EDITORS

ZHANG XUYAO SUMEDHA GUPTA

ANNUAL COMPETITIVENESS ANALYSIS AND GENDERED IMPACT OF THE COVID-19 PANDEMIC ON UNEMPLOYMENT IN THE SUB-NATIONAL ECONOMIES OF INDIA

Lee Kuan Yew School of Public Policy
ASIA COMPETITIVENESS INSTITUTE

NUS National University of Singapore

Annual Competitiveness Analysis and Gendered Impact of the COVID-19 Pandemic on Unemployment in the Sub-National Economies of India

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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

The year 2020 was unlike any year in recent human history. The COVID-19 pandemic led to an unprecedented health and economic crisis all over the world. Global growth is expected to contract by 3.5 percent and 4.3 percent according to the International Monetary Fund and the World Bank respectively. Around 81 million jobs were lost within the Asia-Pacific region and between 22 and 25 million people were pushed into extreme poverty due to the pandemic. Within the emerging markets and developing economies, India is expected to be one of the worst impacted economies.

Even prior to the pandemic, the Indian economy was battling an increase in stress in non-bank financial corporations due to weak domestic demand. The pandemic exacerbated the existing vulnerabilities by wreaking havoc on the manufacturing and service sectors, stagnating consumption and worsening unemployment. However, 2021 brings some hope with the beginning of inoculation drives across several countries. India's growth is also expected to rebound by 11 percent in 2021, with the expectation of quick recovery in consumption and investment.

The value addition of the research undertaken by Asia Competitiveness Institute (ACI) on the sub-national level competitiveness of India lies in its exclusive focus on heterogeneity across the 36 sub-national economies. This book can serve as a guide for policymakers in devising targeted policies. In addition to this, the book also presents a case study on West Bengal and an analysis on the impact of COVID-19 on unemployment in India by gender during the lockdown and post-lockdown periods, compared to pre-lockdown.

I am confident that this book will enrich the existing literature on India's competitiveness and provide a holistic understanding of the sub-national level diversity across the country.

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

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Executive Summary

Like several countries all over the world, India has been severely impacted by the coronavirus disease 2019 (COVID-19) pandemic. The nationwide lockdown imposed during the months of April and May 2020 had an adverse impact on the manufacturing, construction, mining, trade, tourism and transportation industries, leading to the contraction of the quarterly Gross Domestic Product (GDP) by 23.9 percent in the April-June quarter of 2020, which was unlike anything the country has experienced since 1996 when the country first started publishing its quarterly GDP. To counter the adverse economic impact, fiscal stimulus packages equivalent to almost 15 percent of the national GDP have been offered by the Government of India. Given the strain on the government coffers, even the fiscal deficit for 2020-21 is expected to reach a massive figure of 9 percent.

In this book, *Annual Competitiveness Analysis and Gendered Impact of the COVID-19 Pandemic on Unemployment in the Sub-National Economies of India*, we undertake a comprehensive competitiveness analysis of the 36 sub-national economies of India. According to the results, Maharashtra has been the most competitive sub-national economy over the years. Despite ranking first, Maharashtra still has scope for improvement across the dimensions of productivity, standard of living and technological infrastructure. On the other hand, Jharkhand has been the bottom-most sub-national economy for the last four years due to its weak performance across several spheres, the main ones being economic growth, employment and standard of living.

The top performers mainly consist of the sub-national economies from the Western region while the bottom performers are mainly from the North-eastern region. This signifies that regional disparities continue to exist and that there does not seem to be any convergence in the competitiveness performance.

The Western region is the most business-friendly and attracts the largest number of investors. It is the most open to trade, export of merchandise goods and direct foreign investment but lags in terms of providing adequate health infrastructure. The North-eastern region performs well in terms of medical infrastructure and has high expenditure on education, science and technology. However, the lack of physical infrastructure has limited the presence of private and public limited companies and in turn limited the economic growth of the region.

We have also incorporated a case study on West Bengal, which focuses on its technological potential, given the strong push by the Government of West Bengal to be one of the leading sub-national economies in India in information technology (IT) and related sectors. Our simulation exercise suggests that an improvement in the existing technological infrastructure can lead to a drastic improvement in West Bengal's competitiveness.

Our novel contribution in this book is the gendered impact assessment of the COVID-19 pandemic on sub-national unemployment in India, given that gender imbalances in India's unemployment existed even prior the pandemic. Our study revealed two major findings.

Firstly, the unemployment gender gap, which is defined as the difference between

male and female unemployment, narrowed during the national lockdown period as men were found to have lost more jobs in absolute terms than women. A significant impact was felt by the Top sub-national economies, as defined by the ACI competitiveness index, with the urban areas driving the narrowing of the unemployment gender gap.

The second major finding is that the recovery of the Indian economy during the post-lockdown period supported male jobs rather than female jobs. It is yet to be seen whether the sub-national governments' initiatives to support the pandemic recovery would help to prevent the unemployment gender gap from deteriorating further.

Acknowledgements

Since 2000, the Asia Competitiveness Institute (ACI) at the Lee Kuan Yew School of Public Policy (LKYSPP), National University of Singapore (NUS) has been conducting the annual analysis of competitiveness of India at the sub-national and regional levels. This project has been led by Dr Zhang Xuyao and Sumedha Gupta with the support of Dr Ammu George and Dr Huang Yuting. Initially, the project was facilitated by the former Co-Director of ACI, Professor Tan Khee Giap.

This book, entitled *"Annual Competitiveness Analysis and Gendered Impact of the COVID-19 Pandemic on Unemployment in the Sub-National Economies of India"*, is the latest update in our sub-national and regional competitiveness studies. The book helps in gauging the strengths and weaknesses of India considering the regional diversity. The sub-national level exercise presents a targeted approach to inform the policymaking processes. We take into consideration various factors that contribute to the sustainable and sustained development of the sub-national economies and regions over time. Furthermore, we also assess the impact of COVID-19 on male and female unemployment in India during the lockdown and post-lockdown periods vis-à-vis pre-lockdown period.

