SCHOLARLY SHOWCASE

Science, Technology, and Innovation Policy

He, Alex Jingwei, Zhuoni Zhang, Pritish Anand, and Sean McMinn. "Embracing generative artificial intelligence tools in higher education: A survey study at the Hong Kong University of Science and Technology." Journal of Asian Public Policy 18, no. 1 (2025).

Focus of Study

This study investigates the use of ChatGPT among students at The Hong Kong University of Science and Technology (HKUST), focusing on its impact on learning and career development. A survey of 680 students revealed high engagement with ChatGPT, with most intending to continue its use. Demographic factors such as age, gender, and field of study significantly influenced perceptions and usage patterns. Notably, research postgraduate students demonstrated greater reliance on ChatGPT, while male students perceived a stronger impact on their learning outcomes. The findings underscore the importance of AI literacy in enhancing the benefits of generative AI tools in education.

Policy Recommendations

Higher education institutions should implement mandatory AI literacy courses to equip all students with essential skills for leveraging tools like ChatGPT effectively. Additionally, policies should be tailored to address demographic differences in AI tool usage, ensuring equitable access and maximizing the educational benefits of generative AI technologies.

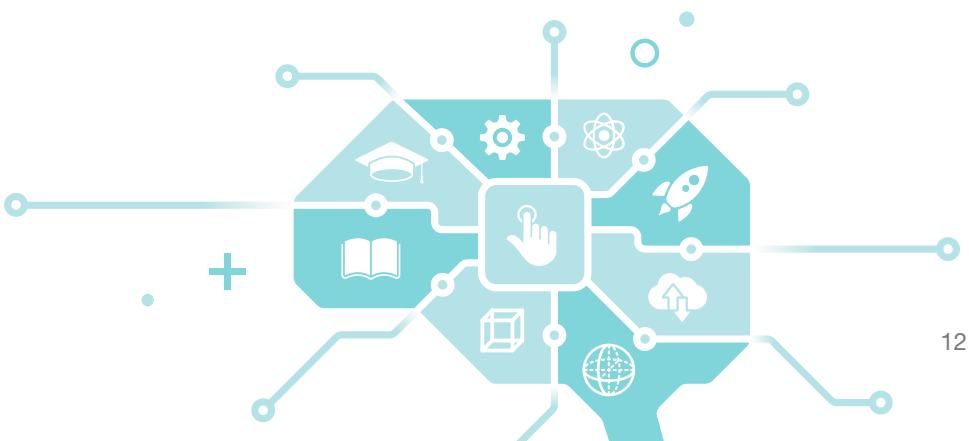
Luo, Gloria Wenting, Viktória Döme, Weronika Cycak, and **Kira JM Matus**. "Innovation policy for sustainability transitions in small economies: Energy technology innovation in Hong Kong." Environmental Innovation and Societal Transitions 51 (2024): 100841.

Focus of Study

The article analyzes Hong Kong's innovation policy for sustainable energy transitions, comparing it with 11 other small, high-income economies. It identifies 696 innovation interventions from 2008 to 2020, categorizing them into 42 policy instruments. The findings reveal that Hong Kong's policy mix relies heavily on overarching strategies and demand-side policies, but lacks sufficient support for domestic clean energy technology R&D. This gap hinders the city's capacity to overcome the "valley of death" in innovation, contrasting with more proactive peers that provide targeted R&D funding and business support.

Policy Recommendations

To enhance its energy innovation capabilities, Hong Kong should develop a strategic research and innovation framework specifically targeting clean energy technologies. This includes increasing R&D funding, fostering public-private partnerships, and implementing clearer policy guidelines to support the commercialization of innovative solutions and effectively bridge the innovation gap.



Kobashi, Takuro, Eric Zusman, Makoto Taniguchi, and **Masaru Yarime**, "Facilitating a Carbon Neutral Transition in Kyoto: Initiatives on Rooftop Photovoltaics Integrated with Electric Vehicles," Technology in Society, 80, 102774 (2025).

Focus of Study

The article discusses the urgent need for urban decarbonization as cities face the challenge of accommodating a growing population while achieving carbon neutrality. It explores the potential of integrating rooftop photovoltaics (PVs) with electric vehicles (EVs) in Kyoto, Japan, through the "SolarEV City Concept." By analyzing the Kyoto Miraimon Project, the study highlights the opportunities and challenges of establishing a community-scale "PV + EV" system. The authors emphasize the importance of collaboration among stakeholders, including government, industry, and academia, to align interests and accelerate technological adoption. The findings suggest that such integrated systems could significantly reduce CO2 emissions and energy costs, contributing to Kyoto's decarbonization goals.

