The Acting Head’s Message

Welcome to our 2nd newsletter, a tradition we began earlier this calendar year. We hope you find the contents informative, as you obtain a better idea of the research and other activities conducted in our zestful Division.

Since our inaugural newsletter was published, Hong Kong has been through many a COVID-related up and down. Fortunately, we are seeing light at the end of the tunnel and a return to some semblance of normalcy. During the Fall of 2022, this was marked by the hustle and bustle of students returning to campus for full in-person instruction. Whereas every semester is accompanied by verve and energy, this particular semester promises to be the start a new chapter and seems to be marked by even more eager anticipation.

As far as PPOL is concerned—and as you can see from this newsletter—our faculty have continued on their trajectory of excelling in their various professional domains. We look forward not only to more in-person professional and social activities, but also hosting at least two major conferences over the coming academic year which we hope to report on in future newsletters.

Happy reading!

Naubahar SHARIF
30 September 2022
Principal Investigator: Prof. Masaru YARIME

Project: The Smart City as a Field of Innovation: Effects of Public-Private Data Collaboration on Innovation in the Guangdong Province and Implications for the Greater Bay Area

Amount awarded: HK$180,000 in April 2022

Funding agency: Institute for Emerging Market Studies, HKUST

Data is increasingly considered to be a key component in stimulating innovation, as promising possibilities have been opened up by emerging data-intensive technologies, including the Internet of Things and artificial intelligence. Little empirical research, however, has analyzed the availability and accessibility of data to enterprises in facilitating innovation in smart cities. In this project, we examine what kinds of data are available in smart cities, how these data are managed through collaboration between the government and companies, and how the mode of data collaboration influences the innovation performance of SMEs in Guangdong province in China. Panel data are analyzed with key firm-level characteristics, software and patent outputs, and government procurement contracts. This research explores policy implications indicating how the government and enterprises collaborate on data to facilitate innovation while addressing concerns about data security and privacy in the Greater Bay Area.

Principal Investigator: Prof. Kira MATUS

Project: Towards 1.5C Lifestyles: What motivates sustainable consumption choices in Hong Kong?

Amount awarded: HK$930,575 in June 2022

Funding agency: Hong Kong Research Grants Council

This project seeks to understand how a cosmopolis like Hong Kong shifts towards more sustainable lifestyles. It also investigates what factors incentivize Hong Kong’s people to engage in habits and behaviors that support sustainability goals. Researchers working on this project will engage with local individuals, NGOs, think tanks, and businesses to develop hypotheses about the underlying motivational profiles of Hong Kongers and test these hypotheses via a survey of 1500 Hong Kong residents. This project will contribute a unique understanding of what motivates sustainable consumption choices in the Hong Kong context to scholarly and practical literature that is largely dominated by European and North American cultural perspectives.
Research Grants

**Principal Investigator:** Prof. Naubahar SHARIF

**Project:** Influence of and Interplay Between Culture and Chinese Outward FDI into Southeast Asia  
Amount awarded: HK$252,000 in April 2022  
Funding agency: HKUST Institute for Emerging Market Studies; Center for Economic Policy, HKUST

This research aims to examine the cultural characteristics of four cities in Thailand and Laos to determine how cultural factors are reshaping urban development at the city level and influence Chinese OFDI inflow to the four cities. Applying a multi-method approach, this research seeks to develop a new theoretical model to explain the impact of culture on urban development and Chinese investors’ decision-making. This research will contribute to a critical understanding of a new paradigm for policymaking by integrating research conducted on (a) culture, (b) urban development, and (c) Chinese investment.

**Project:** Towards a more inclusive Hong Kong: COVID-19, mental well-being, and mitigation strategies for a multicultural elderly community  
Amount awarded: HK$2,743,306 in June 2022  
Funding agency: Center for Aging Science, HKUST

This study’s objective is to reveal the unequal impacts of the COVID-19 pandemic on the mental well-being of the elderly population (those aged 65 and above) in Hong Kong representing several ethnicultural backgrounds—ethnic minorities and ethnic Chinese. For the former category, this study will comprehensively analyze the variation in psychological impacts across the city’s three largest ethnic groups, namely Indians, Pakistanis, and Nepalis. This study also aims to examine how distinctive social support networks within these communities can reduce some of the adverse consequences of the pandemic on their members’ mental health. Based on the findings, this study will propose coping strategies for the elderly population that consider multicultural contexts for a more inclusive society in Hong Kong.