This book has benefitted immensely from the feedback received during the 2019 World Bank - Asia Competitiveness Institute Annual Conference on "Urbanization Drive and Quality Adjusted Labour Contributions to GDP" held on 18 November 2019. We express our gratitude to our reviewer whose constructive comments helped in improving our studies. Therefore, we would like to thank the following expert:

Professor Ajit Mishra
Institute of Economic Growth, New Delhi, India.

We would like to note with great appreciation the contribution of ACI Director Professor Paul Cheung. This book would not have been possible without the indispensable support of our research and administrative colleagues. We would like to thank the able 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 acknowledge the contribution of the ACI research staff Sri Ranjani Mukundan and Ashwath Dasarathy.

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 effort possible.

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List of Abbreviations

ACI	Asia Competitiveness Institute
ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
ASHA	Accredited Social Health Activist
CAD	Current Account Deficit
CII	Confederation of Indian Industry
CMIE	Centre for Monitoring Indian Economy
COVID-19	Coronavirus Disease 2019
ESDM	Electronic System Design and Manufacturing
FBMC	Financial Businesses and Manpower Conditions
FDI	Foreign Direct Investment
FRAND	Fair Reasonable and Non-Discriminatory
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GIS	Government and Institutional Setting
GRDP	Gross Regional Domestic Product
GSDP	Gross State Domestic Product
GVA	Gross Value-Added
ICT	Information and Communication Technology
ILO	International Labour Organization
IMD	International Institute for Management and Development
IMF	International Monetary Fund
IT	Information Technology
ITeS	Information Technology enabled Services
LKYSPP	Lee Kuan Yew School of Public Policy
MS	Macroeconomic Stability
NDA	National Democratic Alliance
NEFT	National Electronic Funds Transfer
NSE	National Stock Exchange
NUS	National University of Singapore
MOSPI	Ministry of Statistics and Programme Implementation
PIB	Press Information Bureau
PPI	Prepaid Payment Instrument
QLID	Quality of Life and Infrastructure Development
RBI	Reserve Bank of India
RTGS	Real-Time Gross Settlement
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
US$	United States Dollar

WCY	World Competitiveness Yearbook
WEF	World Economic Forum
WEO	World Economic Outlook
WHO	World Health Organization

Chapter 1
Introduction

Sumedha Gupta

1.1 Introduction and Motivation

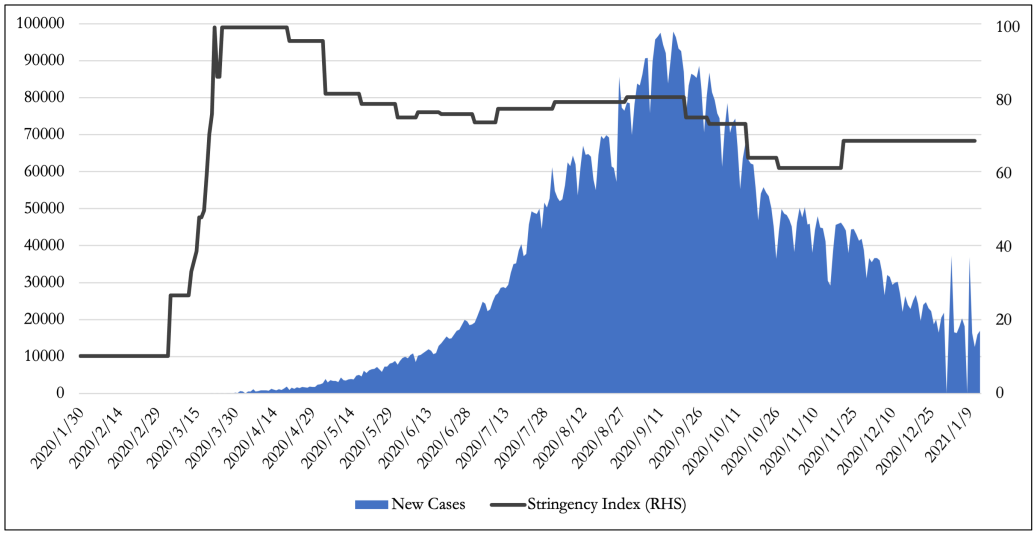
The year 2020 turned out to be an extraordinary year. The coronavirus disease 2019 (COVID-19) pandemic caused global social and economic disruption, which was not anticipated when the first cases of pneumonia of unknown cause in Wuhan were reported in December 2019 (World Health Organization, 2020b). As of January 2021, around 94 million people have been infected and more than two million people have lost their lives to COVID-19 (World Health Organization, 2021). The pandemic disrupted lives and livelihood all over the world at an unprecedented scale. It is estimated that nearly half of the global workforce, approximately 3.3 billion people, was at the risk of losing jobs, and that the number of undernourished people increased by 19 percent to 822 million by the end of 2020 (World Health Organization, 2020a). It is not surprising that the workers in the informal sector are the worst impacted by the pandemic as they are the most vulnerable due to lack of access to quality healthcare and social protection.

The first COVID-19 case in India was detected on 30 January 2020. In order to control the pandemic, the Government of India was reasonably proactive in implementing one of the most stringent lockdowns in the world, as measured by the University of Oxford, based on school closures, workplace closures and travel bans, from 25 March 2020 onwards with gradual easing over time (Our World in Data, 2020). An unprecedented outcome of the nationwide lockdown was the exodus of millions of impoverished urban migrant workers back to their rural homes due to the sudden loss of their daily livelihoods (Financial Times, 2021). As seen in Figure 1.1, the national lockdown did delay the spread of the pandemic until mid of May 2020, post which the daily COVID-19 cases increased rapidly and peaked in September 2020. As of January 2021, India has 10.6 million confirmed cases, a figure surpassed only by the United States of America (World Health Organization, 2021).

The adverse economic impact of the pandemic induced lockdown can be seen through the slowdown in digital payments and the fall in stock market capitalisation in India. Post the demonetization exercise in 2016, the National Democratic Alliance (NDA) gov-

ernment and the Reserve Bank of India (RBI) undertook several measures to reduce the volume of cash transactions and encourage the people to get into the habit of using digital platforms for payments (Livemint, 2019). Figure 1.2 shows that the volume of digital transactions was close to US$60 million in February 2020, however, the sudden closure of businesses due to the nationwide lockdown led to a fall in the monthly digital transaction volumes for the months of April and May to US$40 million and US$42 million respectively. The use of cash became more prevalent during this period as the small retail outlets, which were the only category of retailers allowed to conduct business, sought payments from customers in cash (Livemint, 2020a). A recovery in digital payments can be seen during August and September when the transactions reached US$ 66 million.