Policy Recommendations

To facilitate the adoption of "PV + EV" systems, policymakers should prioritize funding for infrastructure improvements, including EV charging stations and rooftop PV installations. Additionally, creating supportive regulatory frameworks that incentivize public-private partnerships and community engagement is essential for overcoming barriers and promoting sustainable energy transitions.

Chan, Keith Jin Deng, Gleb Papyshev, and **Masaru Yarime**, "Balancing the Tradeoff between Regulation and Innovation for Artificial Intelligence: An Analysis of Top-down Command and Control and Bottom-up Self-Regulatory Approaches," Technology in Society, 79, 102747 (2024).

Focus of Study

The article analyzes the balance between regulation and innovation in artificial intelligence (AI) through a game-theoretic model. It compares top-down regulatory approaches, as seen in the EU and China, with bottom-up self-regulatory strategies in the UK and Russia. The findings suggest that the optimal level of regulatory stringency depends on foreign competition and institutional parameters. When foreign competition is high or low, stringent regulation benefits consumer welfare; however, light regulation may be optimal at intermediate competition levels. The study underscores the need for a nuanced approach to regulation, balancing consumer protection with innovation incentives.

Policy Recommendations

Governments should adopt a flexible regulatory framework for AI, adjusting stringency based on foreign competition levels. This approach should ensure consumer protection while fostering innovation, particularly in dynamic environments where rapid technological advancements occur. Regular assessments of regulatory impact should inform adjustments to maintain this balance.

Environmental Policy and Sustainability

Chen, Xiaodong, Zhuang Miao, Ge Wu, and **Pengyu Zhu**. "City-level green growth accounting: Evidence from China's thirteen urban agglomerations." Renewable and Sustainable Energy Reviews 203 (2024): 114776.

Focus of Study

This article investigates the industrial sector's role in achieving carbon neutrality in China's thirteen urban agglomerations (TUAs) from 2006 to 2016. Utilizing a novel Malmquist productivity index framework, the study evaluates how efficiency changes and technological advancements contribute to environmental productivity growth. Findings reveal an average annual productivity gain of 2.6%, primarily driven by energy use and pollutant management, with industrial sulfur dioxide emissions being notably impactful. However, a negative 'catch-up effect' (–0.2%) indicates that less advanced areas struggle to match the productivity of more developed regions. The research emphasizes the necessity of technology transfer and capital investment to improve environmental performance. Overall, the study provides crucial insights for policymakers aiming to enhance sustainable development by addressing the complexities of industrial activities and their environmental consequences.

Policy Recommendations

To enhance environmental performance in China's TUAs, policymakers should prioritize technology transfers from advanced regions and increase investments in renewable energy. Implementing tailored regulatory measures for industrial emissions, especially sulfur dioxide, will foster sustainable development and mitigate the negative environmental impacts associated with industrial growth.

Yang, Lin, **Yatang Lin**, Jin Wang, and Fangyuan Peng. "Achieving Air Pollution Control Targets with Technology-Aided Monitoring: Better Enforcement or Localized Efforts?." American Economic Journal: Economic Policy 16, no. 4 (2024): 280-315..

Focus of Study

This paper investigates the impact of automated monitoring systems on air pollution control in China, particularly in the context of the country's efforts to combat pollution. The study leverages a staggered rollout of monitoring technology and remote-sensing data to assess local government responses. Findings reveal that local authorities strategically target pollution reduction efforts in areas near automated monitors, achieving a 3.2 percent decrease in pollution levels in those zones compared to areas further away. The research highlights variability in responses among different cities, influenced by preexisting practices of data manipulation and the incentives and public pressures faced by local officials. This suggests that while automated monitoring can enhance accountability, its effectiveness may be contingent upon the local governance context and existing incentives. Overall, the study underscores the need for a nuanced understanding of how technological advancements can be leveraged to improve environmental policy outcomes.

Policy Recommendations

To enhance air quality management, policymakers should invest in automated monitoring systems while ensuring transparency and accountability in local governance. Additionally, aligning incentives for local officials with pollution control objectives can mitigate data manipulation, fostering genuine efforts to reduce pollution and achieve environmental targets across diverse urban contexts.

Social and Urban Policy

Ma, Haoran, Yan Zhang, Pengyuan Liu, Fan Zhang, and **Pengyu Zhu**. "How does spatial structure affect psychological restoration? A method based on graph neural networks and street view imagery." Landscape and Urban Planning 251 (2024): 105171.

