



**Background Document**  
March 25, 2020

## **Impact of the Coronavirus (COVID-19) and Its Implications for Infrastructure Priorities**

### **A. Economic Disruptions Will Be Sharp and Deep—In Retail, Transport and Manufacturing—Based on China’s Experiences**

The coronavirus (COVID-19) outbreak came as an event shock in early 2020 and resulted in many disruptions to the global economy. China was initially the most affected. Based on past research, the reduction of transport services and school closures were found to reduce virus transmission but these would come at an economic cost.<sup>[1]</sup> In January and February of 2020, China’s industrial production fell by 13.5 percent, compared to the same period in 2019. Investment in the fixed assets dropped by 24.5 percent, with manufacturing and transportation the hardest hit. Overall retail consumption also decreased by 20.5 percent.<sup>[2]</sup>

By February and March 2020, the COVID-19 outbreak also occurred in many countries outside China, further disrupting economic activities. As this latest outbreak comes at a time when the global economy is at its weakest since 2009 and Asia’s growth lowest since 1998, this adds to the considerable uncertainty and downside risks. Given the disruptions to supply chains, one can also expect infrastructure projects in 2020 to be delayed as a result, but this would not be the immediate concern.

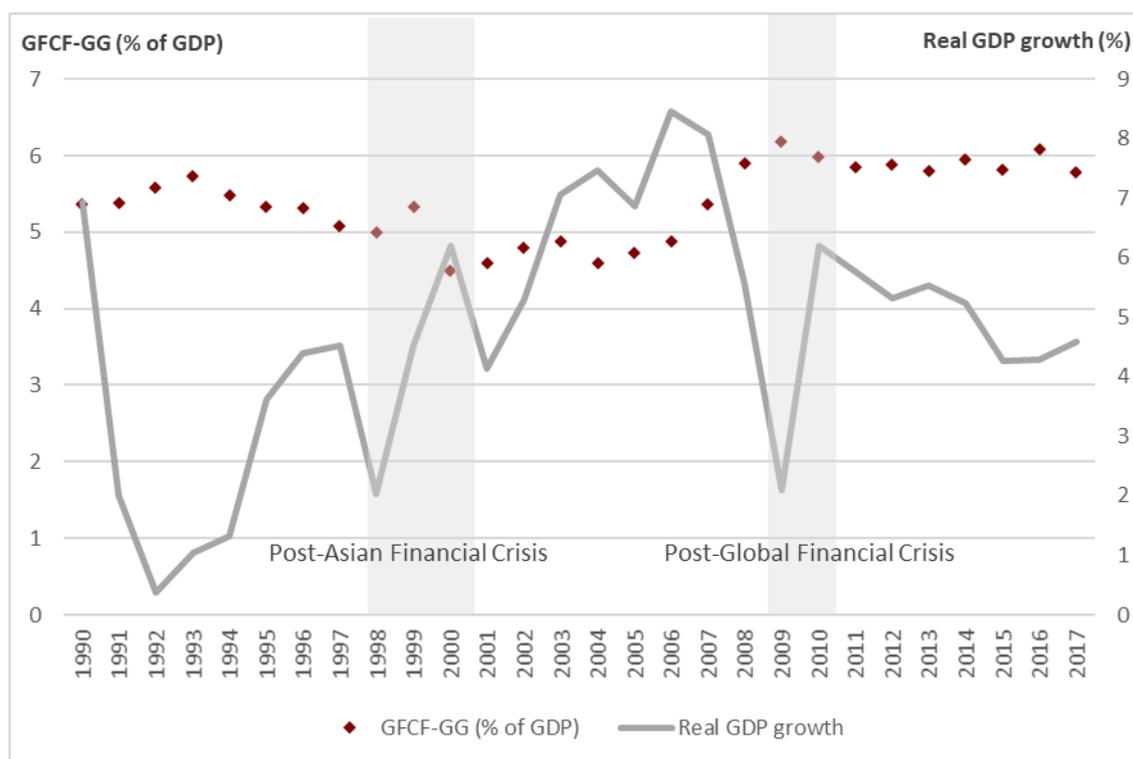
As China’s experience shows, economic activity—especially in retail, transport and manufacturing—will take a significant hit for countries directly affected by the outbreak. The immediate priority would be on healthcare, as well as enacting forceful monetary and fiscal policies to stabilize economies and protect livelihoods.<sup>[3]</sup> The Asian Infrastructure Investment Bank (AIIB) stands ready to provide financing to emergency healthcare infrastructure for China or other member countries with needs. For countries not directly affected by the outbreak, the loss of inbound tourism and trade, as well as supply-chain and financial market disruptions will also exert a significant economic toll.