Figure 1.1: Daily COVID-19 Cases and Stringency Index for India

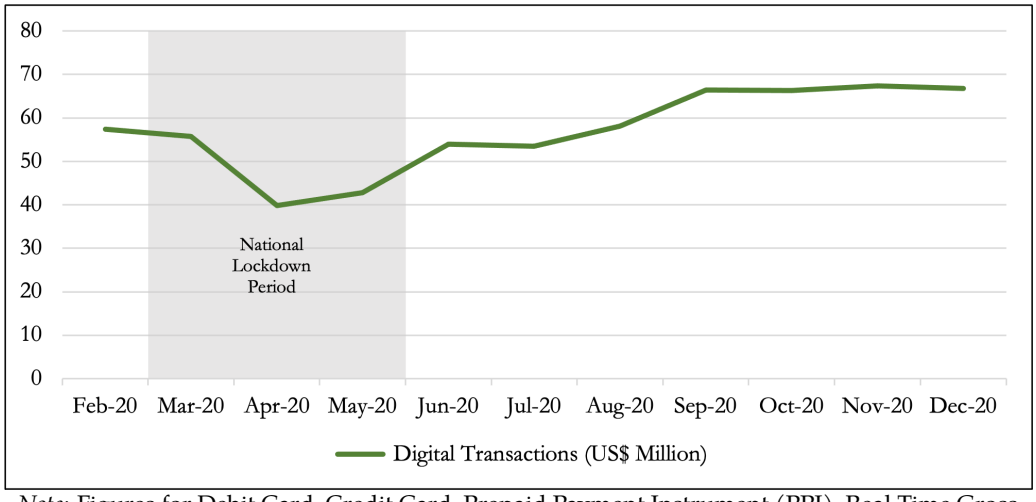


Source: Asia Competitiveness Institute (ACI) based on Our World in Data database.

The market capitalisation of the National Stock Exchange (NSE), the largest stock exchange in India in terms of volume, which was at around US$2100 billion in 2019, also dipped by approximately US$500 billion in March 2020 compared to February 2020 (see Figure 1.3). The Indian stock market also hit the circuit breaker twice during March due to the rising bearish sentiment across the globe (Business Today, 2020). The highest ever sell off by foreign institutional investors took place in March as well (Livemint, 2020b). Approximately US$15 billion in the form of equity and debt were taken out of the Indian markets. The market capitalisation does show some recovery from the months of June onwards with steady progress towards pre-COVID level.

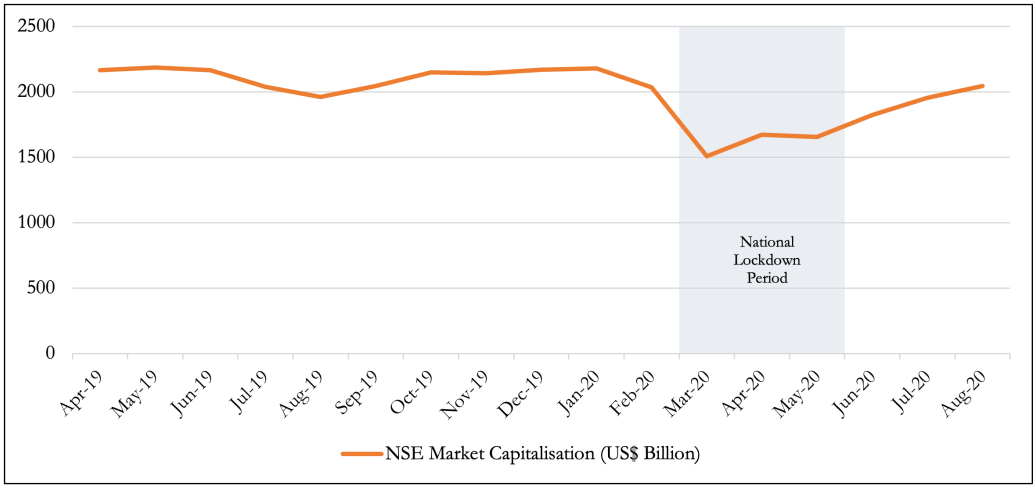
After the above overview of the COVID-19 pandemic in India and its immediate impact, the remainder of the chapter proceeds as follows: Section 1.2 provides a thorough discussion of recent developments in the macroeconomic domain in India amidst the COVID-19 pandemic. The chapter concludes with Section 1.3, which provides a synopsis of all the remaining chapters of this book.

Figure 1.2: Monthly Volume of Digital Transactions (US$ Million)



Note: Figures for Debit Card, Credit Card, Prepaid Payment Instrument (PPI), Real-Time Gross Settlement (RTGS) and National Electronic Funds Transfer (NEFT) for November and December 2020 are provisional and based on pro-rata of figures of previous months.
Source: ACI based on data from Ministry of Electronics and Information and Technology, Government of India.

Figure 1.3: Market Capitalisation of the National Stock Exchange (NSE) (US$ Billion)



Source: ACI based on Reserve Bank of India (RBI)'s Database on Indian Economy.

1.2 A Macroeconomic Overview of India's Economy

The economic impact of the COVID-19 pandemic has been quite severe for India, especially in the first quarter of fiscal year 2020-21, with a sharper economic contraction than

anticipated. To counter the adverse impact the Government of India introduced a slew of fiscal measures. The first economic package worth approximately US$264 billion (₹ 20 lakh crore), which is equivalent to 10 percent of India's Gross Domestic Product (GDP), was announced on 12 May 2020 under the name of 'Atmanirbhar Bharat Abhiyaan 1.0' - self-reliant movement of India. The package included several reforms to help the poor and the middle-class, micro, small and medium enterprises, and the cottage industry (Ministry of Finance, Government of India, 2020). One of the major packages under this initiative was the 'Pradhan Mantri Garib Kalyan Package', under which free food and cash payments were provided to more than 420 million marginalised citizens including women, poor senior citizens and farmers (Press Information Bureau, Government of India, 2020c).

