

13th Singapore Economic Policy Forum 2021

“SUSTAINABILITY IN THE TIME OF UNCERTAINTY”

Session 1

Synopsis: “Technologies to Make our Society Sustainable: Leveraging Technology Towards Sustainable Living in a Smart Nation” by Mr Kok Ping Soon

From the outset, the guiding principle of Singapore’s Smart Nation initiative has always been about how technology can be applied to solve real-world problems and bring tangible benefits to citizens. At the same time, the Government’s digitalisation strategy has also had to evolve in response to digital disruption and changing societal needs. This presentation will give an overview of what the Smart Nation initiative has achieved to date, with a focus on smart city solutions and projects that empower sustainable living.



Mr Kok Ping Soon is the Chief Executive of the Government Technology Agency of Singapore (GovTech), the lead agency driving Singapore’s Smart Nation initiative and public sector digital transformation. Prior to his current appointment, Ping Soon held various positions in the Ministry of Manpower, National Security Co-ordination Secretariat, Ministry of Trade & Industry, Singapore Tourism Board, Contact Singapore (CS) and Economic Development Board (EDB). He spent six years in the United States working for CS and EDB. He serves on the Board of Info-comm Media Development Authority (IMDA), Defence Science & Technology Agency (DSTA), Institute of System Sciences (ISS) and is a member of the National Institute of Education (NIE) Council. Ping

Soon is a graduate of the National University of Singapore where he majored in Economics. He attended the Advanced Management Programme by the International Institute for Management Development (IMD), Stanford Executive Programme by the Stanford Graduate School of Business, and was also awarded the Lien Ying Chow Legacy Fellowship to pursue a research project in China.

Session 2

Synopsis: “Technologies to Make our Society Sustainable: Electric vehicles in Singapore” by Dr Sanjay C Kuttan

The presentation will present some of the key benefits and opportunities that Electric vehicles can present to us as an aspiring Smart Nation for consumers and businesses.



Dr Sanjay C Kuttan is currently the Chief Technology Officer of the Global Centre for Maritime Decarbonisation after completing almost 3 years as Executive Director of the Singapore Maritime Institute. Since 1994 he has been in both private and public sector i.e., R&D (Programme Director at the Energy Research Institute at the Nanyang Technological University), line management (AP Technical Response Manager at ExxonMobil Asia Pacific, 10 years), business development (Business Development Manager at Mobil Oil Australia, 2 years); policy and program management (Energy Market Authority, 2 years) to management consulting (Petroleum Practice Expert/Engagement Manager at McKinsey & Company, 4 years) and business land innovation leadership (Managing Director, Clean Technology Centre and Country manager, DNVGL - Energy, 5 years). In 2011, during his time with the Energy Market Authority, he was part of two different teams that received the MTI Award (Borderless) for the Implementation of Electric Vehicle Charging Infrastructure in Singapore

Phase 1: Design and Development and MTI Award (Innovation) for the Development of TR25 EV Charging System Standard. He also received in 2012 and 2017 the Ministry of Education's Service to Education Award for his service to Stamford Primary School. During his career, he was also selected by ExxonMobil in 2001 and DNVGL in 2013 to join the leadership programs conducted by INSEAD. In 2009, he was also selected to join the 9th Government Leadership Program following the nomination by the Energy Market Authority.

Session 3

Synopsis: "New Developments of the Financial Markets: Blockchain & DeFi" by Mr Andrew Au

This presentation will cover the latest developments with the Block-chain & DeFi space in Singapore and the Asia Pac region. The current and future business impact to economies and society will be explored as investments into this transformational wave continue unabated.



Mr Andrew Au is the CEO of FinTech firm AGDelta & Managing Partner at VC firm Heritage Horizon Capital. He is a FinTech pioneer in Asia having founded one of the most established investment platforms back in 2005 serving UHNW families and financial Bank, Non-Bank and Virtual Bank intermediaries. He has been a successful investment banker for Top Wall St banks in the 90's including Bankers Trust, Macquarie Bank and Deutsche Bank and a top techie at one of the world's largest financial Software firms SunGard before a world record \$11 billion USD LBO exit in the mid 2000's. Since 2005, Andrew has been focused on the digitalisation of financial services industry and investments in particular, having built a Digital Wealth platform which has transacted electronically over 1.5 Trillion USD of wealth investments, forming Asia's leading investments industry consortium with the world's leading top global banks. Andrew has led AGDelta to the rare distinction of being the first and only Fintech to have won both the highly coveted Top Singapore MAS, Hong Kong HKMA/ICT FinTech awards, making the complex world of investments more Accessible, Safer & Relevant. Through his Venture Capital firm - Heritage Horizon Capital, he has been an early investor and participant in Blockchain, DeFi & ESG projects within the Asia Pac region, including Block-chain unicorn Block.one (EOS). Andrew is a frequent speaker at Industry events on all things FinTech & Blockchain, having featured on CNBC Rundown, the day the first BitCoin Futures were launched on the CBOE exchange.

