods. Therefore, they had to be isolated in a “menstrual hut”. No physical contact with others or water sources was allowed. These “menstrual huts” were mostly unsanitary places such as chicken houses or cowsheds. Women could only use old clothes, leaves, or even cow dung as a substitute for sanitary napkins. This tradition has

We discovered that period poverty was far more serious than even we had imagined. In fact, 500 million women in the world cannot access clean sanitary supplies



Firstly, some countries have weak economic foundations



The second cause of menstrual poverty is the “menstrual tax”

exposed many Nepalese women to long-term health risks.

Even though the practice was banned by the government in 2005, and has been considered a crime since 2017, it is reported that women are still victimized to comply with the “chaupadi” tradition.

The second cause of menstrual poverty is the “menstrual tax”. In many European and American countries, sanitary napkins are classified as “luxury or non-essential goods”.

The BBC calculated that the menstrual expenditure of British women (aged 14-50) was as high as £1505 in their lifetime. For many women who had difficulty paying for food and clothing, the routine of menstruation was simply a financial disaster. In the UK, 1 out of every 10 females could not afford sanitary products and 12% of girls had to use rags and socks instead. Many females were forced to be absent from school due to menstruation.

Nowadays, an increasing number of countries have tried to solve “period poverty” by invoking the law. For instance, the Scottish Parliament unanimously approved a policy ensuring that schools and offices provide free and sufficient tampons, slivers and moon cups to address the lack of health resources caused by attitudes to gender and the economy.

New Way of Telling Story

As the amount of data in the world has increased, and become easier to access, the trend has been for data visualization and journalism to combine to provide information in new ways that help readers understand complex stories in simpler terms. Depending on data, journalists can translate words into pictures, graphs, animation, charts, maps, or any type of visualization.

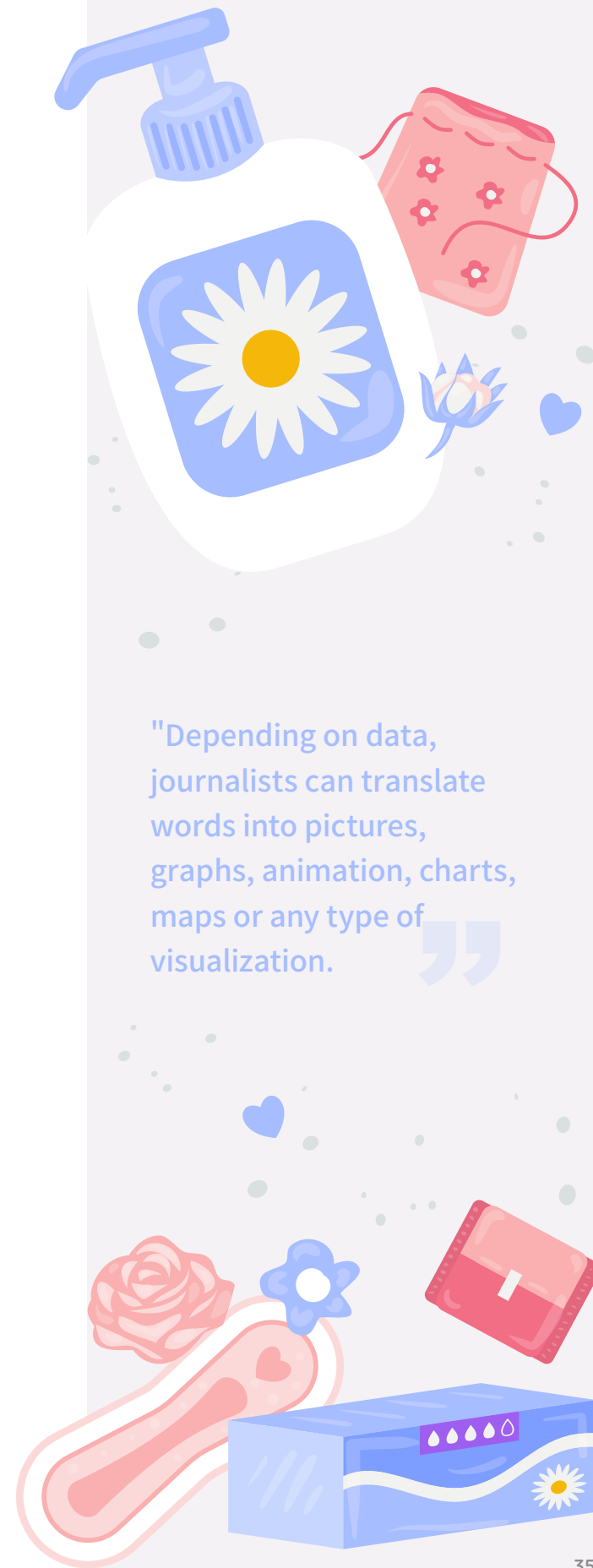
As a financial media student, the course of Data Journalism and Information Visualization is very useful and lays a good foundation for this competition. Professor Ye Weiming guided us to complete Period Poverty data news work from the topic selection, data collection, art design, to the final presentation. Her teaching method was both professional and interesting, and students were well versed.

