ANNUAL COMPETITIVENESS ANALYSIS AND IMPACT OF COVID-19 ON 34 GREATER CHINA ECONOMIES

EDITORS

ZHANG XUYAO
MAO KE
ZHU YAN

Lee Kuan Yew School of Public Policy
Asia Competitiveness Institute

NUS National University of Singapore

Annual Competitiveness Analysis and Impact of COVID-19 on 34 Greater China Economies

If you would like to request for an e-copy of the whole book, please drop us an email at aci@nus.edu.sg

Published by

Asia Competitiveness Institute, Lee Kuan Yew School of Public Policy,
National University of Singapore

469C Bukit Timah Road
Wing A, Level 3, Oei Tiong Ham Building
Singapore 259772

Annual Competitiveness Analysis and Impact of COVID-19 on 34 Greater China Economies

e-ISBN 978-981-18-0554-7

Desk Editor: DW HQ Pte Ltd
Email: hello@dwhq.com.sg
Typeset by Somya Bansal

About ACI

The Asia Competitiveness Institute (ACI) was established in August 2006 as a Research Centre at the Lee Kuan Yew School of Public Policy (LKYSPP), National University of Singapore (NUS). It aims to build the intellectual leadership and network for understanding and developing competitiveness in the Asia region. ACI seeks to contribute to the enhancement of inclusive growth, living standards, and institutional governance through competitiveness research on sub-national economies in Asia. It identifies mitigating issues and challenges for potential public policy interventions through close collaboration with regional governments, business corporations, policy think-tanks, and academics. ACI's three key research pillars include (I) Sub-national economies level competitiveness analysis; (II) The development of digital economy and its implications in 16 Asia economies; and (III) Singapore's long-term growth strategies and public policy analysis.

ACI's value propositions may be encapsulated in its acronym:
Analytical inputs to initiate policies for policy-makers and business leaders in Asia
Capacity building to enable others through improvement in productivity and efficiency
Intellectual leadership to create pragmatic models of competitiveness and inclusive growth

Vision and Mission

- ACI's over-arching vision is to build up its research credibility with policy impact, contributing as a professional, world-class think-tank.
- ACI's mission is to establish our niche as a leading policy think-tank by identifying development trends, opportunities, and challenges among Asian economies and business corporations.
- ACI endeavours to articulate sound recommendations, promote discussion, and shape research agenda in the arena of public policy amongst Asian governments.
- ACI undertakes evidence-based analysis of public policy issues and decisions, in order to provide assessment of their effectiveness as well as economic and societal impact.

Preface

This book is the eighth edition of the Greater China competitiveness research series conducted by the Asia Competitiveness Institute (ACI) at the Lee Kuan Yew School of Public Policy (LKYSPP), National University of Singapore (NUS). As one of ACI's flagship projects, the study adopts a comprehensive framework to measure competitiveness and conducts assessment at the sub-national level to account for considerable provincial disparities within Greater China.

ACI's approach differs from major international competitiveness indices in at least four ways. First, it focuses on sub-national level competitiveness. Second, it deploys an objective weighting method, namely the Shapley weight method, to compute the index. Third, it provides policy recommendations based on *What-if* simulation study. Fourth, it defines competitiveness in a holistic manner with a consistent set of indicators, allowing both a snap-shot view and a cross-time comparison for economies.

This book, focusing on Greater China, comes at a critical time. The past year, 2020, saw the disruptive impact of COVID-19 around the globe, as well as China's successful handling of the pandemic. China was the only large economy that registered positive economic growth last year. We also witnessed the rise of businesses operated through online channels and the provision of services conducted at a distance. The pandemic has brought forth structural shifts in the Greater China economy. It is thus crucial to evaluate the impacts and reflect on the implications.

In this spirit, this book delivers two thematic sub-national studies in addition to regular competitiveness analysis. Chapter 2 presents Guizhou's case study, estimating the effect of policy development in 2020 on Guizhou's competitiveness. Chapter 4 sets forth an empirical analysis of provincial secondary and tertiary sectors under the COVID-19 impact. The study finds an intriguing link between the disparity of economic sectors and resilience to external shocks.

The analysis of the COVID-19 impact in a sub-national context of Greater China is especially timely. I am confident that this publication will further our understanding of the country's sub-national competitiveness and deliver relevant policy insights.

Professor Paul Cheung
Director, Asia Competitiveness Institute
Lee Kuan Yew School of Public Policy
National University of Singapore

Contents

Executive Summary

Despite being hit by the COVID-19 pandemic, China's economy expanded by 2.3 percent in 2020. The government effectively controlled the spread of the coronavirus through strict lockdowns and other social distancing measures. Fewer face-to-face activities also led to increased online activities and, therefore, a burgeoning digital economy. For the successes it achieved despite a health crisis, China's economy in 2020 becomes a uniquely interesting research subject.

Into its eighth edition, this sub-national competitiveness series on Greater China delivers an annual update of rankings and, in particular, zooms in on the COVID-19 impact and implications. We found that Guangdong has maintained itself as the most competitive economy since 2010. The economy's strengths in Openness to Trade and Services, Government Policies and Fiscal Sustainability, Financial Deepening and Business Efficiency, and Physical Infrastructure underlie its top position. On the other hand, Tibet has remained at the bottom for the same period, with Institutions, Governance and Leadership being its most notable weakness. However, even if Tibet ranks last, it does not lag too far behind a middle performer. For example, Tibet's most competitive sub-environment, Labour Market Flexibility, is just 0.24 standard deviations away from the median.

The competitiveness ranking indicates persistent regional disparity over the years. Economies in the eastern regions have dominated. One key reason for such a pattern is due to the unbalanced distribution of natural resources. For instance, natural ports along the eastern coastline enable trade in volumes that inland provinces cannot match. Nonetheless, a natural disadvantage does not translate to a lack of potential. By the *What-if* simulation method, the study further explores each province's potential improvement in rankings if it overcomes its weaknesses. Through the simulation, 11 economies demonstrate major potential for improvement, with Tibet, Qinghai and Guangxi possibly improving by 14 to 16 ranks.

Guizhou emerges as one of the few economies showing the most significant improvement (up three places) in the ranking this year. A dedicated case study of Guizhou finds that its rise in competitiveness may be attributed to three factors: first, its construction of highways to strengthen intra-region connection; second, the development of attractions such as the Huangguoshu Waterfall to attract tourists; and third, the hosting of data centres for technology giants, leveraging its cool climate. If it builds further on these areas, Guizhou's rank is projected to increase by up to three more places.

Finally, the novel contribution in this book is the empirical assessment of the impact of COVID-19 on China's secondary and tertiary sectors. The study constructs a trimmed-down competitiveness index focusing on manufacturing, industry, construction and services from Q4 2019 to Q2 2020. There are two interesting findings. Firstly, the rankings show a shuffle of positions, likely indicating uneven influence of the coronavirus on sub-national economies. Secondly, a province with a tertiary sector share in GRDP exceeding secondary sector share by more than 30 percent is susceptible to the effects of COVID-19. It is safe to conclude that if the economy relies solely on high value-added services, it may

be more prone to external shocks. It is thus recommended that policymakers exercise prudence in maintaining a balance between its reliance on different economic sectors.