Promotions and New Appointments

**Professor Masaru YARIME** has been substantiated as Associate Professor, effective 1 June 2022.  
**Professor Pengyu ZHU** has been promoted from Associate Professor to Professor, effective 1 July 2022.  
**Professor Kira MATUS** has been promoted from Associate Professor to Professor, effective 1 July 2022.

Ongoing Research Projects

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According to the Demographia International Housing Affordability Survey, Housing in Hong Kong has since 2010 been the least affordable among the world’s major metropolitan housing markets. Its house price-to-income ratio is 20.7, three times higher than Singapore’s. The deteriorating housing affordability has led to lengthy debates across society. The government has also attempted to manage demand and increase land supply. However, a tremendous gap between demand and supply remains. Is unaffordable housing in Hong Kong caused by the shortage of land, planning restrictions, or community politics? Is Singapore’s experience applicable to Hong Kong? On 19 February 2022, Prof. CHEUNG, Prof. LOW, and Dr. WONG shared their views and offered prospective solutions to the problem.

Prof. CHEUNG first explained that unaffordable housing in Hong Kong is fundamentally a result of severely low supply and very solid consumption and investment demand in the housing market. Therefore, the government must tackle both the supply and demand sides. He believes that, even if a city faces land constraints, it could still increase its housing supply by using land more intensively. Yet, given the lengthy planning process, diverse social interests, narrow-sighted politics, and limited government capacity, Hong Kong cannot increase its land supply quickly or significantly. In the short-to-medium term, he suggested that the government could develop brownfield sites, tap into private agricultural land, and modify the uses of sites under private leases. In the medium-to-long term, the government must develop new areas, e.g., the Northern Metropolis, the East Lantau Metropolis, and the reclamation land outside Victoria Harbor. In addition, Hong Kong needs to reform the planning system by enhancing the flexibility of the zoning system, streamlining the planning process, and strengthening inter-bureau/department coordination.

Prof. LOW first shared Singapore’s successful experience in public housing policy. In the 1960s, there were 350,000 households in Singapore but only 250,000 proper housing units. Moreover, housing conditions were poor and basic facilities were scarce. However, the Housing and Development Board (HDB) was able to tackle the crux of the problem very quickly. By 1975, nearly half of Singapore’s population lived in HDB flats. Since 1985, more than 80% of the population has remained living in HDB flats. There were also various size and quality options within HDB neighborhoods to cater to the demands of various income groups.

Prof. LOW then commented that public housing policy in Singapore has been designed to achieve multiple objectives, including home ownership, social and ethnic integration, building a “productivist” welfare society, ensuring retirement security, and demonstrating a high-performing government. Hong Kong could learn from Singapore’s experience. Nevertheless, Hong Kong cannot simply copy Singapore’s housing policy because it faces far stricter constraints than Singapore. For instance, the Land Acquisition Act enacted in 1966 enabled the Singapore government to acquire a large amount of land at a reasonable cost. Moreover, leveraging its strong government, the Central Provident Fund guided the population to accumulate considerable savings for down payments and monthly installments for HDB flats. These elements are absent from Hong Kong.

Dr. WONG first noted that land development in Hong Kong lagged far behind the need. He estimated that 9,080 hectares of land are needed in the next 30 years, including 4,800 hectares for the Hong Kong 2030+ mega project, 3,520 hectares for residential living space enhancement, and 760 hectares for facility land enhancement. Currently, the total potential supply is only 7,100 hectares. Hence, he recommended that the government expand the Lantau Tomorrow Vision and allocate extra areas in the New Territories for an additional supply of 3,600 hectares. In addition, he proposed two new railway projects and two major road projects on top of existing government plans. Dr. WONG then warned that if short-run housing unaffordability is not tackled, many talents will relocate to other cities. Furthermore, social tension will become unmanageable. He suggested that, to satisfy the urgent demand, development projects in the upcoming decades should be accelerated by streamlining development processes, e.g., simplifying leases, proceeding with reclamation works and town planning procedures simultaneously, and making proactive and professional judgments during district consultations. In terms of housing policy, he offered a series of recommendations, notably re-launching the Tenants Purchase Scheme (TPS), providing rent subsidies, fully opening up the White Form Secondary Market, and providing interest-free loans to first-time buyers.