Focus of Study

This study explores how urban spatial structure impacts psychological restoration by employing a spatial-dependent graph neural network (GNN) approach. Utilizing sequential street view images, the research constructs street-level and city-level graphs to capture visual relationships and topological structures, integrating various perceptual and socioeconomic features. The findings indicate that the GNN model significantly outperforms traditional methods, achieving an accuracy of 0.742 and an F1 score of 0.740. Results highlight that naturally relevant entities, such as trees, play a more crucial role in enhancing restoration quality than artificial structures like buildings. This research addresses gaps in prior studies that relied on isolated assessments, providing a comprehensive understanding of how spatial structures contribute to psychological restoration in urban environments. The study's innovative approach could inform urban planning strategies aimed at improving mental well-being through enhanced environmental design.

Policy Recommendations

Urban planners should prioritize green infrastructure, such as parks and trees, in city designs to enhance psychological restoration. Implementing spatial structures that promote natural elements can significantly improve urban well-being. Utilizing advanced analytical methods, like graph neural networks, can guide effective urban planning decisions for healthier environments.

Low, Donald. The Price of Zero : China's Policy Missteps during and after Covid. Hong Kong: Regal Printing Limited, 2024.

Focus of Study

The book delves into the causes and economic consequences of China's zero-Covid policy. Initially effective in controlling the outbreak, this approach eventually led to significant challenges as the virus became more transmissible and as highly effective vaccines became available. The government's reliance on strict suppression measures, combined with a series of regulatory crackdowns, weakened consumer and investor confidence, and created deflationary pressures. Despite the authorities stepping up efforts to catalyze an economic recovery in last quarter of 2024, underlying structural problems – such as a low consumption share of GDP, over-reliance investment to drive growth, high levels of corporate and local government debt, and a prolonged property slump – are unlikely to go away soon. It is also unclear how the new emphasis on new quality productive forces would end deflation, given concerns over excess supply. The book underlines the importance of adapting policies to (fast-) evolving circumstances, and highlights the perils of hubris, utopian thinking, and overconfidence in policymaking.

Policy Recommendations

Policymakers should prioritize flexible, evidence-based strategies that integrate public health and economic considerations. Transparent communication and regular evaluations of policy effectiveness are crucial. Additionally, fostering public trust through social welfare investments can mitigate fear and enhance resilience, ultimately supporting a balanced approach to crisis management and economic recovery.

Cologna, Viktoria, Niels G. Mede, Sebastian Berger, John Besley, Cameron Brick, Marina Joubert, ... **Michael Tyrala**, ... and Rolf A. Zwaan. "Trust in scientists and their role in society across 68 countries." Nature Human Behaviour (2025): 1-18.

Focus of Study

This article examines public trust in scientists across 68 countries through a large-scale survey involving 71,922 respondents. The findings reveal that most people have relatively high trust in scientists (mean trust level = 3.62, on a scale from 1 = very low trust to 5 = very high trust) and believe they should play a more active role in society and policymaking. Variability in trust levels is influenced by demographic factors, political orientation, and country-specific contexts. While the overall trust in scientists is moderate to high, concerns arise from a minority of individuals who exhibit skepticism, particularly those with conservative beliefs or science-related populist attitudes. The study highlights the importance of aligning scientific priorities with public expectations, particularly in critical areas like improving public health, solving energy problems, and reducing poverty. Effective science communication and public engagement are essential for maintaining trust and ensuring evidence-based policymaking.

Policy Recommendations

Policymakers should promote active engagement between scientists and the public by facilitating transparent communication and collaboration on pressing societal issues. By aligning research priorities with community needs, such as improving public health, solving energy problems, and reducing poverty, trust in scientific expertise can be strengthened, supporting effective evidence-based policymaking.

Wu, Sherry Jueyu, Ke Michael Mai, Ming Zhuang, and **Fangxin Yi**. "A large-scale field experiment on participatory decision-making in China." Nature Human Behaviour (2024): 1-8.