Acknowledgements

This year's *Annual Competitiveness Analysis and Impact of COVID-19 on 34 Greater China Economies* is authored by Dr Zhang Xuyao, Mao Ke and Zhu Yan. It was initially written under the supervision of the former Co-Director of ACI, Professor Tan Khee Giap.

In this book, we have updated previous sub-national and regional competitiveness studies with the latest available data. Our comprehensive approach to measuring competitiveness takes into account different factors that collectively shape the ability of a nation or region to achieve substantial and inclusive economic development over a sustained period of time. In addition, we apply a novel approach to assigning weights in the form of Shapley values to test the robustness of the findings. Furthermore, we analyse sub-national economies in Greater China and identify emerging trends under the impact of COVID-19.

This book has benefitted immensely from ACI's flagship event, the 2019 World Bank-Asia Competitiveness Institute Annual Conference on "Urbanization Drive and Quality Adjusted Labour Contributions to GDP", held on 18th and 19th November 2019. We received tremendous support from various experts as well as regional policy think tanks. We appreciate the effort and time taken by the reviewers in evaluating our papers presented during this event. Those constructive comments have helped us improve our study significantly and they have been included in this book as discussant notes. More specifically, our thanks are due to:

Dr Han Hanjun
Deputy Director, Institute of Economics, Shanghai Academy of Social Sciences
Dr Zhan Yubo
Research Fellow, Institute of Economics, Shanghai Academy of Social Sciences
Dr Qian Jin
Assistant Researcher, Economic Research Institute, Shandong Academy of Social Sciences
Dr Liu Aimei
Associate Professor, Rural Development Institute, Shandong Academy of Social Sciences

This book would not have been possible without the support of our research and administrative colleagues. In particular, we would like to extend our sincere thanks to a competent and dedicated administrative team at ACI including Yap Xin Yi, Cai Jiao Tracy, Nurliyana Binte Yusoff and Dewi Jelina Ayu Binte Johari.

We would also like to note with great appreciation the contributions from ACI Director Professor Paul Cheung and the research staff – Dr Xie Taojun, Dr Bian Xiaochen, Dr Ammu George, Sky Chua Jun Jie, Sunena Gupta, Doris Liew Wan Yin, Clarice Handoko, Lee Shu En, Lim Jing Zhi, Zhu Yan, Lucas Shen Yan Shun, Chen Xinke and Poh Wei Tiong.

We place on record our appreciation for the encouragement by Professor Danny Quah (Dean), Professor Khong Yuen Foong (Vice Dean, Research and Development),

Kadir Suzaina (Vice Dean, Academic Affairs) and other colleagues in the Lee Kuan Yew School of Public Policy, NUS, for making this project possible.

List of Abbreviations

5G	The Fifth Generation of (Wireless Communications Technologies)
ACI	Asia Competitiveness Institute
ASEAN	Association of Southeast Asian Nations
COVID-19	Coronavirus Disease 2019
CPI	Consumer Price Index
CYDF	China Youth Development Foundation
CYL	Communist Youth League
EDM	Effect Decomposition Matrix
FDI	Foreign Direct Investment
FRAND	Fair Reasonable and Non-Discriminatory
GDP	Gross Domestic Product
GRDP	Gross Regional Domestic Product
GRP	Gross Regional Product
ICT	Information and Communications Technology
IMD	Institute for Management Development
LKYSPP	Lee Kuan Yew School of Public Policy
NUS	National University of Singapore
PRC	People's Republic of China
R&D	Research and Development
RCEP	Regional Comprehensive Economic Partnership
RMB	Renminbi
RSVI	"Ranked" Standardised Value of Indicator
SD	Standard Deviation
SVI	Standardised Value of Indicator
TMT	Technology, Media, and Telecom
UK	United Kingdom
US	United States
USD	United States Dollar
WHO	World Health Organization
WTO	World Trade Organisation
ZB	Zettabyte

List of Economies

	Name of Economies in English	Name of Economies in Chinese
1	Anhui	安徽
2	Beijing	北京
3	Chongqing	重庆
4	Fujian	福建
5	Gansu	甘肃
6	Guangdong	广东
7	Guangxi	广西
8	Guizhou	贵州
9	Hainan	海南
10	Hebei	河北
11	Heilongjiang	黑龙江
12	Henan	河南
13	Hong Kong	香港
14	Hubei	湖北
15	Hunan	湖南
16	Inner Mongolia	内蒙古
17	Jiangsu	江苏
18	Jiangxi	江西
19	Jilin	吉林
20	Liaoning	辽宁
21	Macau	澳门
22	Ningxia	宁夏
23	Qinghai	青海
24	Shaanxi	陕西
25	Shandong	山东
26	Shanghai	上海
27	Shanxi	山西
28	Sichuan	四川
29	Taiwan	台湾
30	Tianjin	天津
31	Tibet	西藏
32	Xinjiang	新疆
33	Yunnan	云南
34	Zhejiang	浙江

List of Figures and Tables

Chapter 1

Chapter 2

Chapter 3

Chapter 4

Chapter 1
Introduction

1.1 China in 2020: The Impact of COVID-19 and Policy Implications

It was the worst of times. The year 2020 saw a once-in-a-century event: the COVID-19 pandemic. At the time of writing, the world had already suffered two million COVID-19 deaths and the number of infections were still rocketing in most western countries. It is evidently one of the gravest public health emergencies in history.

From an economist's perspective, the pandemic has significantly affected the globe in a different way. For example, policymakers have had to deal with rising unemployment in the entertainment and tourism-related industries. Pubs have closed due to lockdowns. International and inter-regional travels have been suspended by governments in a bid to curb the spread of the virus. Giving subsidies to tide individuals and businesses over the economic crisis may seem like a good solution, but the amount and duration of subsidies to give will require careful consideration. If too much subsidy is given or for too long, people may become dependent on it and develop apathy towards work. Concerns over inflation resulting from sustained fiscal stimulus should also not be overlooked. Conversely, too little subsidy over too short a period of time may render the aid ineffective in smoothing over the hardships experienced by individuals and businesses. The world in 2020 saw governments in agony as many of them faced the double blow of the fatal pneumonia and deep economic recession, but China seemed not to be as badly affected.