Despite the severe land constraints, speakers generally agreed that unaffordable housing is a pressing social issue in Hong Kong, but it is not unmanageable. To tackle the problem, the government must adopt a “whole-of-government” approach and act decisively to streamline the planning process, develop new areas, and improve public housing policy.
Recently, the Greater Bay Area (GBA) became an important subject attracting great attention from all sectors of society. The “Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area” designates five strategic positions of the region: a vibrant world-class city cluster, a globally influential international innovation and technology hub; an important support pillar for the Belt and Road initiative; a showcase for in-depth cooperation between Mainland China, Hong Kong, and Macao; and a quality hub; an important support pillar for the Belt and Road Initiative. Furthermore, Hong Kong serves as a role model for mainland cities considering economic reforms, an intermediary connecting economic weaknesses, e.g., high production costs, rigid bureaucratic procedures, and falling competitiveness in innovation. Hong Kong's value to the GBA will be much more significant if it can differentiate itself from other cities in the region.

Second, Prof. LOW indicated that regional integration could create risk exposures for small economies, e.g., the drain of talents, migration of the manufacturing sector, dissipation of technology growth, and a less diversified economy. The city also needs a better ecosystem to maintain its competitiveness. Furthermore, Hong Kong needs to foster a vital innovation and enterprise ecosystem to maintain its competitiveness. Furthermore, Hong Kong should strengthen its public healthcare system and design a more practical COVID-19 strategy to ensure that its status as an international city is sustainable.

Prof. TANG agreed that Hong Kong desperately needs a third economic transformation. However, the prerequisites are a proactive economic strategy and socioeconomic adaptability. Such a transformation also requires diverse talents, especially in scientific and technological fields, and the development of new industries, e.g., health tech, green tech, and semiconductors. Prof. TANG recommended participating strategically in the GBA’s industrial ecosystem, attract high-tech multinationals, actively cultivate talent for a range of industries, increase land supply, and promote advanced production technologies.

Last but not least, all speakers agreed that the city’s government should strengthen its policymaking and policy implementation capacity and proactively coordinate actors from key sectors in Hong Kong, Mainland China, and Southeast Asia.
As emerging separatism became a significant concern of the central government, a "return of hearts" and establishing a Chinese national identity became top priorities in addition to national security. Nevertheless, is "identity" the root of political polarization and confrontation in recent years, or is it instead a framed articulation of various socioeconomic grievances and anxieties? On 30 April 2022, Prof. CHEUNG, Prof. LOH, and Mr. TSANG, who are experienced participants in Hong Kong’s pre-1997 transition and post-1997 governance, sought to unravel the critical issues and myths.

Prof. CHEUNG first illustrated that Hong Kong citizens lacked a clear and stable national identity, reflecting the city’s unique history before 1997. Although the locally born/raised generation originally embraced a strong Chinese identity, many became alienated from Mainland China after the Cultural Revolution. Moreover, local culture and pride were a blend of many things. People of different generations with different family histories may look at themselves differently.

Prof. LOH commented that the identity of Hong Kong citizens had always been contested. Hong Kong has been a new challenge to the city. Hong Kong citizens need to figure out how to see themselves as a part of China while maintaining Hong Kong’s international status, calibrate the proper level of self-administration and democracy, and define the city’s core values.

Mr. TSANG first analyzed the nature of the question - “Am I a Chinese or Hongkonger?”, to which an emotional answer is expected. If it could also be a question, i.e., “Would I prefer to be a Chinese or Hongkonger?”, to which a utilitarian answer is expected. In this case, people have to compare the privileges and rights that a Chinese or Hongkonger has against the corresponding duties.

Mr. TSANG then commented that, for “One Country, Two Systems” to work well, Hong Kong needs a strong sense of national identity. Moreover, national identity and patriotism are equivalent from the perspective of the leaders in Beijing. He explained that, according to a speech that Xia Baolong delivered in 2021, patriotism means loving the People’s Republic of China (PRC) and upholding the country’s socialist system. Citing the Education Bureau Circular, he further illustrated that a sense of national identity includes understanding the nation’s historical, economic, and technological development.

Third, Mr. TSANG commented that whether Hong Kong will be governed by a highly autonomous administration depends very much on whether the central government is convinced that there is a strong sense of nationality among Hong Kong citizens.

Identity: A real or packaged issue?