Session 4

Synopsis: "New Developments in the Financial Markets: Integrating Climate Change into Investment Management" by Ms. Rachel Teo

The global community has reached a general consensus on the inevitable repercussions of climate change on financial materiality. This is an important milestone because the focus can now turn to analysing and addressing this transformational challenge. Climate change affects investment portfolios through three channels - physical risks, transition risks and market risks - that are expected to play out over the long term. For long-term investors, scenario analysis provides a systematic framework for navigating this uncertainty. In this session, we will outline the methodology we have adopted for a top-down estimation of climate change-related impacts on macro growth, inflation, broad asset class returns and a representative portfolio. Given that developments in integrating climate change into economic and

financial models are still evolving, we will share how we triangulate across different modelling approaches (top-down/bottom-up) to gain more confidence about the impact of climate change on the portfolio. We will discuss limitations and challenges faced, as well as how we can integrate climate change considerations holistically into managing an investment portfolio.



Ms Rachel Teo is the Head of Futures Unit in the Economics & Investment Strategy Department and she is also a member of the Sustainability Committee in GIC. The Futures Unit looks at long-term trends that have a material impact on the GIC total portfolio. The team is also leading research on climate change to identify sustainable investment themes and help integrate climate change considerations into GIC's investment processes. The Sustainability Committee in GIC oversees the firm's sustainability policies and implementation. Rachel joined GIC in 2005 as an economist and investment strategist. Before heading the Futures Unit in 2016, her role was in global macro research and strategy. Prior to joining GIC, Rachel was

with the Monetary Authority of Singapore working in economics research as well monetary management roles. Rachel graduated with a 1st class honours in Economics from the National University of Singapore and a Masters in International Politics and East Asia from the University of Warwick in the UK.

Session 5

Synopsis: “New Developments of the Financial Markets: Central Bank and Green Finance” by Dr Ramkishen S. Rajan

Central banks' roles have evolved over the decades, from a narrow mandate of inflation-targeting in the 1990s and 2000s, to the inclusion of financial stability as an additional policy goal especially after the 2008 global financial crisis. In recent times, rising temperatures and an increased frequency of extreme weather-related events has alerted us to the imminent threat of climate change and its impact on macro-financial stability. Even though the primary responsibility for climate change mitigation and adaptation policies is entrusted to governments, central banks have embraced for themselves a facilitative role in this regard – both to minimise climate-related financial risks to firms and financial markets, as well as to promote green finance to decarbonise the economy in an orderly manner. In this context, this presentation provides an overview of green central banking, focusing on its impact on financial stability and the 'greening' of micro- and macroprudential policies as a policy response by central banks.



Dr Ramkishen S. Rajan is the Yong Pung How Professor at the Lee Kuan Yew School of Public Policy, National University of Singapore specialising in international financial policies. Prior to this, he was a Professor of International Economic Policy at George Mason University (GMU) in Virginia. In the past he has also held faculty positions at the University of Adelaide, ESSEC Business School, Asia-Pacific and Claremont McKenna College. He has been a Visiting Fellow at various research institutes in Asia and a consultant with the APEC Secretariat, Asian Development Bank, Development Bank of Singapore, UN-ESCAP and the World Bank. He is an alumnus of NUS, University of Michigan and Claremont Graduate

University.

Panel Discussions: “Technology Development and Its Impact on the Financial Market” chaired by Mr Steven Okun



Mr Steven Okun has more than 30 years of experience across government, public affairs, and communications and has lived and worked in Asia since 2003. He is CEO of APAC Advisors, a consultancy working with financial services firms on their ESG and sustainability initiatives. Also, he serves as a Senior Advisor for geostrategic consultancy McLarty Associates, leading their Singapore office. He served in the Administration of President Clinton as Deputy General Counsel at the U.S. Department of Transportation and worked on numerous U.S. presidential campaigns. He created and led public affairs for KKR Asia Pacific from 2011-2017, including implementing their ESG policy in the region. Steven is a sought-after speaker on US politics and foreign policy and its nexus to business, increasingly with a focus on sustainability. A frequent analyst for CNBC and CNA, he authors commentary for The Straits Times and does the weekly International News Review for MONEY FM, Singapore’s business and finance radio station.