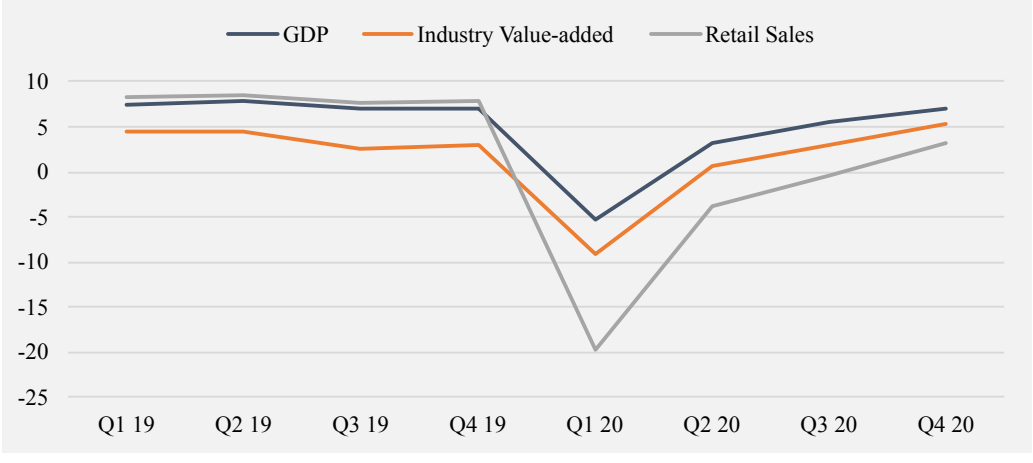
In August 2020, photos and videos showing a crowded pool party in Wuhan went viral. The media were shocked by the fact that the city, once the centre of the outbreak, could resume normality so soon while many other countries were still swamped with a rising number of cases (ABC 2020; BBC 2020; CNA 2020, 2020; Financial Times 2020; The Associated Press 2020; The New York Times 2020). The revelry might indicate an uptrend in consumer spending and the recovery of China's economy, to some extent. However, there were doubts over whether China had really recovered somewhat from the pandemic at that time, or whether activities like Wuhan's pool party were simply short-term spending sprees after months of restraint in social life.

Nevertheless, official statistics corroborated the first assumption. As shown in Figure 1.1, compared to the same period last year, China's GDP grew by 5.55 percent and indus-

try value-added improved by 3.09 percent in Q3 2020. Retail sales registered a negative growth rate of -0.39 percent in Q3 2020 but rebounded to show 3.20 percent increase in Q4 2020. Although stronger growth in the supply of products than in the demand for goods may have led to an unbalanced recovery, China's V-shaped recovery is still phenomenal, given the worldwide experience of economic downturns in 2020.

Despite the positive economic data, concluding that life in China has returned to normal seems misleading, giving the impression that it has gone back to its pre-pandemic days.

Figure 1.1: China's Growth in GDP, Industry Value-added, and Retail Sales, Year-over-year, Q1 2019–Q4 2020 (Percent)



Source: ACI based on information retrieved from National Bureau of Statistics of China

Things have changed. Domestically, people have seen the roll-out of the most comprehensive contact tracing system in China's history, the Health Code, capable of collecting data at an unprecedented level of granularity. The system has more than 900 million users in more than 300 cities and collects spatial-temporal data of each registered individual's daily routine (Liang 2020).

The pandemic has also brought about the rapid digitisation of economic activities. E-commerce has burgeoned. Alibaba's Singles Day sales set a new record high in 2020: total gross merchandise volume hit RMB 498.2 billion, almost doubling the figure of 2019 (CNBC 2020; The Straits Times 2020). Additionally, many industries have shifted their businesses from offline to online channels. For instance, even the healthcare industry which is known for being rigid in adopting new technologies, has gone online.Jones et al. 2019 considers mindset, organisational culture and governance as the three biggest barriers to digitisation in healthcare. Nonetheless, faced with the inconveniences brought about by COVID-19, like the additional costs that came with implementing safety measures in fever clinics for face-to-face consultations, the healthcare industry in China was quick to adapt. One good example was Suining, a prefecture-level city in the Sichuan province. It established a digital network that was able to provide online fever diagnoses

to patients (Xinhua News Agency 2020b).

Furthermore, working from home has become the new normal in academia, politics and other industries. After working from home for months, some people may see less need to work from offices since the time saved from commuting can be spent productively on work. Sentiments and perceptions about working in offices might have shifted.

Internationally, China has seen an increasingly challenging foreign environment. The country was engaged in a trade war in 2019: The United States imposed tariffs against the rising US-China trade deficit. It also blamed China for the socio-economic damages caused by the coronavirus. It would take some time for the adverse effects of American policies to phase out.

In such a context, China's dual-circulation strategy, although having stirred heated debates in politics and academia, seems justified. According to Xi 2020, the dual-circulation strategy means that China will stay open to the international market (i.e., the "international circulation") but strengthen its domestic market (i.e., the "domestic circulation") for long-term growth. The same article also states that the objective of "international circulation" is to attract productive resources into China's domestic market. Such a plan indicates that China attempts to reduce reliance on western economies and turn inwards. It would also seem that China seeks greater economic leverage over western economies. Implementing such a strategy without western interference would be challenging, although success would lead to fewer negative impacts of rising antagonism in the external environment.

The year 2020 was a time of global vicissitudes driven jointly by the pandemic and governmental decisions worldwide. In China, people saw the triumph over the virus, rise of digitisation trends, establishment of the new normal and the establishment of an ever more assertive international image. The remaining sections of this chapter will look at the trends and policies in China in 2020 and discuss their impact and implications for China's economy. Section 1.1.1 looks at the country's COVID-19 timeline and highlights China's major policies in 2020. Section 1.1.2 analyses China's new macroeconomic trends. Section 1.2 outlines the motivation and roadmap for the rest of this book.

1.1.1 China's COVID-19 Timeline

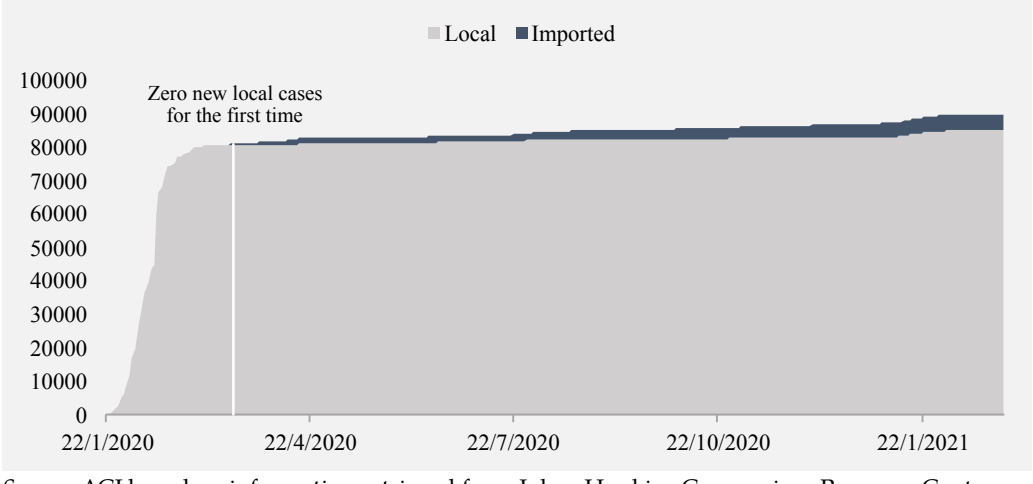
Being the first country to identify the virus, China was thrown into the limelight for how it handled COVID-19. The WHO representative in China commented that Wuhan's lockdown was unprecedented and indicated China's commitment to contain the virus (Reuters 2020). As over 10 million people were put under lockdown, the scale of the mobility restriction was indeed phenomenal.