This paper compares six long-term development scenarios in China. For each scenario, the authors present a set of quantitative evaluations of carbon emissions pathways, energy transformation, technology, and policy and investment demand. Results indicate that reaching carbon neutrality before 2060 requires an average annual drop in CO₂ of 9.3% between 2030 and 2060. Such a reduction implies enormous investment in energy infrastructure, emissions reduction technologies, and breakthrough technologies. A long-term development strategy that can balance decarbonization and socioeconomic development is critical for the country.


Based on a qualitative content analysis, expert interviews, and discussion in recent literature, this paper studies the practical challenges and opportunities that blockchain applications offer. Instead of focusing on the blockchain technology, this paper employs a multi-perspective approach. Results show that the influences of these domain areas are scalability, data privacy, cost of change, market dynamics, user experience, skills, multi-stakeholder governance, and regulatory change. Major opportunities also arise from these domains. These include blockchain advancements, power market development, user research, and regulatory sandboxing. Moreover, a holistic approach that integrates these domains is crucial to the success of corporate strategies and public policy development related to blockchain and other emerging technologies.


This paper pinpoints down priority areas for wildlife mitigation in Indonesia by applying a multi-criteria method consisting of disaster, environmental, historical, and administrative parameters by consolidating 20 types of multi-source spatial data. Results suggest that 379,816 km² of forests in Indonesia are categorized as high-priority. Most priority areas for wildlife mitigation are Sumatra, Kalimantan, and North Maluku. Approximately 19.5% of these areas have suffered from deforestation due to wildfires during the last decade. Moreover, 5.2% and 3.9% of these areas are located in oil palm and mining areas, respectively. These findings assist efforts to select high-priority areas for the REDD+ program and land-use evaluation.


This paper first merges big data from Baladu Population Migration with metabolite and energy balance data from 200 Chinese cities. Next, it applies the synthetic control model to simulate a counterfactual “synthetic Hong Kong” without a strict border restriction policy. It then compares the infection trends between the simulated scenarios with the actual infection dynamic. Results show that the COVID-19 infection rate in the simulated scenarios is lower than in the actual scenario. This paper suggests that the border restriction policy may not effectively restrain the spread of COVID-19 when the virus is already circulating in the city.


Zero CO₂ emissions pathways in China’s iron and steel industry and their impacts on resources, energy, and water are explored by applying the MESSAGEix model and an iron and steel model that incorporates the process-based technology of the sector into the NASA’s MESSAGEix structure. Multiple pathways to reaching zero CO₂ emissions in the country’s iron and steel industry before the end of the 21st century are identified. In all these pathways, CO₂ emissions decreased substantially between 2030 and 2060 because of the swift transition to 100% scrap-based Electric Arc Furnaces (EAFs) and hydrogen-based Direct Reduced Iron (DRI)-EAF steel-making technologies. Nevertheless, China will still need carbon sink or negative emissions technologies to neutralize 70-80% of fossil CO₂ emissions from China’s iron and steel industry. Moreover, the impacts of various technologies for achieving zero emissions on the consumption of materials and energy vary. Last but not least, this paper recommends a cross-cutting strategy to achieve zero CO₂ emissions and promote materials recycling, clean energy, and clean water.


This article suggests that the lack of public trust and social capital, in addition to insufficient mobilization capacity, is a salient reason for the debacle of COVID-19 mass-testing in Hong Kong. If public trust and social capital further diminish, the government will encounter additional obstacles to implementing other policies in the future. This article recommends that the government create more space enabling community groups to react to crises and strengthen its relationship with civil society insofar as the government alone cannot supply public and social services in all areas.


This paper reveals that the approach of climate policymaking in China between 1990 and 2020 can be considered a conceptual learning process. In the first stage of the conceptual learning process, the government has reconceived climate change from a scientific and diplomatic problem into a developmental and strategic issue. In the second stage, the government switched the focus from avoiding climate action to rethinking economic development through climate action. In the third stage, the government has restructured its climate change strategy from mitigation to adaptation and from centralized governance processes to more diversified coordination.