To stimulate consumer spending, an additional stimulus package worth US$9.9 billion (₹ 73000 crore) was announced on 12 October 2020 under the name 'Atmanirbhar Bharat Abhiyaan 2.0' (Press Information Bureau, Government of India, 2020a). The most recent round of measures, amounting to approximately US$ 35.7 billion (₹ 2.65 lakh crores), focuses on boosting employment, providing funding for real estate developers, subsidising fertilisers and enhancing capital and industry expenditure (Press Information Bureau, Government of India, 2020b). This brings the total stimulus offered by the federal government to 15 percent of India's GDP.

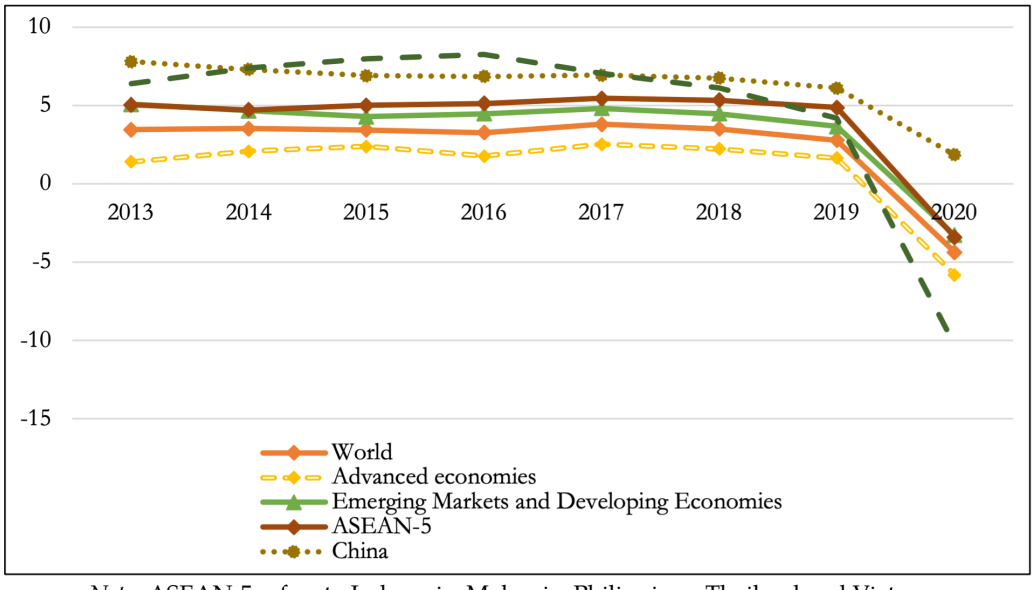
To gauge the impact of the COVID-19 pandemic on the economy of India, we present an evaluation of the various macroeconomic indicators for the fiscal year of 2020-21. It makes sense to commence the discussion of India's growth trajectory compared to its peers.

India's GDP has been higher than that of its counterparts from 2015 to 2017 (see Figure 1.4). However, in 2019, India's growth rate declined to around 4.2 percent due to weak domestic demand as a result of stress in the non-banking financial sector and decline in credit growth (International Monetary Fund, 2020a). The ramifications of the COVID-19 pandemic have been devastating for the countries all over the world and the global growth rate is expected to decline by 4.4 percent in 2020. The growth rate of the emerging markets and developing economies encompasses two major countries with starkly different growth trajectories. On one hand, China is expected to achieve a growth rate of 1.9 percent due to its quick recovery from the pandemic, strong policy support and sturdy exports (International Monetary Fund, 2020b). On the other, India is expected to contract by 10.3 percent in 2020 on account of a very sharp decline in its GDP during the months of April, May and June.

Now, we focus on the inward-analysis of India's growth. Figure 1.5 presents the quarterly GDP growth for India during the recent period. Although India's quarterly GDP had been on a downward trend since the first quarter of fiscal year 2018-19, the steep decline in the first quarter of 2020-21 is unlike anything the country has experienced since 1996 when India started publishing quarterly GDP reports (Asian Development Bank, 2020). The sharp contraction by 23.9 percent in the first quarter of 2020-21 was due to the stringent lockdown imposed in the months of April and May. India's performance

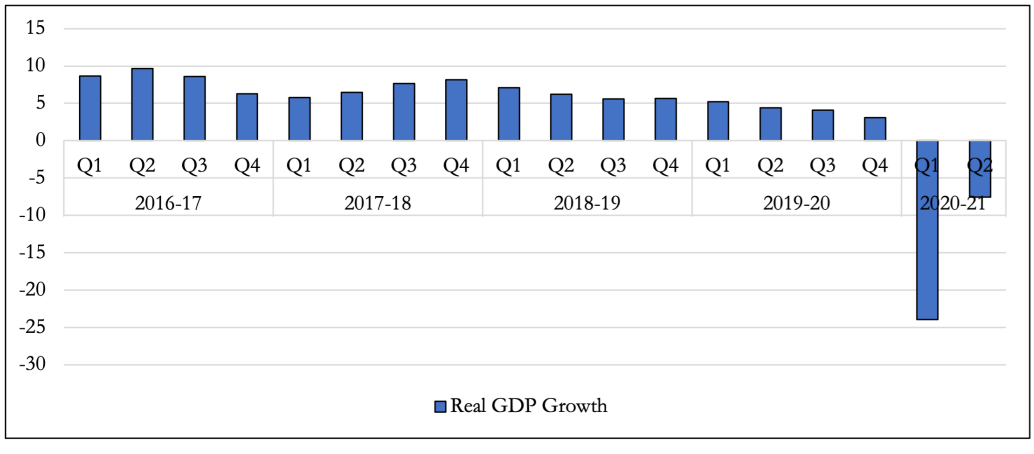
was worse than the other large economies in the same quarter (ibid.). The decline in manufacturing, construction and mining activities along with the contraction of trade, hotel and transportation services contributed to the slump. The contraction of the GDP continued in the second quarter of 2020-21, albeit at a lesser rate.