Although there were debates over the efficacy of such strict measures, China's success in containing the virus has largely rejected the null hypothesis. Empirical research has shown that travel restriction is an effective approach to contain the spread of the virus. Alfano and Ercolano 2020 found that lockdown is significantly related to fewer new cases and that the effect is more substantial 10 to 20 days after implementation. Haug et al. 2020 assessed the effectiveness of a large set of non-pharmaceutical interventions against the

transmission of the coronavirus. Social distancing and travel restrictions ranked top.

Due to prompt government response, China's coronavirus situation had eased by April 2020. As shown in Figure 1.2, China reported zero new local cases as early as 18 March 2020. Furthermore, local confirmed COVID-19 cases showed an almost flat trend after 22 April 2020. Imported cases constituted most of the newly confirmed cases since then. It thus comes as no surprise that Wuhan could afford to host such a giant pool party in August, given that the local virus spread had been under control for about four months by then.

Figure 1.2: Cumulative Confirmed COVID-19 Cases in Mainland China by Origin



Source: ACI based on information retrieved from Johns Hopkins Coronavirus Resource Center and National Health Commission of the People's Republic of China

Nevertheless, the initial four months from January to April 2020 posed quite a rugged journey for China. On 31 December 2019, the Wuhan Municipal Health Commission reported a cluster of pneumonia cases. The officials informed WHO of the cluster of cases on 3 January 2020, but at that time, no one knew the cause of the disease. It marked the beginning of the pandemic. On 9 January 2020, the government confirmed that a novel coronavirus was the cause.

The genetic sequences for the novel coronavirus were sent to WHO on 11 January 2020. At the same time, the first death was reported by the Chinese media. Perhaps the epidemic could have been better controlled if it had not begun during China's spring festival, when millions of Chinese journeyed home to reunite with their families. This annual migration probably escalated the spread of the virus. The situation worsened in just 10 days. On 20 January 2020, the National Health Commission issued a notice saying that the pneumonia caused by the novel coronavirus is a class B infectious disease but subject to the prevention and control measures for class A ones.

Wuhan, the initial epicentre in China, was in a graver situation than other regions. On 23 January 2020, the central government quarantined Wuhan and other cities in Hubei due to the exponentially rising number of new cases. That was the first coronavirus lock-

down in 2020 and was later referred to as the "Wuhan lockdown".

The lockdown of such a scale had its share of difficulties. For example, Wuhan had to deal with a shortage of medical equipment and personnel. Since the free movement of people and goods was halted due to the lockdown, government support and official channels became the last resort. The central government took much effort to support the city and the Hubei province. As reported by the Xinhua News Agency, on 26 January 2020, hundreds of medical staff, equipment and food were sent to Wuhan; thousands more medical workers were sent to Wuhan on 28 January 2020. Another batch of 10,596 workers was sent to Hubei to assist coronavirus control on 4 February 2020. To ensure the supply of essential goods, the State Council issued a notice on 29 January 2020 to guide key enterprises in resuming work and production. The same notice also emphasised that essential medical equipment, such as N95 and surgical masks, would be centrally managed and distributed to the regions that needed them.

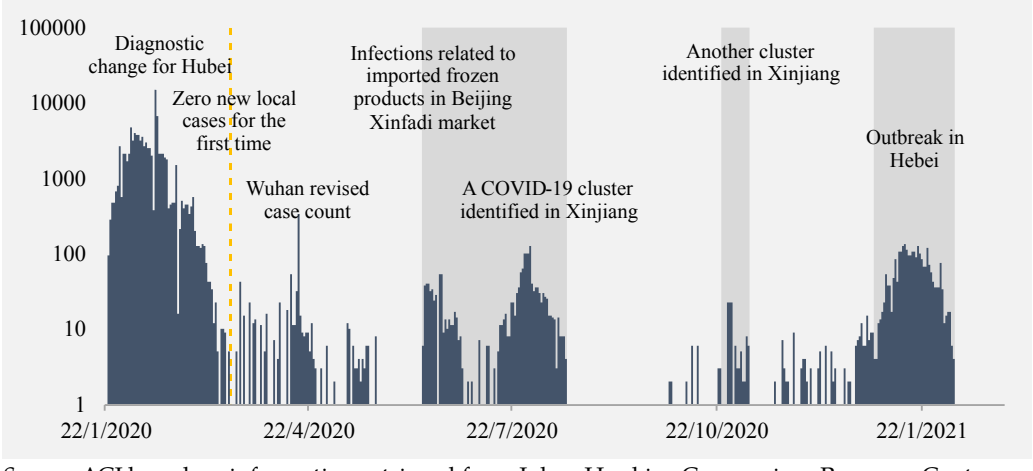
There were other policies issued to control the spread of the virus at the national level and maintain social order in such a tumultuous time. For example, on 25 January 2020, the Ministry of Finance issued a notice pledging full fiscal support to people who contract the pneumonia and daily allowance to frontline medical staff. On 26 January 2020, the State Administration for Market Regulation, Ministry of Agriculture, and National Forestry and Grassland Administration issued a joint notice to halt trade and consumption of wildlife nationally. This policy was later made into law by the Standing Committee of the National People's Congress, China's top legislature, on 24 February 2020. On 27 January 2020, the Ministry of Education urged schools to postpone reopening for the spring semester. On 2 February, People's Bank of China carried out a reverse repurchase of RMB 1.2 trillion to ensure ample liquidity in the market.

Another major event happened on 3 February 2020. Wuhan's first field hospital, Huoshenshan, began accepting patients. The opening of the new hospital brought a measure of relief to the already overwhelmed medical system in Wuhan. Five days later, another field hospital, Leishenshan, commenced operation. Eventually, dozens of facilities such as the Wuhan International Conference & Exhibition Center and the Hongshan Stadium were turned into field hospitals to facilitate large-scale medical isolation in Wuhan. With these new medical facilities, more symptomatic cases could be admitted. On 8 February 2020, the National Health Commission expanded diagnostic criteria for Hubei to allow clinically diagnosed cases to be counted as confirmed cases of infection, when before only cases confirmed via laboratory tests were counted. Hubei incorporated that change on 12 February 2020 and reported more than 14,000 new cases in a single day. As shown in Figure 1.3, that day marked the peak of the bell curve of daily new local cases in China, after which the number of new local cases declined.