This paper summarizes the key features of China’s CO₂ emissions, reduction processes, and successes in meeting climate targets. Decarbonization in China began in 2005 and 2020, carbon intensity was reduced by 48.4%. Nevertheless, it is still challenging for China to reach its peak total CO₂ emissions before 2030 and achieve carbon neutrality by 2060. Critical steps towards carbon neutrality include increasing China’s non-fossil energy share, large-scale adoption of negative-emissions technology, supporting regional low-carbon development, and creating a national “green market”. Alignment of top-down socio-economic development plans and bottom-up economic incentives and technology development is crucial to achieving these steps.
top-down political imperatives. Instead, wind power projects were pursued by marginalized subsidiary companies of CSOEs as practical business opportunities to survive and grow. Although headquarters of CSOEs generally considered wind power an unconventional energy source without strong profitability, institutional changes and market reforms in the power sector and among state-owned enterprises during the early 2000s motivated CSOEs to engage in wind power investment projects to enhance profit. This finding contradicts the conventional assumption that CSOEs invest in wind power to fulfill political objectives.

Wang, J., Chandra, Kevin, Du, C., Ding, W., & Wu, Xun (2022). Transformation of Cross-Border Regional Innovation Networks: A Case Study of Hong Kong and Shenzhen. In Higher Education, Innovation and Entrepreneurship from Comparative Perspectives (pp. 185-210), Springer, Singapore. Based on publication, patent, and entrepreneurship activity data, this article explores the transformation of Hong Kong and Shenzhen with a focus on their innovation activities. Electronics and ICT are the main high-tech sectors in both cities. Results point to a high complementarity of innovation resources between the two cities. However, the structure of each city’s local innovation system is unbalanced. The innovation system in Shenzhen is tilted toward the industry sector, while innovation activities in Hong Kong are predominantly academic. This paper suggests that if the cross-border regional innovation networks between the two cities are connected more extensively, their innovation systems can play a more balanced role between key innovation actors.

Gietel-Basten, Stuart, Matus, Kira, & Mori, R. (2022). COVID-19 as a trigger for innovation in policy actions for older persons? Evidence from Asia. Policy and Society, 41(1), 168-186. Analyzing policies across Afghanistan, Bangladesh, India, Iran, Japan, Korea, Myanmar, Pakistan, and Vietnam, this paper shows that COVID-19 responses speed up and scale up existing policy programs. Moreover, it identifies two domains where COVID-19 policies have the greatest potential to generate long-lasting innovation in Asia. The first is infrastructural enhancements to ensure access to services and the development of remote banking. The second is well-being and caring support, e.g., telemedicine, delivery services for medical and other supplies, and remote support for the elderly. These findings are consistent with “acceleration” models of policy change.

Sharif, Naubahar, & Chandra, Kevin (2022). A comparative analysis of innovation policies in Hong Kong and Shenzhen within the Greater Bay Area Initiative. Science and Public Policy, 49(1), 54-71. This paper finds that Hong Kong’s innovation policies are diverse, fragmented, and overlapping. In contrast, Shenzhen’s innovation policies are more targeted with a clear division of duties and responsibilities. Integration between the two cities is taking place but is weak. To strengthen integration, Hong Kong and Shenzhen can collaborate in four domains: talent recruitment, joint R&D activities, enterprise competitiveness, and support for start-ups. Moreover, this paper argues that the integration of innovation activities between the two cities could be the main force driving the development of the Greater Bay Area.
MPP students won the second prize in the 2022 Tsinghua International Case Analysis Competition of Public Policy on Sustainable Development Goals

On August 20, 2022, a team of four MPP students, including Bangyuan AN, Hanz Charles PONCE ACOSTA, Yije ZHANG, and Yuqi LIU, won the second prize in the 2022 Tsinghua International Case Analysis Competition of Public Policy on Sustainable Development Goals. The title of the award-winning case analysis report was “Salient Altar of Saline Alkali Land: Lessons from the Development of Agricultural Technology in Saline Alkali Land in the Yellow River Delta.” Prof. Masaru YARIME and Prof. Xiaofan ZHAO were the advisors for this team.

“They have chosen a meaningful topic – sustainable agriculture – and demonstrated brilliant analytical skills as a result of their training in the MPP program. I hope that more MPP students will follow their steps and join this and other similar case competitions in the future,” Prof. ZHAO said.

The School of Public Policy and Management and the Institute for Sustainable Development Goals of Tsinghua University organized the competition. Fifty-four teams from 84 institutes in China, the United States, Brazil, Japan, Canada, and Italy participated in the competition. Through case studies, students were encouraged to explore existing problems, practices, policy innovations, and solutions to sustainable development worldwide.

In 2022, the Division of Public Policy (PPOL) launched the Public Policy Fellowship Program to support outstanding students from around the world in pursuing taught postgraduate programs in public policy and management at the Hong Kong University of Science and Technology (HKUST).