Session 6

Synopsis: “Sustainable Policies: Waste Control in Singapore” by Dr Tomoki Fujii

In this presentation, I will outline Singapore’s major sustainability challenges and its policy response in the areas of land use, transportation, waste management, water, and energy. I review the current and past Concept Plans from the perspective of sustainable land use and provide an overview of transportation policy in Singapore. I also examine Singapore’s policies to manage increasing wastes and review the four tap water management plan. Finally, we look at various initiatives by the government for sustainable use of energy. While Singapore has been successful in many ways in transforming itself into one of the most prosperous and sustainable cities in the world, there remain challenges to make the city even cleaner and greener for a better future. I discuss the opportunities that new technologies will bring about and the role that Singapore can play in building a sustainable city.



Dr Tomoki Fujii is an Associate Dean and Associate Professor of Economics at School of Economics, Singapore Management University (SMU). His main areas of research include development economics, environmental economics, health economics, and applied statistics. His papers have appeared in leading journals in these fields. His current research projects include several impact evaluation studies in Asia that are relevant to the Sustainable development Goals. As an educator, he leads Health Economics and Management 2nd major in SMU. He has previously served as a consultant for leading international development agencies, including the Asian Development Bank, World Bank, and World Food Programme, and holds several editorial appointments with international journals, including the Singapore Economic Review. He has PhD in Agricultural and Resource Economics from the University of California at Berkeley, PhD in Multidisciplinary Science from the University of Tokyo and Master of Science in Environmental Change and Management from the University of Oxford.

Session 7

Synopsis: “Sustainable Policies: Welfare Policy in Singapore” by Dr Walter Edgar Theseira

Singapore has been infamously described as a “stingy nanny [state]” with an antipathy for social welfare spending. Many critics and observers, local and foreign, take this characterisation at face value. But what are the facts on social welfare spending in Singapore, and to what extent does social welfare policy address socioeconomic needs? This presentation provides a brief survey of major areas of social welfare expenditure, the objectives and trade-offs involved in welfare policy design, and evidence of effectiveness. Little is known about the extent to which social welfare spending in Singapore meets policy objectives and addresses specific social needs, even though at the broader level, social outcomes in Singapore based on international indicators such as the World Bank’s Human Capital Index indicate world-leading performance. There is growing awareness by the public of the challenges faced by less privileged Singaporeans, and views differ sharply on whether and to what extent Singapore’s policies have effectively addressed social needs. Addressing these research gaps will help ensure that the public and scholarly debate on adapting social welfare policies is robust and evidence-based.



Dr Walter Edgar Theseira is an Associate Professor of Economics, School of Business, Singapore University of Social Sciences; and Adjunct Senior Research Fellow, Asia Competitiveness Institute, Lee Kuan Yew School of Public Policy. His Ph.D. is in Applied Economics and Managerial Science from the Wharton School, University of Pennsylvania. His areas are applied microeconomics, behavioural, and experimental economics. His research has been published in the Proceedings of the National Academy of Sciences and the Journal of Economic Behavior and Organisation. His policy research covers housing integration with the Ministry of National Development, vehicle quota auctions with the Land Transport Authority, and the Singapore Retirement and Health Survey. He has advised the Economist Service of the Ministry of Trade and Industry, the Ministry of National Development, the Ministry of Social and Family Development, and with the Civil Service College. He was a Nominated Member of Parliament in the 13th Parliament of Singapore.

Session 8

Synopsis: “Sustainable Policies: Retirement Work and Health” by Dr Chia Ngee Choon

Sustainability of economic growth depends on the fraction of working-age population and productivity of the labour force. Demography matters for sustainable development, but demography is not destiny; it can be shaped by policies. For instance, policies to increase total fertility rates, female labour force participation and in-migration to bolster the working-age population and other older worker inclusive policies such as legislating higher minimum retirement age and age discrimination legislation etc. Older workers can be a crucial resource to meet manpower needs in Singapore, especially since Singaporeans are expected to live longer and healthier. In 2012, Singapore implemented the Retirement and Re-employment Act (RRA) which obliged employers to offer re-employment to eligible workers. RRA provides options to mature workers the flexibility to work longer and to work beyond retirement age. Using the Retirement and Health Study (RHS) data, we share findings on the impacts of RRA on employment/retirement outcomes and impacts of retirement on health and health utilization.



Dr Chia Ngee Choon is an Associate Professor of economics at the National University of Singapore (NUS). She is the co-director of the Next Age Institute, which is a research institute in NUS Faculty of Arts and Social Sciences. She is the co-editor of the Singapore Economic Review. She has consulted for several major international agencies such as ADB, ADI, IDRC and the World Bank. She has built up a solid research portfolio in fiscal policies and economics of ageing studies. Her recent research focuses on the themes of social protection, retirement financing, health financing and long-term care financing, applied to the Singapore context. Besides publishing her research in academic international journals, Assoc Prof Chia had also conducted several commissioned policy studies, such as the adequacy of social security.