



# China Liveable Cities Index: Ranking Analysis, Simulation and Policy Evaluation

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In China, the concept “liveable cities” is always in the limelight, drawing attention from politics, academia, and the general public. A variety of discussions and rankings about liveable cities exist, but a consensus is never reached. President Xi Jinping, in his visit to Shanghai during The Second China International Import Expo, said, “The city belongs and caters to its people. Shanghai must lead a new way of megacity governance with Chinese characteristics, and we must continue to improve the capability and capacity of the government for managing such a socialist modern international metropolis.” It can be said that the study on liveable cities index, jointly conducted by the Institute of Economics of the Shanghai Academy of Social Sciences (SASS) and Asian Competitiveness Institute (ACI), is with the same spirit of incentivising “a city to be built for its people”. This joint study, in the context of contemporary urban research and development practices, is thus of great significance. More specifically, there are three points to highlight.

Firstly, this project yields timely and ground-breaking results. The research team designed a systematic and scientific index framework of five environments: Economic Vibrancy & Competitiveness, Environmental Friendliness & Sustainability, Domestic Security & Stability, Socio-Cultural Conditions, and City Governance. With this framework did the team thoroughly investigate the conceptual components of liveability. It is also commendable that the research team collected more than 30,000 survey samples from residents in 100 Chinese cities and integrated perceptions of ordinary residents into the evaluation. I believe that evaluating the liveability of a city from the perspective of its ordinary residents is the most intuitive approach; any study on liveability without an account of public sentiments would be incomplete, non-objective and inconclusive.

Secondly, this project provides constructive and heuristic advice. The research team believed that a pure ranking is like a beauty contest that

lacks actionable insights, so it decided to use *What-if* simulation analysis to tackle the “so what” question. This effort completes the study by identifying paths for cities to catch up or even surpass other competitors in the same region. As shown by the analysis, most cities will leap forward in the ranking significantly if overcoming their shortfalls, while 16 of them may even take over Yantai to rank at the first place.

Thirdly, the results of this project provide strongly practical reference and guidance for policymakers. Both overall and environment-wise rankings for the 100 Chinese cities are available as results. For example, Shanghai ranks 9<sup>th</sup> overall, 2<sup>nd</sup> in Domestic Security & Stability, 5<sup>th</sup> in Economic Vibrancy & Competitiveness, 15<sup>th</sup> in Socio-Cultural Conditions, 33<sup>rd</sup> in City Governance, and 86<sup>th</sup> in Environmental Friendliness & Sustainability. The highs and lows in rankings clearly evidence Shanghai’s pros and cons. Shanghai has ambitious missions; the city sees itself become, by 2035, a global city, a city of innovation, a city of humanities, a sustainable city, and an influential socialist modern international metropolis. As liveability is fundamental to these targets, the liveability rankings deserve the credit for allowing local governments to identify gaps and priorities.

That being said, I believe that the *2019 ACI-SASS China Liveable Cities Index* is a meaningful study worthy of attention. It is a serious attempt to comprehensively explore the components of liveability and the formulation of related policies. I also believe that with the joint contribution by governments and all walks of life, Chinese cities will become more attractive, and their residents will live in peace and work in contentment.

Professor Yu Xinhui  
Secretary of Party Committee  
Shanghai Academy of Social Sciences

Asia Competitiveness Institute (ACI) has started its liveability study series since 2012, including Global Liveable and Smart Cities Index, 100 China Liveable Cities Index and Urban Composite Development Index. This year, I am pleased to see the collaboration between ACI and Shanghai Academy of Social Sciences (SASS) to jointly produce *2019 ACI-SASS China Liveable Cities Index: Ranking and Simulation Analysis*.

China has gone through rapid urbanisation progress over the past few decades. According to the National Bureau of Statistics, the urban resident population has grown from 10.64% in 1949 to 26.41% in 1990 and further to 59.58% in 2018. The speed and scale of urbanisation are unprecedented in human history. However, problems also began to surface, gaining attention from the general public. Authorities have implemented policies to address concerns on housing, traffic congestion, haze, food safety and social issues related to migrant workers.