Figure 1.4: India's Real GDP Growth in Perspective (Percent)



Note: ASEAN-5 refers to Indonesia, Malaysia, Philippines, Thailand and Vietnam.
Source: ACI based on data from International Monetary Fund (IMF), World Economic Outlook (WEO).

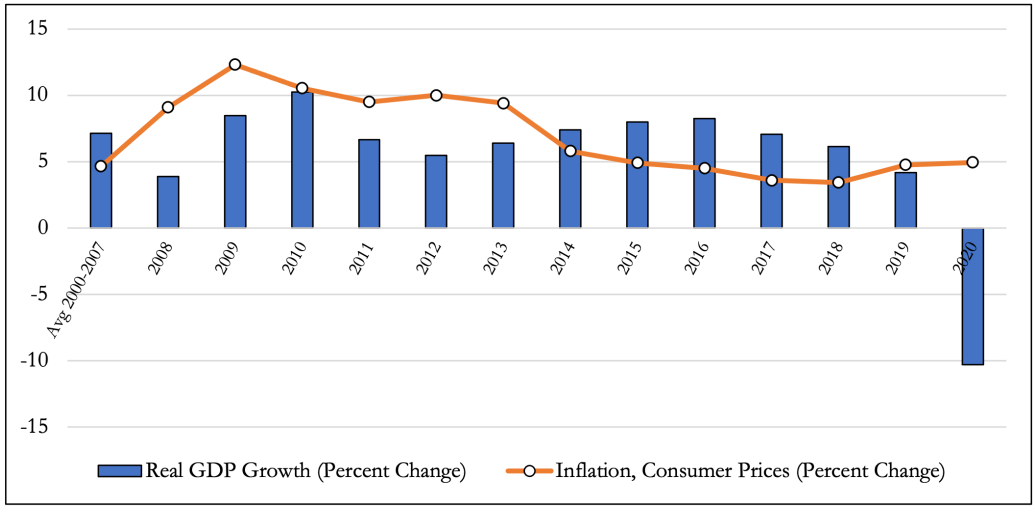
Figure 1.5: Quarterly Real GDP Growth (Change over Same Quarter Previous Year) (Percent)



Source: ACI based on data from CEIC database.

Another important macroeconomic dimension is inflation. India adopted flexible inflation targeting in 2016 with the aim of keeping the annual inflation rate at 4 percent with a lower limit of 2 percent and an upper limit of 6 percent (The Economic Times, 2016). As seen in Figure 1.6, the RBI and the federal government had been successful in keeping the inflation rate within the target range until 2019. In the first quarter of 2020-21, the pandemic worsened the inflationary pressure as food prices were pushed up by supply chain disruptions. However, ADB forecasts that the inflation would ease for the remainder of the year on account of bumper harvest and be well within the target range at 4.5 percent for 2020-21 (Asian Development Bank, 2020).

Figure 1.6: Annual Real GDP Growth and Inflation (Percent)



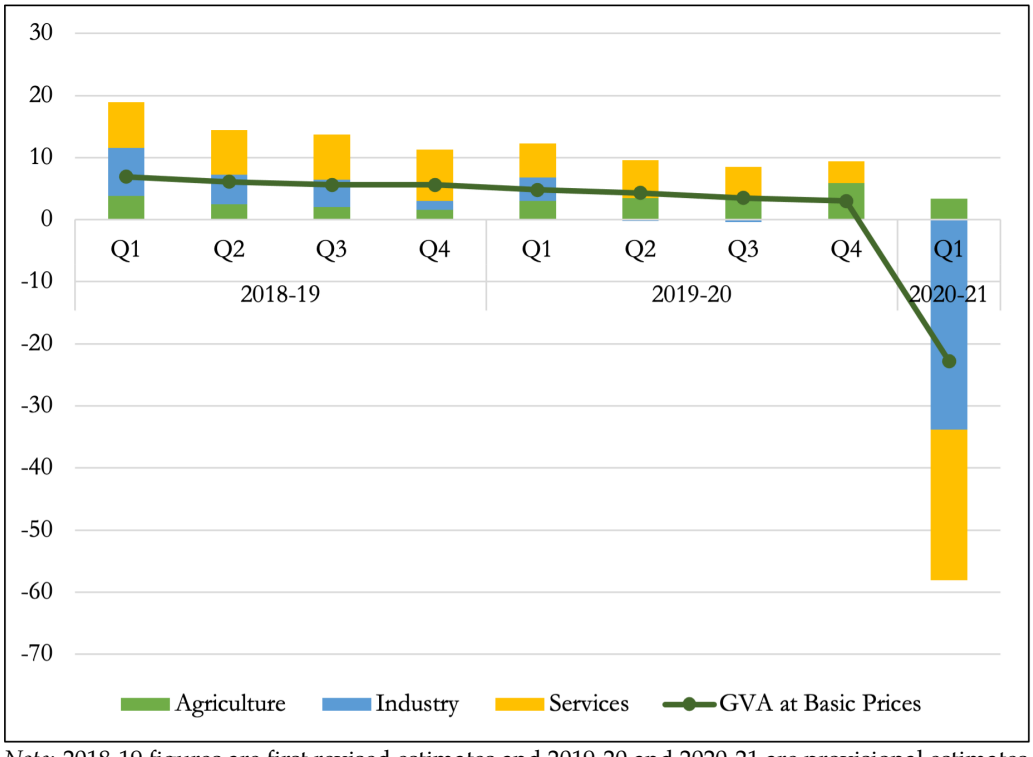
Source: ACI based on data from IMF, WEO.

To delve deeper into understanding the causes for the contraction GDP due to the COVID-19 pandemic, we look at the supply and demand breakdown of the GDP. On the supply side, until the first quarter of 2019-20, the growth in the gross value added (GVA) is driven by the industry and services sectors (Figure 1.7). The slump in the industry sector had begun in the second quarter of 2019-20 and the sector contracted even further (33.8 percent) in the first quarter of 2020-21. This drastic fall can be attributed to the fall in manufacturing, due to the stringent national lockdown, imposition of social distancing measures and exodus of migrant workers (Reserve Bank of India, 2020). The service sector was growing until the fourth quarter of 2019-20, however, it contracted sharply by 24.3 percent in the first quarter of 2020-21. Within the service sector, construction activity, trade, hotels, transportation, communication, and services related to broadcasting witnessed the steepest decline. Only the agriculture sector proved to be resilient during this period.