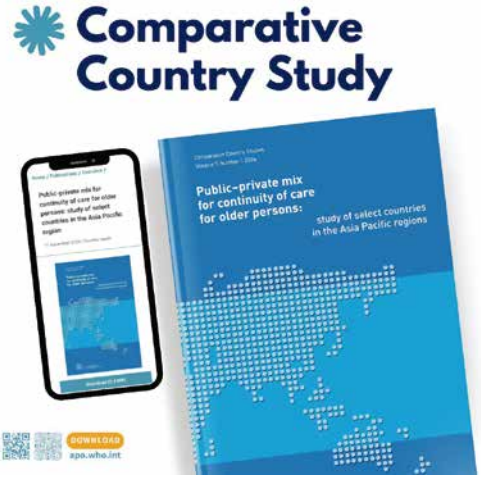
Focus of Study

This article examines the effects of participatory budgeting in centralized regimes, particularly in China. This approach empowers citizens by granting them a voice in local government spending, fostering civic engagement, and enhancing overall satisfaction with government services.

A study conducted in Chengdu with nearly 8,000 residents revealed that participants in the budgeting process displayed a heightened interest in civic engagement and greater satisfaction with the central government when compared to a control group. Importantly, this engagement did not result in increased cynicism or dissatisfaction with the regime; instead, it fostered a sense of responsiveness and pride among participants. The findings suggest that introducing democratic elements within undemocratic systems can positively influence citizen attitudes and improve evaluations of public policy, thereby bolstering the resilience of centralized governance.

Policy Recommendations

To further enhance citizen engagement and satisfaction in centralized regimes, policymakers should implement participatory budgeting processes. This strategy not only empowers citizens but also strengthens their connection to the government, fostering pride and promoting constructive civic involvement without undermining the existing political framework.



Baru, Rama, Ramila Bisht, **Alex Jingwei He**, Madhurima Nundy, Hongsoo Kim, Thresia Cu, Jae Yoon Yi, and Minxing Chen. World Health Organization, Regional Office for the Western Pacific, and Asia Pacific Observatory on Health Systems and Policies. Public-Private Mix for Continuity of Care for Older Persons: Study of Select Countries in the Asia Pacific Region. Vol. 7, no. 1. WHO Regional Office for the Western Pacific, 2024.

Focus of Study

This study, titled "Public-private Mix for Continuity of Care for Older Persons," conducted by the Asia-Pacific Observatory on Health Systems and Policies, examines health and social care systems for the elderly in selected Asia-Pacific countries, including Hong Kong, South Korea, India, and China. With Professor Alex Jingwei He as a key member of the multinational interdisciplinary research consortium, this collaborative research highlights the challenges posed by fragmented services and emphasizes the necessity for integrated care models.

The study reveals that while countries adopt diverse approaches to elder care, effective public-private partnerships (PPPs) can significantly enhance service delivery and ensure continuity of care for older adults. The findings stress the importance of employing needs assessment tools and leveraging digitalization to improve care coordination. Ultimately, the report aims to provide actionable insights for policymakers, helping them to create more effective and sustainable care systems tailored to the needs of the aging population. By addressing the complexities of elder care through a comprehensive analysis of current practices and potential improvements, the study seeks to foster better health outcomes for older persons across the region.

Policy Recommendations

Health policymakers should prioritize the establishment of robust public-private partnerships to enhance care continuity for older persons. Additionally, investing in training for caregivers, implementing needs assessment tools, and leveraging digital solutions are crucial for improving service integration and ensuring high-quality care in the region.

Rai, Arun, yanzhen Chen, and **Yatang Lin**. "Exclusion for Public Safety or Inclusion for Gig Employment: Managing the Tension with a Trilogy of Guardians." MIS Quarterly 48, no. 4 (2024).

Focus of Study

This article explores the dual objectives of gig platforms, which aim to provide income opportunities for socially and economically marginalized individuals while addressing safety concerns associated with unregulated drivers on Transportation Network Company (TNC) platforms like Uber and Lyft. It discusses the necessity for background check laws (BCLs) and conceptualizes a trilogy of guardians—government, TNC platforms, and the community—to foster ridesharing safety while minimizing the social costs of excluding marginalized workers. The authors highlight the unintended consequences of BCLs, which can inadvertently shift crime into property-related offenses. They propose that digital safety technologies, such as in-app safety features, can serve as effective alternatives to BCLs. Additionally, community resources can mitigate the negative impacts of strict BCLs by offering alternative income sources and enhancing the effectiveness of digital deterrents. The study advocates for a holistic approach to social justice, emphasizing the interdependence of various stakeholders in achieving both public safety and inclusivity in gig employment.

Policy Recommendations

Policymakers should prioritize the implementation of digital safety technologies as alternatives to stringent background check laws for TNC drivers. Additionally, fostering community resources can provide marginalized individuals with viable income opportunities while enhancing public safety, ensuring that inclusivity and safety coexist within the gig economy framework.