Statistically, the epidemic in China entered the deceleration stage from 13 February 2020. Fewer daily new cases mean that the government did not have to expand the epidemic-handling capacity but only needed to maintain existing effort. Policies issued at this stage largely followed this principle. On 29 February 2020, the central government introduced the Health Code system for logging each registered individual's contact history with suspected or confirmed COVID-19 cases. On 26 March 2020, the Civil Aviation Ad-

ministration issued the "Five One" policy to extend restrictions on international flights in consideration of the rising number of imported cases. With these policies in place, China saw a constant drop in new local cases. The epidemic was coming to an end.

Figure 1.3: Daily New Local Cases (Log Scale) and Major Events in Mainland China



Source: ACI based on information retrieved from Johns Hopkins Coronavirus Resource Center and National Health Commission of the People's Republic of China

On 8 April 2020, Wuhan's lockdown was lifted. The city celebrated this historic moment with a grand midnight light show, highlighting the courage and sacrifice of its medical workers and those who supported Wuhan's fight against the epidemic. From 17 April, coronavirus infections in China ceased to be prevalent, with daily new local cases falling to single-digits. Although some new clusters were detected in July and October 2020 and early 2021, as shown in Figure 1.3, the central and local authorities were able to contain these outbreaks.

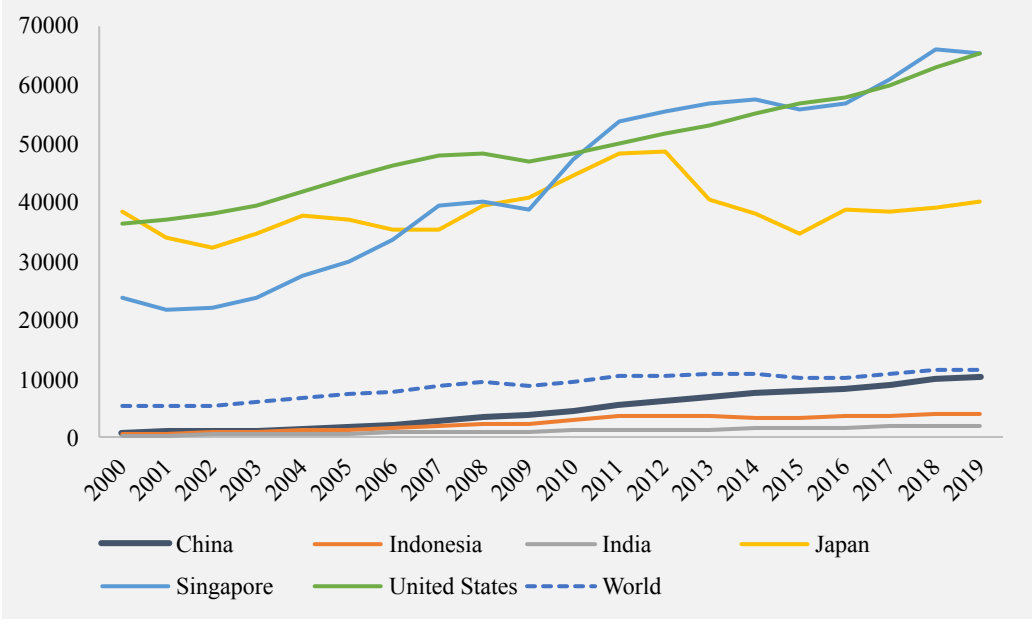
At the time of writing, it may be too early to conclude that China's COVID-19 story has ended as new virus variants found in other countries could be brought into China. However, China's COVID-19 experience in 2020 has shown that the government would not hesitate to adopt stringent control measures with strong enforcement should another outbreak occur, and empirical evidence shows the government's ability to control the disease, should that happen.

1.1.2 A Macroeconomic Overview of China's Economy

Coincidentally, the year 2020 was the deadline for China's first centenary goal: to achieve a Moderately Prosperous Society in all aspects. Although the country has confronted many challenges, such as the US-China Trade War in 2019 and the COVID-19 pandemic in 2020, its leaders are still poised to meet this target. One of China's major achievements along the path to the centenary goal was the eradication of poverty. According to the National Bureau of Statistics, China successfully lifted 83.5 million citizens out of extreme poverty from 2012 to 2019. As shown in Figure 1.4, even though there is still a huge gap

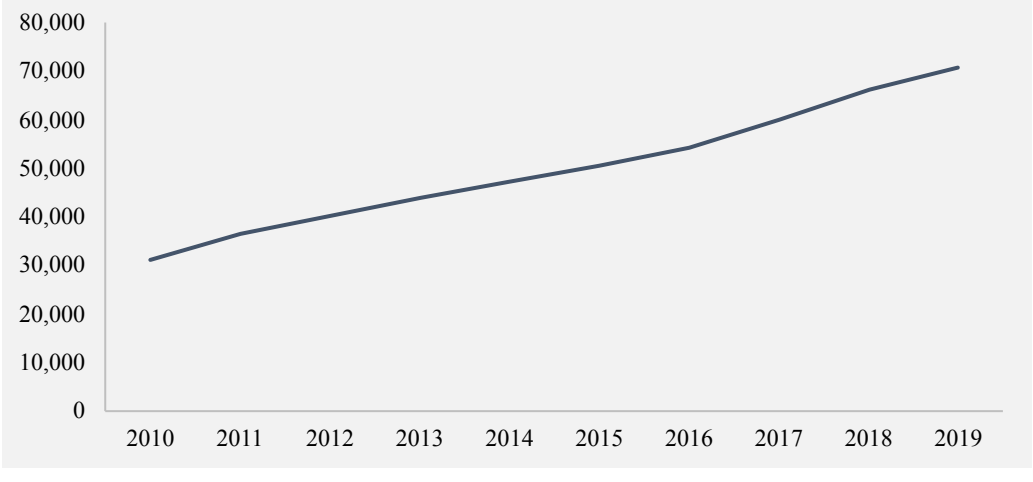
between China and the developed countries in terms of GDP per capita, China is taking the lead among developing countries and catching up with the world average. China's GDP per capita doubled in less than one decade, reaching RMB 71,000 in 2019 (Figure 1.5).