The Fellowship is open to eligible applicants from all countries; we especially welcome applicants from Belt and Road countries. The Fellowship will cover the full tuition fees and provide an annual allowance. The fellows should not concurrently hold any other scholarship, fellowship, or award.

Eligible applicants admitted to the Master of Public Policy (MPP) or Master of Public Management (MPM) program will be evaluated for the Fellowship based on academic and professional achievements, contribution to cultural diversity, quality of the class learning environment, leadership potential, and commitment to good governance. No separate application is required.
PPOL Postgraduate Programs Orientation Day

Incoming PPOL students, faculty members, and guest speakers arrived at HKUST for orientation day.

The PPOL postgraduate programs orientation day was held on August 27, 2022. Incoming students in the MPP, MPM, and MPhil/Ph.D. programs received warm greetings from PPOL faculty members and learned more course details for their new start at HKUST.

Two guest speakers, Mr. Oscar Yam-Shu KWOK, the Head of the Civil Service College of the Hong Kong Special Administrative Region, and Prof. Heiwai TANG, the Victor and William Fung Professor in Economics at the University of Hong Kong, were invited to share invaluable insights into Hong Kong’s existing policy challenges and the new approach needed to build a better Hong Kong.

Mr. Yam-Shu Kwok, the Head of the Civil Service College of the Hong Kong Special Administrative Region, narrated Singapore’s experience to demonstrate that social engineering implemented by an active government does not undermine family and social responsibilities; instead, optimal social policies, e.g., in housing and education, support people and encourage them to bear more social responsibilities and contribute to racial and religious harmony. He also emphasized the importance of a far-sighted vision and persuasive communication skills in leadership. Finally, he indicated that security, prosperity, and stability are the fundamental objectives of every society irrespective of governance systems or philosophies because these are the foundations of the social contract.

Mr. Oscar Yam-Shu KWOK shared insights into policy governance in Hong Kong.

Students and teachers spent time together during the MPM Welcoming Dinner.

Prof. Naubahar SHARIF gave a speech at the MPP Welcoming Lunch.
China-Pakistan Economic Corridor: Is Pakistan Ready for Technology Catchup?

Dr. Athar MANSOOR
Supervisor: Prof. Naubahar SHARIF
Placement: Chief Strategy Officer, Enrichers Investment Group, Lahore, Pakistan

This study examines the essence of the China-Pakistan Economic Corridor (CPEC) through a qualitative approach. It identifies a big opportunity for Pakistan to catch up with technology innovation. This study applies the popular National Innovation System (NIS) approach to describe the NIS of Pakistan and tests a new theory in science, technology, and innovation scholarship – the theory of creative insecurity – in Pakistan, and identifies the variables that have hindered Pakistan’s technological progress from the perspective of its relative threat balance, but not from the perspective of domestic institutions and policies. It argues that Pakistan should take advantage of the special economic zones being created across the country within the CPEC’s industrial cooperation framework. Finally, it offers policy recommendations for improving the functions of Pakistan’s NIS.

Regulation of artificial intelligence technologies in the Indian construction industry

Dr. Vishnu SIVARUDRAN PILLAI
Supervisor: Prof. Kira MATUS
Placement: Principal Research Associate, the Indian Institute of Corporate Affairs

This thesis extends the Normal Accident Theory (NAT) and High-Reliability Organisation (HRO) theory to the AI-ified construction sector. It focuses on the risks related to AI technology run beyond the physical domain and include retrenchment/layoffs, privacy risks, and liability risks. The regulatory space is spanned by efforts taken by highly qualified and skilled employees. Nevertheless, AI system developers operate outside the liability spectrum, causing irresponsible innovation, privacy risk, etc. Moreover, country-level laws, ISO standards, and contractual guidelines are insufficient for an ‘AI-ified’ construction sector.

Online surveys as evidence for policymaking: Examining the relationships between incentives, response rates, sample representativeness and data quality

Dr. C. Joy CRUZ
Supervisors: Prof. Stuart Gietel-Basten and Prof. Kira Matus
Placement: Assistant Professor at the University of the Philippines Population Institute

This thesis seeks to examine the extent of the use of survey evidence in policymaking. It also aims to evaluate the relationship between incentives, response rates, sample representativeness, and data quality when implementing online surveys.