On the demand side, the demand suppression and supply disruptions in the first quarter of 2020-21 led to a precipitous fall in gross fixed capital formation, private con-

sumption and exports (Figure 1.8). The gross fixed capital formation, which had been contracting since the second quarter of 2019-20, slumped by 47.1 percent in the first quarter of 2020-21. The decline in private consumption was more prominent in urban rather than rural areas, with domestic air passenger traffic and consumer durables production being stagnant during the lockdown period (ibid.). The only support on the aggregate demand side was from the growth in the government expenditure by 16.4 percent and the positive contribution of the net exports as the imports declined more than the exports.

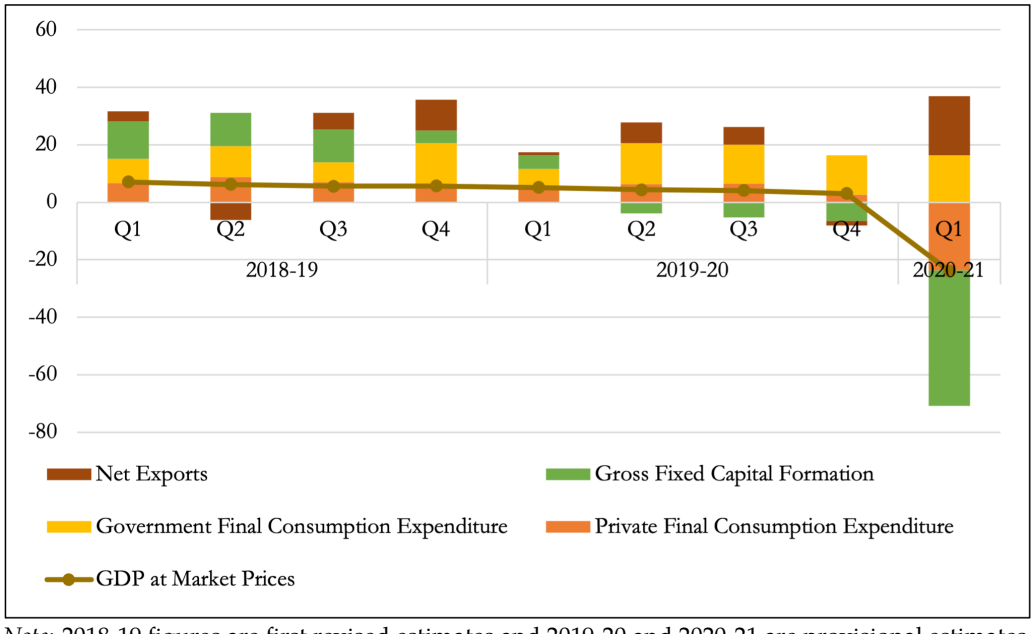
Figure 1.7: Supply-Side Contributions to GVA Growth (Percent)



Note: 2018-19 figures are first revised estimates and 2019-20 and 2020-21 are provisional estimates.
Source: ACI based on data from Reserve Bank of India (RBI).

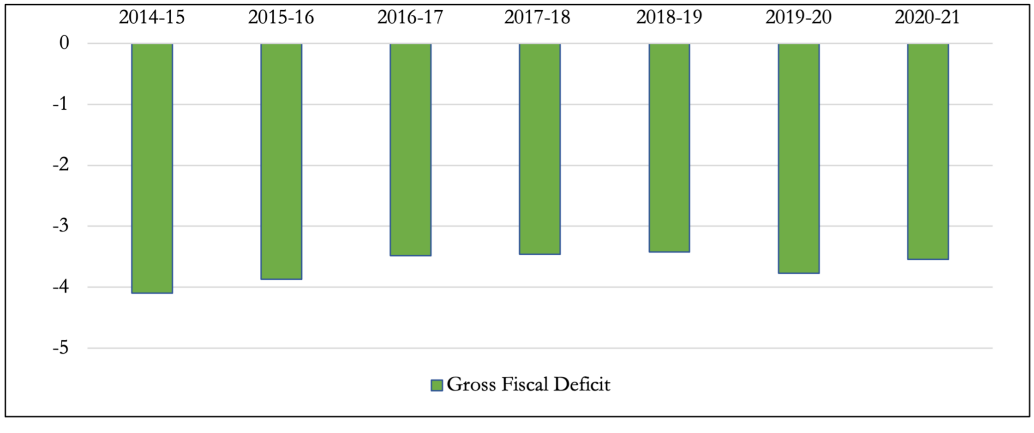
We now shift the focus towards the fiscal landscape of India. Fiscal indicators assist in gauging the financial performance of the government. As seen in Figure 1.9, the central government had succeeded in keeping the fiscal deficit below 4 percent until 2019-20. The budget estimate for fiscal deficit for 2020-21 was 3.5 percent prior to the COVID-19 pandemic. However, due to the increase in government expenditure on stimulus packages, reduction in tax and non-tax receipts and fall in disinvestment receipts, the fiscal deficit is projected by the government to be 9.5 percent for 2020-21 (Ministry of Finance, Government of India, 2021).

Figure 1.8: Demand-Side Contribution to GDP Growth (Percent)



Note: 2018-19 figures are first revised estimates and 2019-20 and 2020-21 are provisional estimates.
Source: ACI based on data from RBI.