Furthermore, PHBS has incorporated cutting edge subjects such as data analysis and information visualization into our curriculum for the Master of Financial Media. The school also established a media lab, equipped with an advanced video studio, to provide PHBS faculty and students a professional platform for financial news teaching, research and practice.

Consequently, its students have started to demonstrate strength in related fields. In the China Data Content Competition of 2020, a total of 7 entries from PHBS were shortlisted, with the work “Historical Slice of Cancer Village,” by Zhao Luming, Zhu Xiaomeng, and Zhao Bowen, winning first place. This was the second time that students from financial media program have won the best data journalism gold award.

Through the whole process of participating in the competition, we were inspired by the issue of period poverty within the society. Although we are students and our efforts may not affect large social change, we would like to inspire the people who see our reports to pay attention to period poverty, and we hope that eventually no woman will need to worry during menstruation.

Reference:
[1] The statistics of the International Federation of Gynecology and Obstetrics in 2019.



▲ Xu Yuchen

The Telegraph and Modern Banking Development



Xu Yuchen

PHBS Assistant Professor
Research interests include financial history and empirical corporate finance

Banks are instrumental to economic development. It is thus essential to understand the historical development of banking industries. Pioneer scholars have discussed the roles of law, institutions, culture, and ethnicity in shaping banking development. Another potential growth engine for banking is information technology. Banking is an information-sensitive industry. In the absence of rapid information flow, banks are confronted with information asymmetry, communication costs, and agency problems. This leads them to build their business on local, soft informational advantages, which restricts the scale economies of banking.

Innovation in information technology (e.g., telecommunications, computers, and the Internet) mitigates the information costs arising from distance barriers, which enables banks to expand their businesses on a broader geographical scale. By virtue of real-time information, they are now able to track the market and communicate with their branches and customers in distant areas in a timely fashion. Partly due to the complexity of the current world, how information technology affects banking development has not been fully understood.

In their paper "The telegraph and modern banking development, 1881-1936," published by the international academic journal *Journal of Financial Economics*, PHBS Assistant Professor Xu Yuchen and her co-authors Professor Lin Chen, The University of Hong Kong, Assistant Professor Ma Chicheng, The University of Hong Kong, and Assistant Professor Sun Yuchen, The University of International Business and Economics, examine the effect of information technology on the rise of modern



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The findings of the paper indicate that the telegraph as a revolutionary advance in information technology promoted the early development of modern banks."

banking in the historical context of China

The telegraph was introduced to China in the late 19th century, constituting a truly revolutionary advance in information technology. Compared to the traditional courier channels of ships and horses, the telegraph sharply improved the efficiency of long-distance communications, shortening transit time from months to hours. Moreover, the telegraph fostered modern financial instruments, such as telegraphic transfer and settlement, largely reducing the time and operational costs of banking. Coming before the invention of radio broadcasting (1920s), television (1930s), and the Internet-based multi-dimensional information channels of recent decades, the telegraph represents a singular "Fin-Tech" that allows us to better capture the effect of information technology on banking.