Figure 1.4: GDP per Capita, China and the other Countries



Source: Asia Competitiveness Institute

Figure 1.5: China's GDP per Capita (RMB)

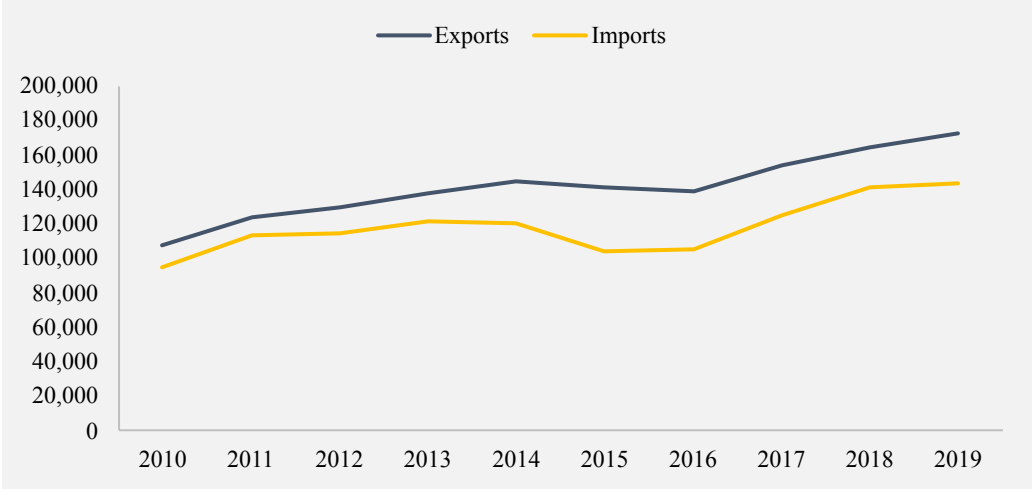


Source: ACI based on information retrieved from National Bureau of Statistics of China

Trade has been a critical enabler of China's economic growth and the country has

been devoted to it since its accession to the WTO. Even with the challenge of the COVID-19 pandemic, China, together with the other 14 countries, successfully signed the RCEP agreement on 15 November 2020, facilitating its trade through stronger regional collaboration. China's trade has increased steadily since the Global Financial Crisis. As shown in Figure 1.6, in 2019, China's trade surplus and trade openness reached around RMB three trillion and 32 percent, respectively.

Figure 1.6: China's Exports and Imports (RMB 100 Million)



Source: ACI based on information retrieved from National Bureau of Statistics of China

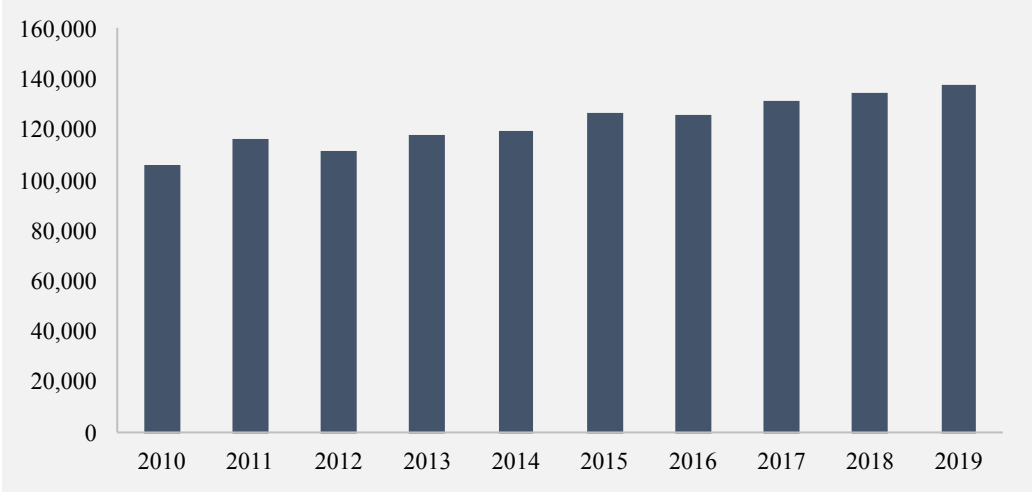
With its potential to provide technology spillovers, Foreign Direct Investment (FDI) is another key to China's economic growth. As one of China's core development strategies since its Reform and Opening Up is to stay open to the world, it entailed that China embrace more foreign investment. A growing amount of FDI has been registered over the years. As shown in Figure 1.7, China's FDI exceeded USD 140,000 million in 2019. Moreover, in December 2020, China and the European Union concluded in principle the Comprehensive Agreement on Investment. The investment deal provides European companies with greater access to the Chinese market. As such, China's FDI is likely to show a further upward trajectory in the future.

However, it may not be sufficient to rely solely on these existing growth drivers for China's future economic growth. By and large, China's economy is at a crucial transition stage from old to new growth drivers and high-speed to high-quality growth. On the negative side, economic growth has led to increase in labour cost, a worrying trend that indicates the country's diminishing advantage in producing low-cost intermediate goods. On the positive side, the country's nascent middle class has also demonstrated strong demand for consumption. Policymakers should leverage these emerging trends to formulate strategies for China's next developmental phase. These trends will be discussed in the next few paragraphs.

Firstly, consumption expenditure is likely to be the key driver of China's economic

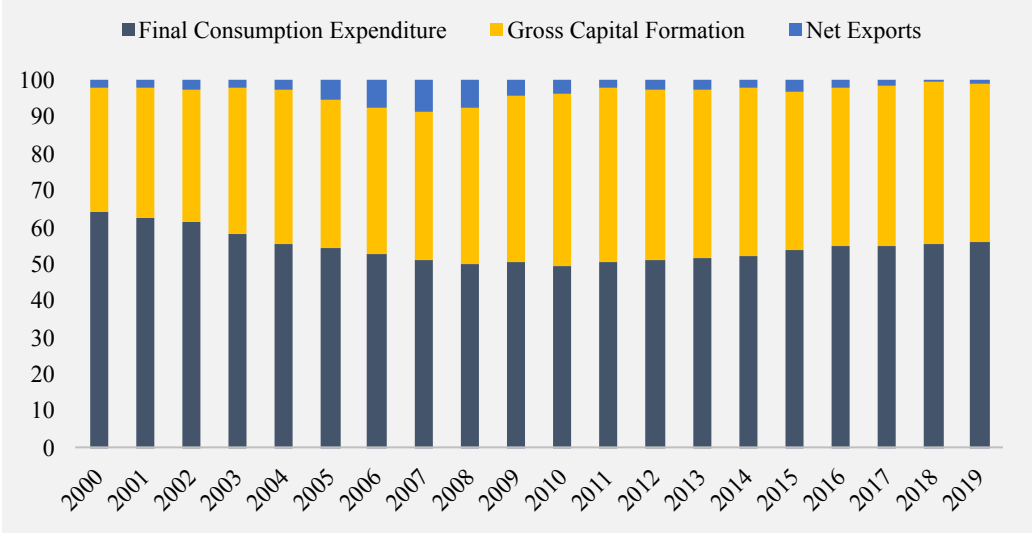
growth. Consumption expenditure has been a dominant component of China's GDP for 20 years. As shown in Figure 1.8, it has contributed to more than 50 percent of the GDP since 2011. In 2019, the consumption expenditure growth rate was about 9 percent, slightly lower than the 10.8 percent growth rate in 2018. However, more than 57 percent of China's GDP growth continues to come from the growth in final consumption.