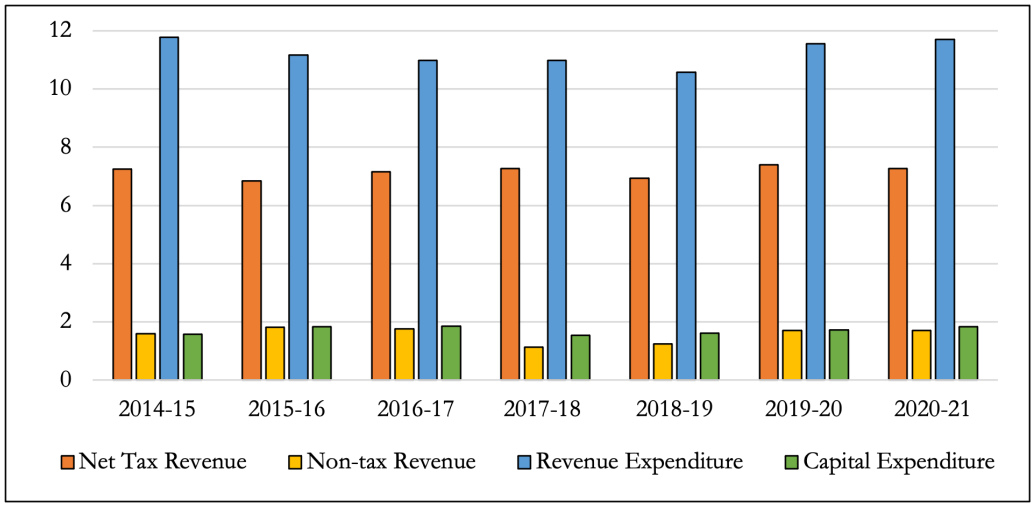
Figure 1.9: Fiscal Balance (Percent of GDP)



Source: ACI based on data from RBI.

Figure 1.10 shows the breakdown of the components of fiscal deficit. The central government has been incurring a consistently high revenue expenditure since 2014-15, with the non-tax revenue and tax revenue falling short of the total expenditure incurred by the central government. RBI expected the net tax revenue to be around 7 percent of the GDP for 2020-21. However, the halt in business activity during the lockdown led to a shortfall in the tax revenue collection, which is reflected in the higher than usual revised estimate for fiscal deficit. Within the first four months of 2020-21, the tax revenue declined by 29.5 percent and the non-tax revenue declined by more than 50 percent compared to the same period in 2019-20 (Asian Development Bank, 2020).

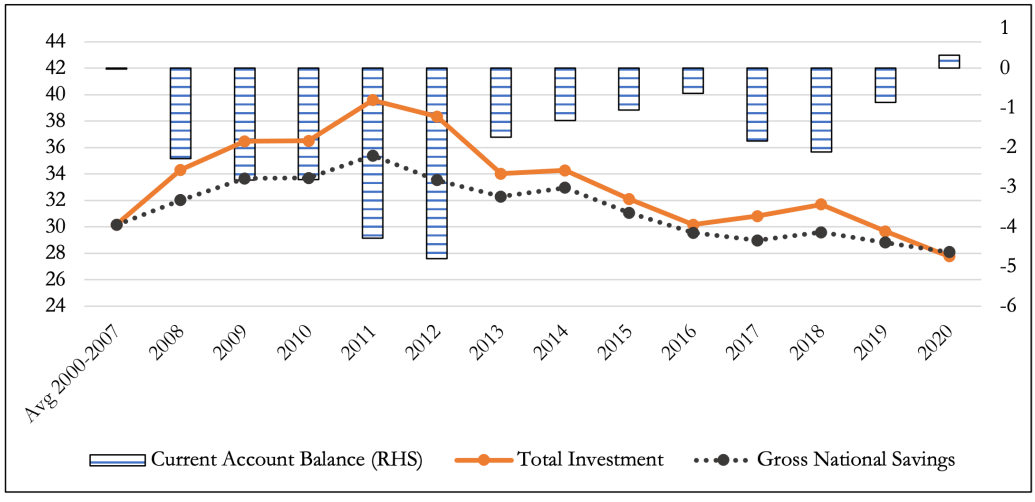
Figure 1.10: Key Fiscal Indicators (Percent of GDP)



Source: ACI based on data from RBI.

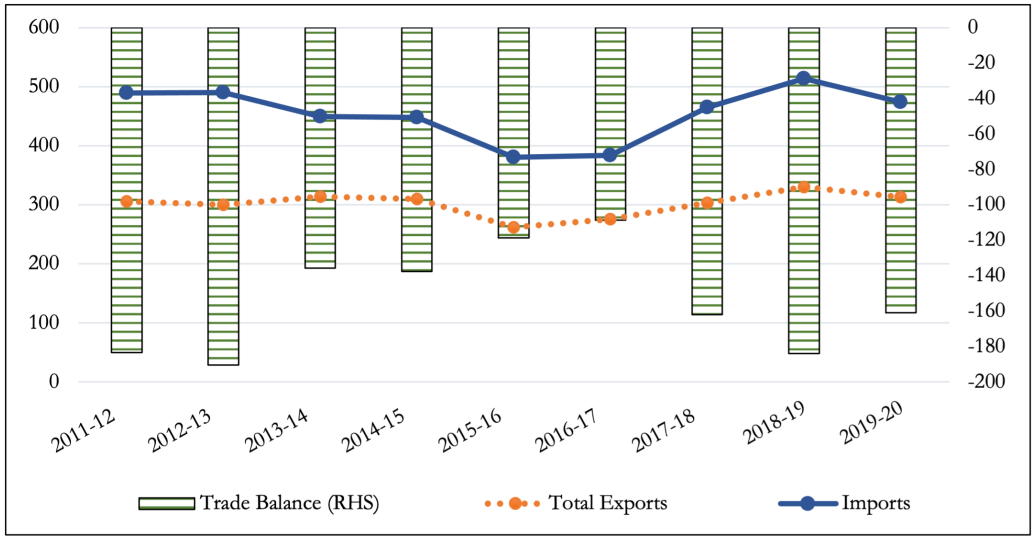
The trends for India's national savings, investment, and current account deficit (CAD) are showcased in Figure 1.11. IMF defines current account balance as the difference between national (public and private) savings and investment (International Monetary Fund, 2018). CAD therefore signifies that national savings are lower than investment. After the 2008 global financial crisis, the investment and national savings were on an upward trend, with the total investment growing faster than the savings. The CAD reached 4.3 percent in 2011. From 2012 onwards, both indicators have been declining and the CAD has been around 2 percent on average. In 2020, the investments in India took a major hit. The current account surplus of 0.3 percent for 2020 can be attributed to a sharp contraction in imports relative to exports, due to subdued domestic demand (Asian Development Bank, 2020).