China witnessed the genesis and expansion of modern banks, which emerged after the 1840s under Western influence. After the Oriental Bank, a British-Indian joint venture, opened a branch in Hong Kong in 1845, foreign banks gradually ex-

panded their business in China's treaty ports. In 1897, the first modern Chinese domestic bank, the Imperial Bank of China (IBC), began operations. Thanks to the New Policies (c.1901-1911), the imperial authority, in its final decade, began to promote the establishment of new banks in the Western style. Modern banks were further promoted under the succeeding Republican government, which fully recognized their importance in economic modernization. Different from the traditional banks, modern banks had limited liability and adopted modern or Western-style administrative systems; this included, for example, regular meetings of shareholders, a separate board of directors, balance sheets constructed according to international standards, and collateral loans, among others.

Historical narratives suggest the importance of the telegraph in promoting modern banking development. This is mainly because the telegraph improved the informational environment in which banks operated. On the one hand, the fast-cum-convenient telegraph lowered

the entry cost of banks by mitigating inter-regional information asymmetry. This enabled the banks to enter "shadowy" areas that had been previously dominated by traditional financial institutions. On the other hand, the telegraph facilitated information exchange and business dealings between bank headquarters and their branches, and thus helped the banks overcome the agency problem and accordingly improve administrative efficiency. Thanks to real-time information, banks could effectively monitor their branches in distant areas.

Assistant Professor Xu and her co-authors first document a significant positive effect of the telegraph on banking development. For prefectures, the presence of telegraph stations in 1896 was associated with more modern banks, both in the short run (1911) and in the long run (1936), as well as a higher annual average growth rate of those banks. To alleviate the endogeneity issue, the authors use the shortest distance from a prefecture to the hypothetical military trunk line as the instrumental variable of the distribution of telegraph stations to identify the causal link.

A primary mechanism by which the telegraph promoted banking development was the expansion of the branch network. The authors find that banks were more likely to open branches in prefectures connected by telegraph lines, and with the expansion of those telegraph lines, the banks could expand their branch

networks to distant areas. Moreover, by analyzing the branch network of each bank, the authors find that the telegraph increased the overall presence of the branches, rather than simply redistributing their geographic locations. These results indicate that the telegraph expanded the branch network in terms of both the number of branches and the geographical coverage.

The overall analyses are premised on the assumption that the telegraph increased inter-regional information flow. Drawing upon textual analysis of Shen Bao (Shanghai News), the largest national newspaper at that time, the authors gauge inter-regional information flow by enumerating the frequency of county names reported in the newspaper. The frequency of newspaper reports on prefectures connected by the telegraph was significantly greater than for their unconnected counterparts, suggesting improved information transparency in the former. This, in turn, increased the number and growth of banks.

The findings of the paper indicate that the telegraph, as a revolutionary advance in information technology, promoted the early development of modern banks. This echoes the importance of information technology in shaping banking or financial development in contemporary time, fostering financial services competition, reducing agency costs, and shaping productivity and structural change, among others.

▲ Cai Xiaoming

Efficiency of Wage Bargaining with On-the-job Search



Cai Xiaoming

PHBS Assistant Professor
Research interests
include macroeconomics,
labor economics,
search and matching

In a modern economy, wages are the main income source for most people; hence the average wage level is an important indicator for the labor market. However, it is not the case that the higher the average wage level is the better the labor market functions, because when the wage rate is too high, it leaves companies with too little profit, which then implies less investment and hence less growth in the future.

Thus, when a match is being formed, firms need to anticipate future match separation caused by their employees' on-the-job search. In "Efficiency of Wage Bargaining with On-the-job Search" published in the *International Economic Review*, Assistant Professor Cai Xiaoming analyzed how the surplus should be split, when an employed worker finds a new job, so that workers and firms receive their fair share.