In 2013, President Xi Jinping stressed that Gross Domestic Product is no longer the only key performance indicator to evaluate the performance of the leaders. The welfare improvement, social development and environment indicators should all be taken into consideration. In 2019, President Xi further emphasised that the concept of people-centred development must be carried out in urban construction. Cities should be comfortable for the public to live and work.

In this book, ACI and SASS precisely follow the people-centric approach. More than 31, 000 successful telephone surveys are conducted over the 100 cities. The feedback received from ordinary residence covers city governance, city's economic development as well as livelihood issues, such as pollution, housing, education and public transportation. Together with the hard data from various statistical yearbooks, I believe this book will provide a better perspective on how to understand the concept and

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practice of liveability of cities. I hope this study could shed some light on the city's policymaking.

Zhang Daogen  
President  
Shanghai Academy of Social Sciences

The Asia Competitiveness Institute (ACI) at Lee Kuan Yew School of Public Policy (LKYSPP), National University of Singapore (NUS) has been tracking the livability of world major cities since 2012. ACI introduced a comprehensive liveability framework that comprises of five environments, namely Economic Vibrancy and Competitiveness, Environmental Friendliness and Sustainability, Domestic Security and Stability, Socio-Cultural Conditions, and City Governance.

With rapid urbanisation continuing unabated on a global scale, cities have become the unit of global competition to attract talent, capital, and business investments. Therefore, liveability of cities has emerged as one of the most pertinent agendas for decision makers around the world. While studies on a global scale are cornerstones of the liveability series, ACI has also dedicated efforts on regional studies. The China Liveable Cities Index was part of ACI's endeavours to regional liveability.

Into its second edition, the liveable cities index for China has been further refined, with collaborative effort from both ACI and Shanghai Academy of Social Sciences (SASS). This refinement carries much deliberation by ACI and SASS to tailor the basic framework to the cultural, economic, and political characteristics in the context of China's economies. A total of 100 Chinese cities are included in this Index.

This book has benefited tremendously from the input through the discussion undertaken by field experts during the 2019 Asia Economic Forum and 2019 Annual ACI Conference. We are grateful to the discussants for their effort and dedication in evaluating the study and providing constructive suggestions for our future studies. ACI would, therefore, like to express our sincere gratitude to the following discussants:

**Mr Timothy McDonald**  
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and other colleagues at SASS and LKYSPP. This book would not have been possible without the support of our and administrative colleagues in SASS and ACI. In particular, we would like to extend our sincere appreciation to an able and dedicated administrative team at ACI including Yap Xin Yi, Cai Jiao Tracy, Nurliyana Binte Yusoff and Dewi Jelina Ayu Binte Johari.

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**Tan Khee Giap** is a Co-Director of the Asia Competitiveness Institute (ACI) and Associate Professor at the Lee Kuan Yew School of Public Policy, National University of Singapore. He is also the Chairman of the Singapore National Committee for Pacific Economic Cooperation. Upon graduating with a PhD from University of East Anglia, England, in 1987 under the Overseas Research Scheme awarded by the Committee of Vice-Chancellors and Principals of the Universities of the United Kingdom, he joined the banking sector as a treasury manager and served as secretary to the Assets and Liabilities Committee for three years, there after he taught at the Department of Economics and Statistics, National University of Singapore, 1990–1993. Dr Tan joined Nanyang Technological University in 1993 and was Associate Dean, Graduate Studies Office, 2007–2009.