Figure 1.11: National Savings, Investment and Current Account Deficit (Percent of GDP)



Source: ACI based on data from IMF, WEO.

Figure 1.12: Exports and Import of Merchandise Trade and Trade Balance (US$ Billion)



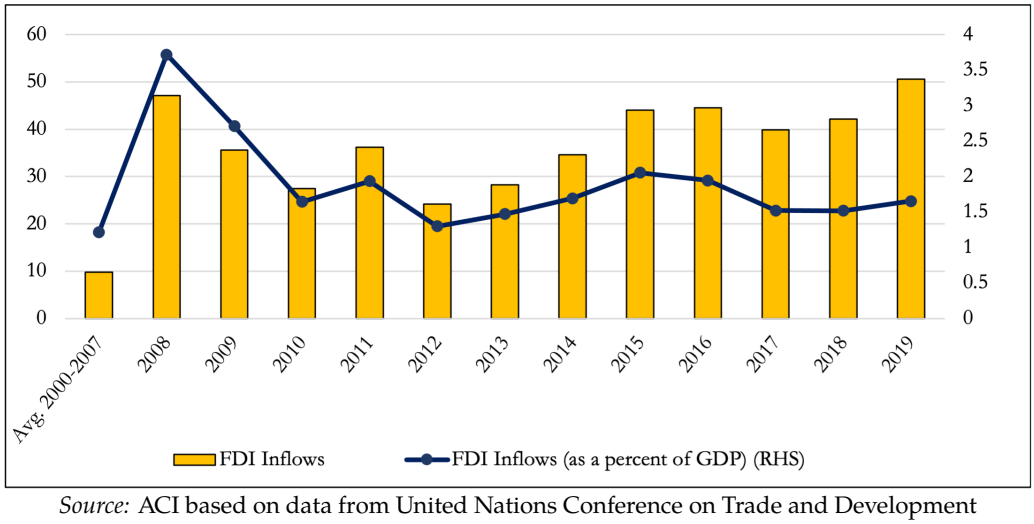
Source: ACI based on data from RBI.

It is worthwhile to analyse CAD from the standard point of view of exports and imports as seen in Figure 1.12. Both imports and exports have grown yearly from 2016-17 to 2018-19, with the imports growing faster than the exports, thereby producing an increasing in merchandise trade deficit over time. In 2019-20, there was a decline in both exports and imports compared to 2018-19, due to the global slowdown and onset of the COVID-19 pandemic. Exports contracted by 5.1 percent from US$330 billion in 2018-19

to US$313 billion in 2019-20. The export commodities that witnessed the steepest decline include minerals, pearls, precious and semi-precious stones, organic chemicals, vehicles and vehicular parts, iron and steel, apparels, cereals, plastic and cotton (Ministry of Commerce and Industry, Government of India, 2021). On the other hand, imports declined by 7.8 percent from US$514 billion in 2018-19 to US$474 billion in 2019-20. The major commodities groups that showed negative growth were minerals, pearls, precious and semi-precious stones, machinery, organic chemicals, plastics and iron and steel (ibid.). According to the Ministry of Commerce and Industry, between April and December 2020, merchandise exports and imports contracted by 15.7 percent and 29 percent respectively (Press Information Bureau, Government of India, 2021).

The discussion on the macroeconomic landscape of India would be incomplete without delving into the impact of COVID-19 on foreign direct investments (FDI). The FDI inflows for India have shown improvement since 2017. However, FDI inflows as a percentage of GDP has remained largely stagnant at 1.5 percent (Figure 1.13). According to the World Investment Report 2020, in 2019, the FDI inflows to India amounted to US$50.6 billion and India was among the top five recipients in the developing Asia region and top 10 recipients in the world (United Nations Conference on Trade and Development, 2020).

Figure 1.13: FDI Inflows to India (US$ Billion and Percent of GDP)



Source: ACI based on data from United Nations Conference on Trade and Development (UNCTAD).

Although FDI in the South Asia region is expected to decline sharply due to the pandemic, India's large market and the country's predicted positive economic growth in the post-pandemic era is expected to attract investments to the country. Industries that usually attract FDI, such as professional services and information technology (IT), are likely to bounce back fast. A testament to this fact is that deals amounting US$650 million were made in the digital sector within the first quarter of 2020-21 itself.

1.3 Roadmap of the Book

This book, *Annual Competitiveness Analysis and Gendered Impact of the COVID-19 Pandemic on Unemployment in the Sub-National Economies of India* is the eighth addition to ACI's competitiveness analysis of the sub-national economies in India. The subsequent chapters – Chapter 2 and 3 – focus on the competitiveness analysis at the sub-national and regional levels. The chapters commence by providing the rationale behind the study and outline ACI's competitiveness framework methodology that facilitates this analysis. In Chapter 2, we eliminate subjectivity from weight assignment by relaxing the assumption of equal weights and employing Shapley values, which is an important concept used in cooperative game theory. Through this approach, we impart robustness and objectivity to our research findings as this method has solid mathematical and theoretical foundations.

Chapter 2 also presents a discussion on the results of a novel analytical tool called the *What-if* simulation analysis. The *What-if* simulation looks beyond the ranking exercise and proposes constructive insights regarding the strengths and weaknesses of each sub-national economy and region by identifying how the sub-national economies of India can improve if 20 percent of their weakest indicators are raised to the national average, ceteris paribus. In addition to this, it also serves as a warning to the top sub-national economies to be vigilant as other sub-national economies can improve their performance by implementing appropriate policy recommendations. We have also used the *What-if* simulation in the discussion of the West Bengal case study in Chapter 2.

In Chapter 3, in addition to the competitiveness ranking and score analysis, a discussion on top 20 percent of each region's strongest and weakest indicators is also included.

Lastly, in Chapter 4, we investigate the impact of COVID-19 on the unemployment status of individuals across the sub-national economies of India disaggregated by gender and residency (rural and urban). We assess the changes in the unemployment rate during the lockdown and post-lockdown compared to the pre-pandemic period. Furthermore, the study employs the competitiveness rankings constructed in Chapter 2 to understand how the pandemic impacted unemployment rates in the Top, Middle and Bottom sub-national economies.

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