Classical economy theory argues that competition in the labor market will ensure that workers get their fair share: if the average wage level is too high, then firms will employ too few workers, which leaves some workers unemployed and willing to accept a lower wage; if the wage level is too low, then firms will open up more vacancies, resulting in some unfilled vacancies and those vacan-



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If workers' bargaining power in this situation is too high, it will leave firms with too little profit, which will lead to less output through the channel of investment."

cies would be willing to offer a higher wage. Hence, because of the competition, the equilibrium wage level will be economically efficient.

However, the above simple theory did not capture the key fact that no two workers are the same. When a firm tries to fill its vacancy, it usually takes a lot of time and resources to find the right worker. As the matching process is costly, whenever a firm and a worker overcome the difficulty and decide to form a match there is surplus to be shared. The split depends on the bilateral negotiation and the influence of labor market competition on the worker and the firm is limited. If workers' bargaining power in this situation is too high, it will leave firms with too little profit, which will lead to less output through the channel of investment. What complicates things even more is that when employed workers search for new jobs, they will

typically ignore the impact of their job change on their current employer.

In his recent paper, Cai therefore studies efficiency in a general class of search models where both unemployed and employed workers search for better jobs and can meet multiple firms simultaneously. Employers can respond to outside offers and wages are a weighted average of the productivities of the current employer and a credible poaching firm. The key findings are that the new firm's contribution to the society is the difference between the worker's productivities at the two firms; the new firm's profit should be a fraction of this difference, and the right fraction depends on how firms generally contribute to locating the right workers; it is not necessary for the worker's current employer to be compensated upon such separation as long as all firms adhere to the above sharing rule.

Innovation is the Key Driver for Shenzhen's Reform and Development

By Zhang Kun and Li Zhuoyao (Class of 2019)

At the 40th anniversary of the Shenzhen Special Economic Zone (SEZ), the PHBS Think Tank conducted a comprehensive investigative survey of over 100 scholars and industry experts on their insights about the reform and development of the Shenzhen SEZ, as well as the Guangdong-Hong Kong-Macao Greater Bay Area. As a representative project investigator, Professor Zhang Kun shared his views with the Shenzhen Press Group in an interview on several key future reform and development strategies. Consistent with the survey project's findings, the term innovation plays an ongoing and increasingly strategic role to further the reform and development process.

Professor Zhang believes that the Shenzhen SEZ should continue to cultivate its own research capabilities by increasing long-term investment in basic science and fundamental R&D, supporting small- and medium-sized technology ventures for innovation and a strategically designed, well-structured innovation value chain. These will require introducing new talent and higher-end human capital inflow. To achieve this, the Shenzhen government should continue working towards building a higher quality of life and better welfare, potentially, by increasing investments to improve education, medical and health care, and the arts and culture. At the same time, Shenzhen should initiate multilateral cooperation and coordination across regional and municipal administrations in the Greater Bay Area.

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The term innovation plays an ongoing and increasingly strategic role to further the reform and development process."



Shenzhen SEZ should continue to cultivate its own research capabilities by increasing long-term investment in basic science and fundamental R&D, supporting small- and medium-sized technology ventures for innovation and a strategically designed, well-structured innovation value chain.

Shifting Focus towards Fundamental Science and Early-Stage R&D

First, the government should develop initiatives for fundamental science and early-stage R&D. Technological innovation can be a long-term process divided into three phases: value creation, capture, and distribution. It starts with early ideation to product and process innovation leading to technology commercialization and, finally, to product marketization.

Shenzhen has well-maintained competitive advantages in terms of product capitalization and trade, which usually occur at the back end of the innovation value chain. Yet, to further develop such, there is still room for basic scientific research exploration and development, breakthrough innovation at the front end of the value chain, and industrial incubation and intellectual property protection in the middle of the value chain.