First, through document analysis of 18,566 legislative documents used to discuss 569 bills from 2000 to 2022, the author assessed the extent of the use of surveys in public policymaking in Hong Kong. Second, an experimental study has been implemented to examine the effect of incentives on the response rate of large-scale online social surveys like the Hong Kong Generations and Gender Survey (HK-GGS). Third, through exploratory, in-depth analyses using HK-GGS survey data, the author evaluated the quality of the data and the sample’s representativeness.

Findings suggest that there is low uptake of survey data in policymaking in Hong Kong, specifically in legislation. Furthermore, conducting a large-scale, address-based, randomly sampled, and purely online survey is plausible within the premise of giving incentives and considering all other factors. Last but not least, higher response rates make the HK-GGS pilot data reliable.

Policy Decision-Making in Sustainable Development

Dr. Viktória DOMÉ
Supervisor: Prof. Kira MATUS
Placement: Research Associate, Innovation Pathways at the Institute for Manufacturing, University of Cambridge

This thesis aims to comprehensively analyze policy decision-making in advancing technological innovation for sustainable development. Using quantitative analysis, the author started from a global perspective on the factors that influence policy tool choice in the renewable energy sector. Based on a literature review and content analysis of government documents, the author then moved on to examining the broader innovation context, including barriers and innovation strategies. The author built on a previous cross-sectoral framework (Anadon et al., 2014, 2016), to enable a comprehensive multi-sectoral (five sectors) and multi-country analysis to determine whether innovation policies are designed to mobilize innovation for sustainability.

The author investigated ten small, developed countries as niches in a global system with specific innovation strategies, policies, and focus areas while constrained by limited resources. Finally, the author provided a case study illustrating policies supporting the clean energy transition in four Central European countries.

Understanding Long-Term Care Provision for Community-Dwelling Older People in China through the Lens of Welfare Mix

Dr. Zih Li
Supervisor: Prof. Stuart Gietel-Basten
Placement: Postdoctoral Fellow, Consortium on Analytics for Data-Driven Decision-making (CAnD3), McGill University

This thesis applies the welfare mix framework to explore how the four core institutions in the elderly social welfare system of China, namely the state, the market, the third sector, and the family, share responsibilities, interact with each other, and explain the challenges they encountered during the collaboration process.

The findings suggest that because older parents are becoming more independent from adult children, the family alone is no longer sufficient to meet community-dwelling older people’s long-term care needs. Although there is a remarkable increase in formal provision under the state’s advocacy, it has not translated into fewer unmet needs. The lack of effective collaboration between formal and informal care leads to two consensus gaps: between the state’s contribution and citizens’ expectations, and between the state’s ambition and non-state actors’ capacity.

Cage Builders and Bird Catchers: Examining the Influence of China’s Industrial Relocation Policies through Guangdong’s “Double Transfer” Program

Ms. Jasmine ZHANG (MPhil)
Supervisor: Prof. Pengyu ZHU

Reviewing relevant policy documents and applying fixed-effects and lagged dependent variable regression adjustment models, this study first explores what types of policy tools have been employed by the Guangdong government to direct industrial relocation to shed light on policies that are significantly different from those more common in liberal market economies. Second, the study examines whether these policies have led to a different industrial arrangement than would otherwise have been the case. Results suggest that state policy beyond infrastructure investment, taxation, and other fiscal incentives should be considered in future analyses of industrial relocation in China. These factors are relevant to examining industrial relocation at the national level, given numerous similar programs launched by the national and provincial governments.
The Smart City as a Field of Innovation: Effects of Public-Private Data Collaboration on the Innovative Performance of Small and Medium-sized Enterprises

Ms. Xiaohui JIANG (MPhil)
Supervisor: Prof. Masaru YARIME
Placement: PhD in Economic Geography at the University of Zurich

This study addresses how data are managed through collaboration between the government and companies in smart cities and how obtaining various types of government contracts (equipment supply, platform building, data analysis) can influence innovation performance. Focusing on the case of SMEs in China, this research aims to shed light on what kinds of data are available and used in smart cities and how the government and enterprises collaborate on data to facilitate innovation. Data on companies’ registered capital, industry, software products, and patents from 1980–2020 are compiled from the Tianyancha database. A panel dataset is established with the key characteristics of SMEs, software and patent output, and their records on government contracts. Our PSM analysis suggests that, compared with the control group, the treatment group that obtains government contracts generates more innovation outputs.