Figure 1.7: China's Foreign Direct Investment (USD Million)



Source: ACI based on information retrieved from National Bureau of Statistics of China

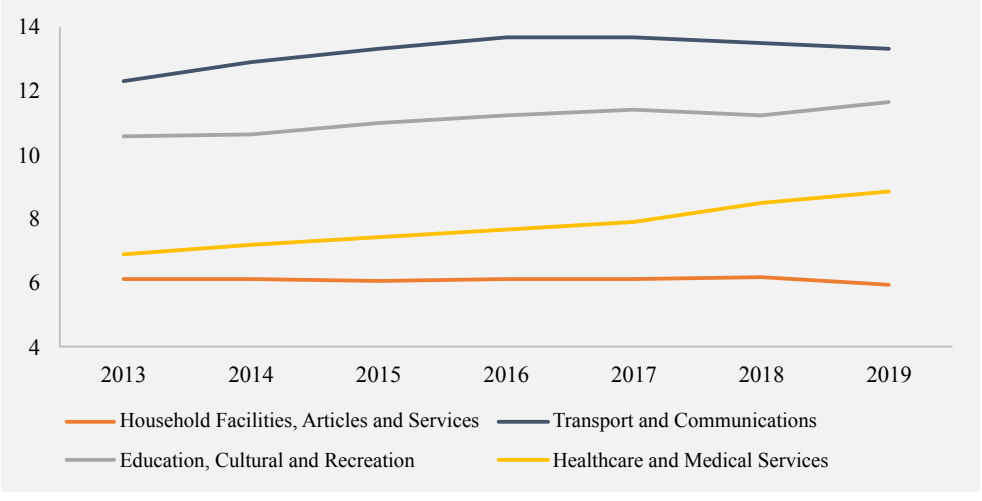
Figure 1.8: China's GDP Components by Expenditure Approach (Percentage of GDP)



Source: ACI based on information retrieved from National Bureau of Statistics of China

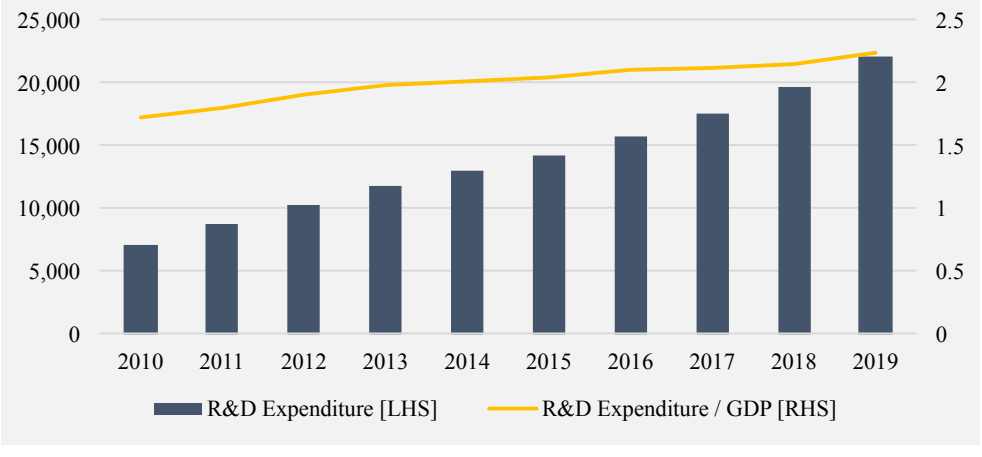
Secondly, services consumption has increased. In 2019, Engel's Coefficients for rural residence and urban residence were 30 and 27.6 percent, respectively. According to the Ministry of Commerce, services expenditure in 2019 reached 45.9 percent of final consumption expenditure, 1.7 percentage point higher than the value in 2018[1]. Figure 1.9 shows that expenditure on services-related categories has been steadily increasing over the past few years.

Figure 1.9: Percentage of Expenditure on Services Related Categories



Source: ACI based on information retrieved from National Bureau of Statistics of China

Figure 1.10: R&D Expenditure (Left, 100 Million Yuan) and R&D Expenditure/GDP (Right)



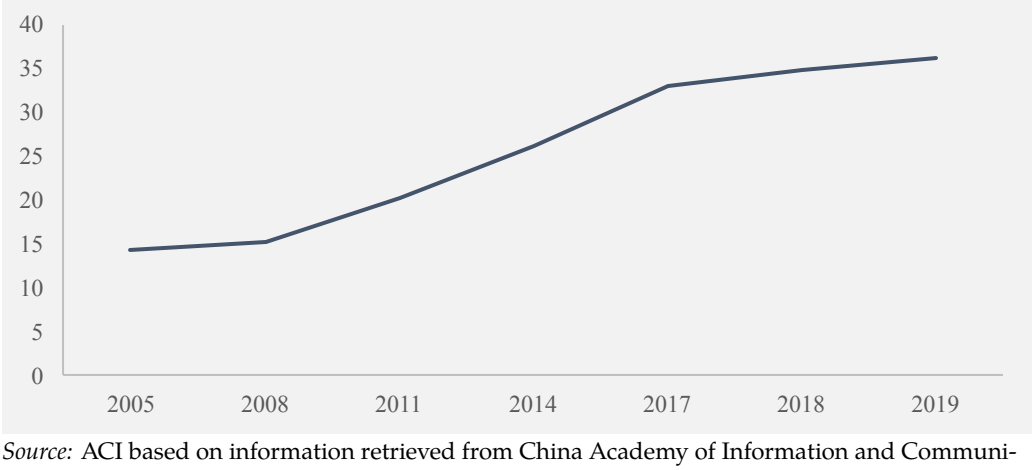
Source: ACI based on information retrieved from National Bureau of Statistics of China

[1]For more details, see the State Council Information Office briefing on China's business environment in 2019 http://www.gov.cn/xinwen/2020-01/21/content_5471242.htm

Thirdly, R&D expenditure shows an uptrend. As shown in Figure 1.10, China's R&D expenditure to GDP ratio reached 2.23 percent in 2019, 0.09 percentage point higher than the value in 2018. In absolute terms, the R&D expenditure increased by RMB 247 billion over the two years. In 2019, the national science and technology expenditure grew 13.7 percent, reaching RMB 947 billion. Under the National Big Data Strategy, data has become an important factor of production. According to the National Development and Reform Commission, China's data possession will increase from 7.5 ZB to 48.6 ZB—27.8% of the data globally—from 2018 to 2025 (Yu, Wang, and Guo 2020).

Last but not least, the development of China's digital economy surged from 2008 to 2017. In 2019, as a key growth engine, China's digital economy contributed to 36.2% of GDP (Figure 1.11) or RMB 35.8 trillion. Services is the leading sector in the country's digital economy. E-commerce and the sharing economy have undergone tremendous development. In 2019, 20.7 percent of wholesale and retail income was from online channels, amounting to RMB 8.5 trillion. The year-on-year growth rate was 19.5 percent. Mobile transactions and payments also grew by 67.57 and 25.13 percent, respectively (China Academy of Information and Communications Technology 2020).