Given the increasing barriers to international cooperation and the growing trend of de-globalization, Shenzhen can rely on its own internal R&D and technology diffusion capabilities to continue its ground-breaking advancements. Therefore, it needs to strategize long-term investment through the vertical in-

novation value chain and shift focus to the early stages of the innovation development process.

Protecting Small and Medium-Sized Technology Ventures

Next, small and medium-sized technology ventures can play an important role in developing industry innovation. While innovation-related investments and contributions from large incumbent enterprises and scientific research institutions is unquestionable, new ventures derived from such large market players tend to be constrained by concerns about financial returns, risk management, and existing technological path dependence. The resulting technologies frequently emerge incrementally and gradually, as new concepts are usually built upon their existing technology base.

Consequently, developing radical and sometimes disruptive innovations, undoubtedly important for the innovation value chain, would mainly fall to creative small- and medium-sized technology ventures. Without too much organizational burden or technology inertia, tech-ventures are more flexible and agile compared to large companies. Additionally, they are more willing to carry out riskier R&D attempts at the front end of the process due to greater financial success in the early stage.

Therefore, Shenzhen's innovative SMEs should be taken seriously. The municipal government can help foster valuable innovation by providing stronger IP protection, designing cooperative market structures against hostile incumbents, and creating policies to better reward archi-

Profile



Zhang Kun is an Assistant Professor of Strategy and Entrepreneurship at PHBS, and also serves as Associate Director of the PHBS Center for Innovation and Entrepreneurship (CIE).

Research shows that to sustainably retain high-level professionals and human capital, Shenzhen should prioritize enhancing housing, education, medical care, transportation, and arts and culture."

tectural innovation, breakthrough innovation, and disruptive innovation.

Attraction and Retention of High-Level Talent and Human Capital

The Shenzhen SEZ should continue to prioritize attracting and retaining high-level talent and human capital. Scientific research and innovation can be a long-term embedded process, unsustainable without the participation of highly skilled professionals in highly specialized industries such as higher education, medical and health care, as well as high-tech industries. Furthermore, due to the pandemic and the continuing de-globalization trend, barriers are increasing for technology-based partnerships. Therefore, to stock up on its internal R&D capabilities, Shenzhen should continue to foster and introduce high-level talent and professionals to tech-related industries. Because such individuals generally enjoy more mobility, they will have more options for location choices outside Shenzhen and the Greater Bay Area. To

attract them, it is important to enhance people's overall welfare and quality of life in the region. Such policy orientation can be crucial to increase Shenzhen's attractiveness and its overall competitiveness, as well as its international reputation. Research shows that to sustainably retain high-level professionals and human capital, Shenzhen should prioritize enhancing housing, education, medical care, transportation, and arts and culture.

Bridging Greater Bay Area Multilateral Development

Finally, as the hub city of the Guangdong-Hong Kong-Macao Greater Bay Area, Shenzhen should strive to lead and develop a well-networked ecosystem structure with its surrounding cities and special administrative regions (SARs). While there can be an open-ended discussion on how to best coordinate development across the area, one thing is quite clear: The Greater Bay Area should foster collaboration on a vision and mission so that municipal administrations and SARs can optimize their idiosyncratic features and resources under a common strategic directive. This way, municipalities can formulate development strategies to avoid homogeneous competition. For instance, Shenzhen, Guangzhou, and Hong Kong are likely to compete for talent and various resources. They should avoid excessive internal competition that works against creating synergies for the Greater Bay Area. Additionally, when it comes to cooperation with neighboring smaller-scaled cities, the Shenzhen municipal government should take into account factors such as the division of authoritative powers, urban planning and design, and resource allocation.



As the hub city of the Guangdong-Hong Kong-Macao Greater Bay Area, Shenzhen should strive to lead and develop a well-networked ecosystem structure with its surrounding cities and special administrative regions (SARs)."



"The stories of the two digital currencies seem quite isolated as they are at the two extremes. However, they may impact each other in the near future, creating 'A Tale of Two Coins'."