Dr Tan has consulted extensively with the various government ministries, statutory boards and government linked companies of Singapore government including Ministry of Finance, Ministry of Trade & Industry, Ministry of Manpower, Housing & Development Board, Civil Aviation Authority of Singapore, Singapore Tourism Board, Trade Development Board, Maritime Port Authority, Ministry of Information, Culture & Arts, Economic Development Board, Ministry of National Development, Media Development Authority, Ministry of Environment and Water Resources, Singapore Design Council, Ministry of Community Development, Youth & Sports, Singapore Press Holdings, Yayasan Mendaki, StarHub, CapitaLand and Great Eastern Life. He has also served as a consultant to international agencies such as the Asian Development Bank, Asian Development Bank Institute, United Nations Industrial Development Group, World Bank Group, World Gold Council, ASEAN Secretariat, Central Policy Unit of Hong Kong, Kerzner International, Las Vegas Sands and Marina Bay Sands.

Dr Tan is the lead author for more than 20 books, serving as journal

editors and published widely in international refereed journals. He is the associate editor of the journal *Review of Pacific Basin Financial Markets and Policies (US)* and is on the editorial advisory board of the journal *Competitiveness Review (UK)*. His current research interests include Cost of Living and Purchasing Power Index for World's 105 Cities, Global Liveable Cities Index, Ease of Doing Business Index and competitiveness analysis on sub-national economies of China, India, Indonesia and Association of South East Asian Nations.

Dr Tan was Deputy President of the Singapore Economic Society, 2004. He served in the 2002 Economic Review Committee (ERC), served as Chairman of the Task Force on Portable Medical Benefits (PMB), served as the Deputy Chairman of the IPS Forum for Economic Restructuring (IFER) in 2003 and served as a member of the Resource Panel of the Government Parliamentary Committee for Transport and Government Parliamentary Committee for Finance and Trade & Industry and Government Parliamentary Committee for Defense and Foreign Affairs since 2007. Dr Tan is currently an Independent Director of the publicly listed BreadTalk Group, Boustead Singapore, Lian Beng Group Ltd, TEE Land Limited, Chengdu Rural Commercial Bank and Senior Business Advisor to United Overseas Bank Limited, Singapore.

**Shen Kaiyan**, PhD in Economics, Research Professor. Director of the Institute of Economics, Shanghai Academy of Social Sciences and Vice President of the Shanghai Economics Association. Graduated from the Economics Department of Nanjing University and the Shanghai Academy of Social Sciences. Her main research areas are political economy, macroeconomic theory and practice, China's economic reform and development, and the Indian economy. She has presided over more than 10 national social science fund projects, Shanghai social science fund

projects, and Shanghai decision-making consulting projects, and published nearly 100 academic papers on economics. Her masterpieces include “Shanghai Economic Development Blue Book”, “India Economic Reform for 20 Years — Theory, Evidence and Comparison”, “BRIC E-Commerce Development Report”, “Structural Adjustment and Transformation of Economic Development Mode”, “Leap-forward Development of Tibet Economy: Theory and Policies”, etc.

**Wang Hongxia** is a Professor at the Institute of Economics of Shanghai Academy of Social Sciences. She is also the chief professor of Metropolis Spatial Development Strategy & Policy Research Innovation Think Tank. She got her PhD in Economics from Fudan University in 2004. Her research fields include population urbanization, industry economy, urban and regional development. As a leader, she has finished many research programs on population urbanization, immigrants and social segregation in Mega-cities, regional development and integration, and aging China etc. Some of which are sponsored by national government fund. Now she is hosting the national key research project on Immigrants’ social segregation during the process of Population Diversification in Big Cities. She is also a very important consultant of Shanghai municipal government, Zhejiang, Jiangsu, Anhui, Shandong, Hebei, Yunan, Guizhou, Qinhai, Xinjiang and Tibet, mostly consulted project focusing on the national social and economic development strategy, silk road development strategy and Yangtz Delta Area development, regional industry Plan, and so on.