Developing Intelligent Air Cargo Logistics --- Challenges & Opportunities for Hong Kong

Client: Huawei Technology
Faculty advisor: Prof. Pengyu ZHU
Students: Siyin LIN, Danning HOU, Mingyue DAI, YiJie LIU

Hong Kong is an international air logistics hub given its strategic location and world-class infrastructure. Nevertheless, major airports in the Asian-Pacific region increasingly challenge the leading position of the Hong Kong International Airport as they invest heavily in air cargo logistics. Moreover, valuing passengers over goods leads to underdevelopment in Hong Kong’s air cargo logistics.

The first objective of this project is to create a 10-year technology roadmap to help the industry capture innovative technologies applicable to air logistics. The second is to formulate a policy framework to support this roadmap’s sustainable development while considering the interests of key stakeholders. Therefore, project team members conducted interviews with key stakeholders, e.g., tech companies, academia, and airline companies. They also studied secondary data sources, e.g., airport reports and journal articles, and carried out desk research on 22 international airports across five continents.
Accelerating the Development of a Global Innovation and Technology Hub in the Guangdong-Hong Kong-Macao Bay Area: University-industry Cooperation in Hong Kong

Client: Policy Innovation and Co-ordination Office
Faculty advisor: Prof. Masaru YARIME
Students: Jieyu GAO, Pui Gi SZETO, Tianhuai WANG, Jing YANG, Xiaodan ZHANG

The Hong Kong government aims to develop Hong Kong into an innovation center. This research group shows, however, that university-industry collaboration (UIC) in Hong Kong is weak. Although several universities in Hong Kong are among the Top 100 in the QS World University Rankings, their innovation performances are not equally impressive. Moreover, gross domestic expenditure on R&D (GRED) in Hong Kong is almost the lowest among developed economies.

Based on a survey of companies in four cities - Beijing, Shanghai, Shenzhen, and Hong Kong - the research group analyzes their key differences in the development of university-industry collaboration and what the Hong Kong government should do to promote the development of UIC in Hong Kong.

Compared with those in the other three cities in Mainland China, companies in Hong Kong are mostly small and medium-sized enterprises. They usually lack the capability and resources to conduct technological research and development. Hong Kong also lacks a formal network enabling private companies to contact university researchers and learn about university research outputs. Moreover, economic activities in Hong Kong are predominately related to the finance sector, while the other three Mainland cities target the development of hi-tech industries. Last but not least, the long and complicated processes for research funding applications in Hong Kong weaken private companies’ incentives for participating in UIC.

Thus, the research group recommends that the government improve the efficiency of the research funding system by standardizing operating procedures, coordinating and harmonizing funding, and strengthening expert networks. The government could also build the research talent pipeline and a platform to enhance collaboration accessibility by developing formal interaction channels to share information and establishing a platform to integrate the full cycle of technology transfer. In addition, the government could increase public R&D expenditure.

Defining Sustainable Finance: Hong Kong’s Taxonomy Strategy

Clients: Institute for Public Policy, HKUST; Climate Bonds Initiative
Faculty advisor: Prof. Xun WU
Students: Beijiu CHEN, Yuxuan CUI, Shitong LI, Yue SHEN, Xiting WANG

In 2020, the size of the global green bond market was over 1 trillion USD, and green bonds from Hong Kong issuers totaled 2.90 billion USD. It is estimated that 9 trillion USD investment in sustainable infrastructure will be needed in the coming 15 years to tackle the pressing environmental challenges facing the global community. Yet, the green finance sector in Hong Kong, an international financial center, remains nascent.

The report indicates that one of the key components for developing a sustainable finance sector is green taxonomy. Green taxonomy is a "must-to-have" tool for defining "green projects" and reducing transaction costs. Such a taxonomy would also create a common language for market participants such as bond issuers, investors, verifiers, and regulators. Many economies attach great importance to sustainable taxonomy. Sustainable taxonomy in some economies, e.g., China and the EU, is already functioning. However, because of a lack of data and knowledge, implementing green taxonomy in Hong Kong faces many challenges, e.g., difficulties in assessing the related technical criteria.

The report suggests that the Hong Kong government could enhance public awareness of the benefits and successful cases of the common ground taxonomy (CGT) and collaborate closely with the International Platform on Sustainable Finance. On the other hand, the government could strengthen its capacity in sustainable finance by clarifying regulations, improving the data environment, developing necessary professional skills, and incentivizing market participants.