When Bitcoin Meets Digital Renminbi (DCEP)

By Jaehyuk Choi

Bitcoin had an amazing year in 2020 with its price quadrupling. The price is currently hovering around 45,000 US dollars at the time of writing. Bitcoin had once crashed to 3,000 US dollars in 2018. What made this big turnaround possible? First, institutional investors started buying Bitcoins as an alternative investment. MassMutual, a major US insurer, invested in 100 million dollars worth of Bitcoins. Second, aggressive monetary easing from central banks across the world has provided ample liquidity. This also makes Bitcoin an effective hedge against inflation, replacing gold.

Investment firm VanEck recently filed another application to launch a Bitcoin exchange-traded fund (ETF) after several rejections from the US Securities and Exchange Commission (SEC). Academic research before Bitcoin's recent rise [1, 2], including my recent paper, investigated the trading in unregulated crypto exchanges such as BitMEX. The research found that the price discovery and trading volume were dominant in the unregulated exchanges and thus argued that SEC should be careful in approving the Bitcoin ETF. However, the trading volume in regulated exchanges (e.g., Coinbase and CME) surged thanks to institutional investors, and the outlook for Bitcoin ETF seems brighter. If approved, the ETF will further accelerate the adoption of Bitcoin by broader investors.

Although not as exciting as the roller-coaster ride of Bitcoin, an interesting digital currency experiment has been undergone in October 2020 in Shenzhen, China. It was the first use of the digital version of Renminbi (RMB) among the general public. Digital RMB, formally named Digital Currency / Electronic Payment (DECP), is developed and distributed by the People's Bank of China (PBOC) and is a part of legal currency backed by the Chinese government, whereas Bitcoin is operated on a peer-to-peer network without any central authority. Despite the stark difference, digital RMB and Bitcoin both use blockchain technology for recording the transactions.

According to local media, the experiment in Shenzhen was successful. 200 digital RMB was given to each of 50,000 members of the public randomly selected through a lottery that was oversubscribed by 1.9 million people. The recipients spent 8.8 million RMB in one week, creating 62,000 transactions at 3,400 designated shops in the Luohu district. Although the user experience was similar to that of Alipay and WeChat Pay, a few differences were reported. For example, the holder could use digital RMB without an internet connection.

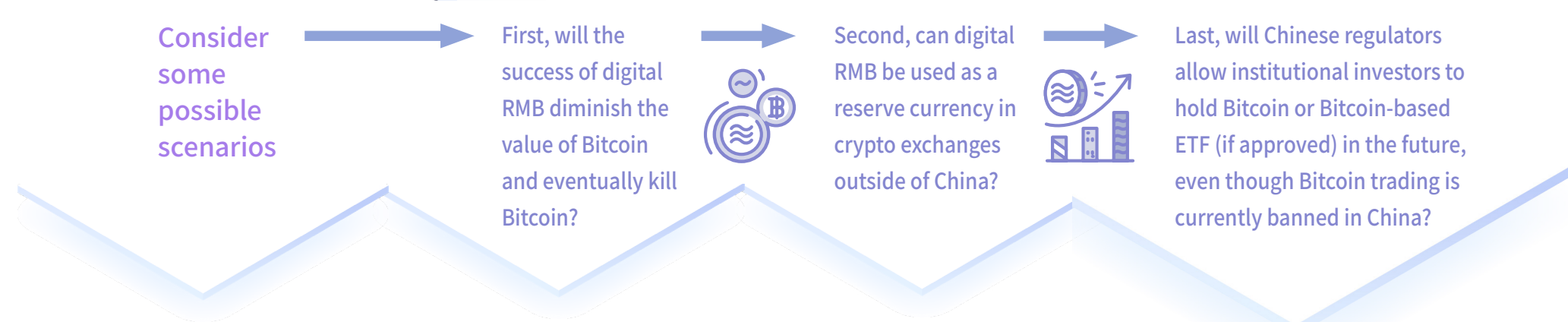
"Digital RMB, is developed and distributed by the People's Bank of China (PBOC) and is a part of legal currency backed by the Chinese government, whereas Bitcoin is operated on a peer-to-peer network without any central authority. Despite the stark difference, digital RMB and Bitcoin both use blockchain technology for recording the transactions."