**Zhang Xuyao** is a Research Fellow at the Asia Competitiveness Institute (ACI) at the Lee Kuan Yew School of Public Policy, National University of Singapore (NUS). Dr Zhang received his PhD in Economics from NUS in 2016 and obtained his Bachelor (Honors) degree in Applied

Mathematics from NUS as well in 2012. During the PhD candidature, he worked as teaching assistant in conducting undergraduate tutorials, such as Microeconomics, Macroeconomics and Managerial Economics. His research focuses on Industrial Organizations, Applied Game Theory, and Public Economics. In particular, he is interested in technology transfers and anti-trust policies. He studies the optimal environmental taxation on the pollution problems in the presence of corruption. He also works on the beneficiary of research joint ventures with technology transfer. He also studies the Qualcomm's anti-trust case in China.

At ACI, Dr Zhang is supervising all the Competitiveness Projects (ASEAN, China, India and Indonesia). He is the coordinator for the Quality Adjusted Labour Productivity Project, Welfare Spending and Budget Sustainability project and Shandong Urban Composite Development Index project. He is also the co-coordinator for the project studying the impact of exchange rate on trade at provincial level of China. Dr Zhang is also working on the methodology of applying the concept of Shapley values to index ranking analysis. This method will subsequently serve as a robustness check to all the competitiveness ranking studies in ACI. Additional projects he is working on include the construction of the Special Economic Development Area index, the construction of Infrastructure index and the Independent Review and Efficiency Monitoring (IREM) of Real Time Outcome Monitoring System (ROMS) for the Government of Andhra Pradesh (GoAP), India.

**Mao Ke** is a Research Assistant at Asia Competitiveness Institute (ACI), Lee Kuan Yew School of Public Policy, National University of Singapore. He graduated from National University of Singapore with Bachelor of Business Administration with Honours (Distinction) and specialised in Finance and Operations & Supply Chain Management. At

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ACI, he works as the coordinator of the project on Annual Competitiveness Analysis for 34 Chinese Economies. He is deeply involved in the project: Independent Review and Efficiency Monitoring (IREM) of Real Time Outcome Monitoring System (ROMS) for the Government of Andhra Pradesh (GoAP), India, providing data insights for government authorities. He is also actively involved in several other projects such as Welfare Spending and Fiscal Sustainability Analysis and Cost of living and Wages for Expatriates and Average Residents for 105 Cities. His research interests cover the fields of financial economics, macroeconomic policy and development economics.

ACI	Asia Competitiveness Institute
AHC	Advanced Cruise-Assist Highway System
BOD	Biochemical Oxygen Demand
CASS	Chinese Academy of Social Sciences
CFC	Chlorofluorocarbon
COD	Chemical Oxygen Demand
CoE	Certificate of Entitlement
CPI	Consumer Price Index
EIU	Economist Intelligence Unit
ERP	Electronic Road Pricing
ETC	Electronic Toll Collection
EU	European Union
FRAND	Fair Reasonable and Non-Discriminatory
FY	Fiscal Year
GBP	Pound sterling
CLCI	China Liveable Cities Index
GINI	Gini coefficient
GLCI	Global Liveable City Index
Gov.UK	Government of the United Kingdom
GovHK	Government of Hong Kong Special Administrative Region
GPCI	Global Power City Index
GPS	Global Positioning System
GRDP	Gross Regional Domestic Product
ICT	Information and Communications Technology
IPCC	Intergovernmental Panel on Climate Change
ITS	Intelligent Transport System
JR	Japan Rail
NA	Not Applicable
OECD	Organisation for Economic Co-operation and Development

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PBCLCI	Perception-Based China Liveable Cities Index
PM	Particulate Matters
RMB	Renminbi
RSVI	“Ranked” Standardised Value of Indicator
SASS	Shanghai Academy of Social Sciences
SCATS	Sydney Coordinated Adaptive Traffic System
SCOOT	Split Cycle Offset Optimisation Technique
SD	Standard Deviation
SGD	Singapore Dollar
SVI	Standardised Value of Indicator
TCE	Tons of Standard Coal Equivalent
TOD	Transport-Oriented Development
UK	United Kingdom
UMTA	Urban Mass Transportation Act
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
US	United States
USD	United States Dollar
VICS	Vehicle Information and Communication System
WHO	World Health Organization