Figure 1.11: Digital Economy to GDP Ratio



Source: ACI based on information retrieved from China Academy of Information and Communications Technology (2020)

In summary, the emerging trends in China feature rising domestic demand for consumption and, in particular, online services. Policymakers should take advantage of these trends to facilitate economic growth. For example, by further improving China's internet infrastructure, online businesses will be given the right environment to flourish. In this way, new growth drivers that can support the country's long-term economic growth will be created.

1.2 Motivation and Roadmap of the Book

This final section discusses the motivation of this project and outlines the roadmap of the book.

It is said that regional disparity is a natural outcome given vastly different population distribution, resource allocation and social conditions across China. Without a deep understanding of each region's strengths and weaknesses, policymakers can hardly tackle the problem of unequal development. However, the country's dazzling economic achievement often obscures the focus. In the spirit of calling people's attention to China's sub-national disparity and facilitating sustainable and inclusive growth, ACI has crafted a comprehensive methodology and framework to assess competitiveness at the sub-national level. The methodology is employed in this book and ACI's previous publications on Greater China, Indonesia, India, and ASEAN. Our work and publications make a distinctive contribution to the literature on economic development in the region by focusing on competitiveness analysis and rankings at the subnational level, beyond the traditional analysis at the national level.

Since the publication of ACI's inaugural volume on Greater China economies, ACI's comprehensive competitiveness index has been used to rank the 34 Greater China economies in various dimensions. As ACI aims to provide an annual update by extending all studies, this updated book thus includes data from 2000 to 2017, which was the latest available at the time of data collection in 2020.

This book consists of four chapters. Chapter 1, as we have seen, presents an introduction to China's economy in 2020. A dedicated investigation of the policies and macroeconomic trends has been provided in view of the substantial impact of the COVID-19 pandemic.

Chapter 2 elaborates on the research methodology deployed in this project, starting with the literature review on competitiveness, followed by the details of the research framework that underpins ACI's study of Greater China's competitiveness at a sub-national level. The provincial competitiveness rankings and scores for the overall index and the four environments are also presented in this chapter. This chapter also includes a dedicated case study of Guizhou, given the province's remarkable improvement in competitiveness ranking. Chapter 3 discusses the regional level analysis.

Based on data from various indicators in 2017, Chapters 2 and 3 further includes the *What-if* Competitiveness Simulation analysis and Shapley Weight robustness check to deliver more insights into effective policy responses and how they facilitate competitiveness. Chapter 4 presents an empirical study of the impact of COVID-19 on China's secondary and tertiary sectors. The study covers several industries, such as manufacturing, industry, construction and services.

References

ABC. 2020. Wuhan Pool Party Shows a City Back in Full Swing after Coronavirus. https://www.abc.net.au/news/2020-08-19/wuhan-pool-party-shows-a-city-in-full-swing-after-coronavirus/12573980.

Alfano, Vincenzo, and Salvatore Ercolano. 2020. The efficacy of lockdown against COVID-19: a cross-country panel analysis. Applied health economics and health policy 18:509–517.

BBC. 2020. Wuhan Coronavirus: From Silent Streets to Packed Pools. https://www.bbc.com/news/world-asia-china-53816511.

China Academy of Information and Communications Technology. 2020. Digital Economy Development in China (2020). resreport, China Academy of Information and Communications Technology, China Academy of Information and Communications Technology, http://www.caict.ac.cn/english/research/whitepapers/202007/t20200706_285683.html.

CNA. 2020. China State Papers Back Wuhan Park after Viral Pool Party, https://www.channelnewsasia.com/news/asia/china-wuhan-covid-19-viral-pool-party-13036626.

CNBC. 2020. Alibaba, JD Set New Records to Rack up Record 115 Billion of Sales on Singles Day As Regulations Loom, https://www.cnbc.com/2020/11/12/singles-day-2020-alibaba-and-jd-rack-up-record-115-billion-of-sales.html.

Dong, Ensheng, Hongru Du, and Lauren Gardner. 2020. An interactive web-based dashboard to track COVID-19 in real time. The Lancet infectious diseases 20 (5): 533–534.

Financial Times. 2020. China Parties like It's 2019 as Country Moves on from Coronavirus, https://www.ft.com/content/548e151d-39ae-4c6d-9241-b36c3de687b0.

Haug, Nils, Lukas Geyrhofer, Alessandro Londei, Elma Dervic, Amélie Desvars-Larrive, Vittorio Loreto, Beate Pinior, Stefan Thurner, and Peter Klimek. 2020. Ranking the effectiveness of worldwide COVID-19 government interventions. Nature human behaviour 4 (12): 1303–1312.

Jones, Gareth L, Zinaida Peter, Kristin-Anne Rutter, and Adam Somauroo. 2019. Promoting an Overdue Digital Transformation in Healthcare." resreport, McKinsey & Company, https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/promoting-an-overdue-digital-transformation-in-healthcare.

Liang, Fan. 2020. COVID-19 and Health Code: How Digital Platforms Tackle the Pandemic in China. Social Media+ Society 6 (3). https://doi.org/10.1177/2056305120947657.

Reuters. 2020. Wuhan Lockdown' Unprecedented', Shows Commitment to Contain Virus: WHO Representative in China, https://www.reuters.com/article/us-china-health-who-idUSKBN1ZM1G9.

The Associated Press. 2020. Wuhan Pool Parties Bring Post-coronavirus Relief in China, https://apnews.com/article/virus-outbreak-international-news-334d491bc894f2add48dd327542650e4.

The New York Times. 2020. Coronavirus Briefing: What Happened Today, https://www.nytimes.com/2020/08/18/us/coronavirus-today.html.

The Straits Times. 2020. Alibaba's Singles' Day Sales Top 101 Billion but Planned Rules Sink Shares, https://www.straitstimes.com/business/companies-markets/alibabas-singles-day-sales-top-101-billion-but-planned-rules-sink-shares.

Xi, Jinping. 2020. Several Major Issues Underlying National Medium and Long-term Economic and Social Development Strategies (in Chinese) *Qiushi* 21, http://www.qstheory.cn/dukan/qs/2020-10/31/c_1126680390.htm.

Xinhua News Agency. 2020b. Suining Built a Special 'internet Hospital' for Epidemic Prevention in 8 Hours and Remotely Consulted 28 Fever Patients within 24 Hours (in Chinese), http://www.sc.xinhuanet.com/content/2020-01/31/c_1125516725.htm.

Yu, Shiyang, Jiandong Wang, and Qiaomin Guo. 2020. Challenges and countermeasures for building a new factor market system for data in China (in Chinese). E-Government 3:2–12. https://doi.org/10.16582/j.cnki.dzzw.2020.03.001.