With the huge success of Alipay and WeChat Pay, China is already a world leader in digital payment infrastructure. Without these apps, daily life in China would not be so easy. Then, why is PBOC considering yet another digital currency? If a legal currency is circulated in digital format, the government can more easily control and monitor the money flow. To cope with an economic downturn, such as experienced recently, the government can effectively distribute subsidies to individuals and small businesses. It is also possible to lower the interest rate to negative, which is why many other central banks are also considering the digital version of legal currency, broadly termed as Central Bank Digital Currencies (CBDC). Furthermore, to the Chinese government, digital RMB has another merit of pushing forward RMB internationalization.

The stories of the two digital currencies above seem quite isolated as they are at the two extremes. However, they may impact each other in the near future, creating 'A tale of two coins.' Below I consider some possible scenarios.

First, will the success of digital RMB diminish the value of Bitcoin and eventually kill Bitcoin? Many argue that Bitcoin's outrageous price volatility is a hurdle for its wide use in ev-



Profile



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"If Bitcoin holding
is allowed, we may
observe Chinese
institutional investors
one day buying Bitcoin
with digital RMB."

everyday life. To resolve this problem, several stablecoins have been created whose fiat value is maintained by various algorithms. Digital RMB is the pinnacle of stablecoin while keeping the benefits of cryptocurrencies. Digital RMB cannot be an inflation hedge as it is a fiat currency. However, the advanced blockchain functions in digital RMB may diminish the need for other cryptocurrencies with similar functions.

Second, can digital RMB be used as a reserve currency in crypto exchanges outside of China? Tether (USDT), a cryptocurrency whose value is fixed to the US dollar, is already widely used in major crypto exchanges thanks to its fast transfer speed. Although Tether's total market capitalization is only a fraction of Bitcoin, the trading volume of USDT has already surpassed that of Bitcoin. This indicates that Tether, not the fiat US dollar, has become the reserve currency for buying and selling Bitcoin. If PBOC has the internationalization of RMB in mind, the scenario is not impossible. There are good reasons that crypto traders may prefer digital RMB over Tether. Digital RMB is backed by the Chinese government, while USDT is operated by a corporation. The US dollar versus RMB volatility is nothing compared with that of Bitcoin's price. The competition between the US dollar and RMB for the reserve currency will likely happen in the crypto exchanges first.

Last, will Chinese regulators allow institutional investors to hold Bitcoin or Bitcoin-based ETF (if approved) in the future, even though Bitcoin trading is currently banned in China? As with their western counterparts, Chinese insurers and pension funds may see the need for holding Bitcoin for diversification and inflation hedge. If Bitcoin holding is allowed, we may observe Chinese institutional investors one day buying Bitcoin with digital RMB.

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How To Decrease Perceived Threat and Hoarding During the Pandemic?

By Jooyoung Park

“Uncertainty and unpredictability involved with infectious diseases like COVID-19 create strong emotional and behavioral reactions, including overestimated threat perception and unnecessary hoarding.”

Amid the COVID-19 outbreak, many people flocked to supermarkets to buy toilet paper. This was not limited to a particular country but occurred worldwide. The act of collecting an excessively large quantity of possessions is called hoarding [1]. Why did people collect toilet paper way more than they needed? Were they simply preparing for the unpredictable future, or irrationally panicking? More importantly, how can we prevent such panic buying that disrupts the distribution of necessities?

Although infectious disease cues such as common cold or flu have always been present, COVID-19 is an unprecedented outbreak with frightening speed of spread around the globe. Further, limited knowledge and uncertainty of the virus led to a flawed assessment of risk. Research has suggested that infection-related cues



shape our behavior. Uncertainty and unpredictability involved with infectious diseases like COVID-19 create strong emotional and behavioral reactions, including overestimated threat perception and unnecessary hoarding.

Need for Self-Protection and Control under Threat

Humans have fundamental motives for self-protection and control. Thus, when faced with disease threats, safety-seeking is a natural response. Whereas threat sometimes leads to desirable behavior, such as following health-protective measures, it also causes irrational behavior. At the end of February and early March in 2020, over-purchasing of necessities spread around the globe. Although hoarding can be seen as unnecessary or irrational, people may engage in it to regain perceived control under threatening circumstances. They can control at least the items that may become scarce during a pandemic. However, as panic buying causes temporary shortages and interrupts the distribution of necessities, policymakers, retailers, and marketers should carefully implement health-related communications that help people manage emotional distress and behaviors.

Strategies to Decrease Threat and Panic Buying

Imagine that you were reading a newspaper and found an update on the coronavirus (e.g., “Worldwide Coronavirus Cases (up to 10:00 GMT on March 19 2020): 220,877).” How would you feel? You may experience overwhelming fear, seeing such a large number of deaths by an unknown virus. Would your assessment

“Simply adding frequency information of unrelated but familiar events indeed effectively alleviates perceived threat of COVID-19, and, in turn, decreases hoarding.”



Profile



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of the risk and threat of the virus differ if you see additional information (e.g., “Worldwide Car Crash Deaths (from January 1 to March 19 2020): 260,877”) along with the same information on the coronavirus?

Frequency judgment is often systemically biased by contextual information or even irrelevant information [2]. The bias is more likely to occur when a target event is unfamiliar or rare. However, frequency judgment of such an unfamiliar event can be improved when the information of the target event is combined with the information of a relatively more familiar event. Thus, one way to correct the overestimation of a usual disease can be showing comparative statistics of a familiar event such as car accidents and flu statistics. In a series of experiments [3], my coauthors and I find that simply adding frequency information of unrelated but familiar events indeed effectively alleviates perceived threat of COVID-19, and, in turn, decreases hoarding.

Who is More Vulnerable to Threat Cues?

People assume that the decisions we make in the moment are the outcomes of who we are now. But, from the evolutionary perspective, growing research has documented that the environment people were exposed to when growing up, called childhood socioeconomic status (SES), often better predicts people’s decisions and judgments in adulthood. In another recently published paper [4], my coauthors and I find that the effect of health communication messages such as adding comparative statistics or positive statistical information on perceived threat and stockpiling intention, depends on childhood SES. There are at least two reasons. Working memory plays a critical role in interpreting information, reasoning, and regulating emotions. However, childhood poverty

“People who grew up in adverse, resource-scarce environments could not only be vulnerable to threatening events, but are also less responsive to communication messages.”

can impair working memory due to repeated experiences of stress during childhood. Impaired working memory can impede the processing of contextual information for people with low childhood SES. Furthermore, exposure to cumulative psychological and physical stressors can also impair people's affect-based processing such as recognizing emotional faces. Thus, people with low (vs. high) childhood SES may exhibit less emotional responses to negative information. In three experiments, we find converging evidence showing that additional statistics of a familiar event is more likely to lower stockpiling intention for people who grew up in benign environments (i.e., high childhood SES). They could better process information in the presence of a threat. But, people who grew up in adverse, resource-scarce environments could not only be vulnerable to threatening events, but are also less responsive to communication messages.

How to Stop People Overreacting during a Pandemic?

Simply providing additional information of a familiar event can effectively alleviate people's emotional and behavioral reactions to information about a life-threatening disease. Thus, to decrease people's perceived threat and panic buying amid the COVID-19 pandemic, governments or health authorities should provide extra information of a comparative event in their communications. In contrast, in countries where lockdown and social distancing are critical, but people are not fully adhering to the recommendations, authorities should avoid using such comparative statistics. Further, our findings suggest that such communication messages are effective for those who grew up in relatively benign, resource-rich environments. Thus, government bodies need to consider using different communication strategies depending on people's socio-economic status.

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