## B. Fiscal Pressures Will Mount but There Is a Strong Need to Protect Key Infrastructure Development

Many developing economies, including in Asia, already face significant infrastructure gaps at current levels of spending. As economies are impacted, countries will come under increasing fiscal pressures, and private sector risk aversion will also remain elevated. As with past experience, economic growth declined and so did public investments in times of economic difficulties (Figure 1). This was particularly clear during the aftermath of the Asian financial crisis, which directly affected the region.

Hence, key project developments, especially those mitigating climate change, should receive continued or even enhanced financing support in order to not put long term economic or environmental sustainability at risk, even as policy makers deal with this present crisis. Also, critical infrastructure has to be maintained for the health of economies and societies. Multilateral development banks (MDBs) play a special and often critical role, in providing counter-cyclical financing—whether to public or private sectors—to assist developing economies.

**Figure 1: GDP Growth and Public Gross Fixed Capital Formation (GFCF-GG) as a Percentage of GDP**



Note: Data coverage is for AIIB regional members, excluding high-income members.

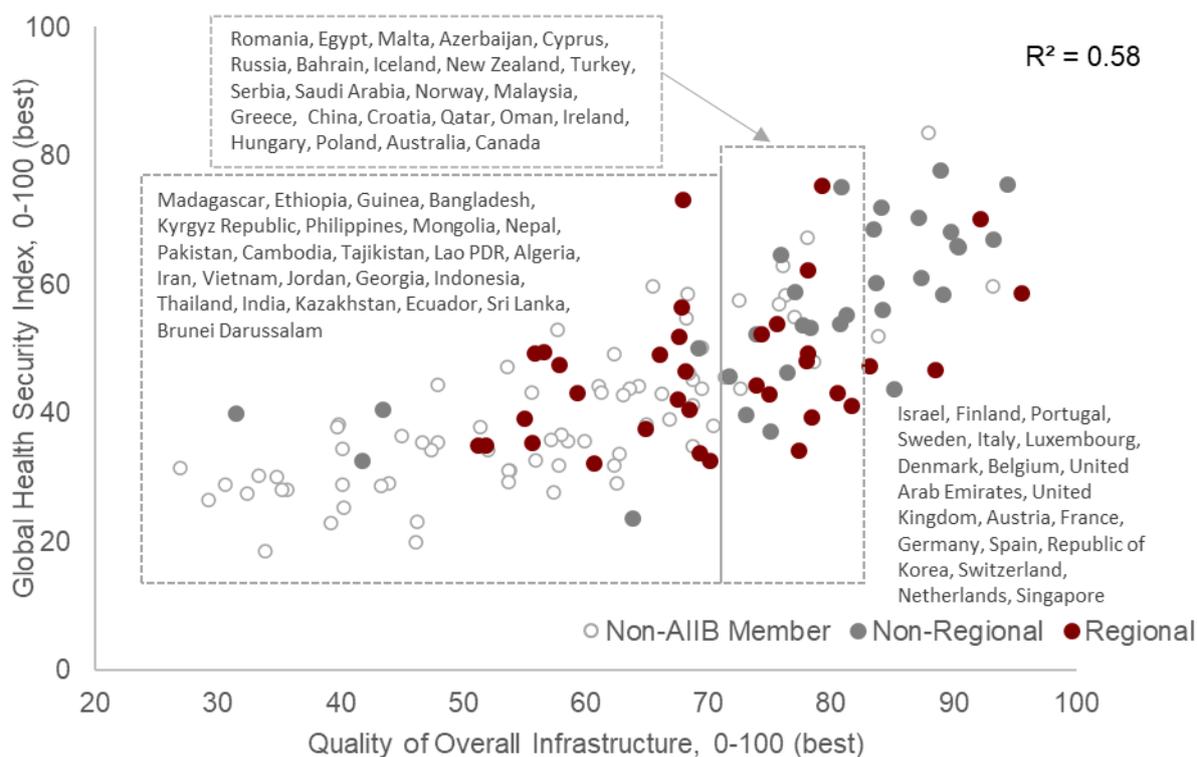
Data Source: IMF Investment and Capital Stock Database, 2019

### C. COVID-19 and Post-Crisis Implications in Public Health, Healthcare and ICT

The disruptions brought about by COVID-19 also highlight the importance of sustainable and resilient infrastructure. Firstly, developing economies will need to increase investments in healthcare and public health infrastructure. This is especially crucial in the context of megatrends such as urbanization and increased trade connectivity. Without proper public health infrastructure such as clean water and sanitation, developing economies will remain vulnerable to such outbreaks. A country's readiness to cope with epidemics is correlated with its quality of infrastructure (Figure 2). Infrastructure development is a key part of health security and epidemic preparedness.

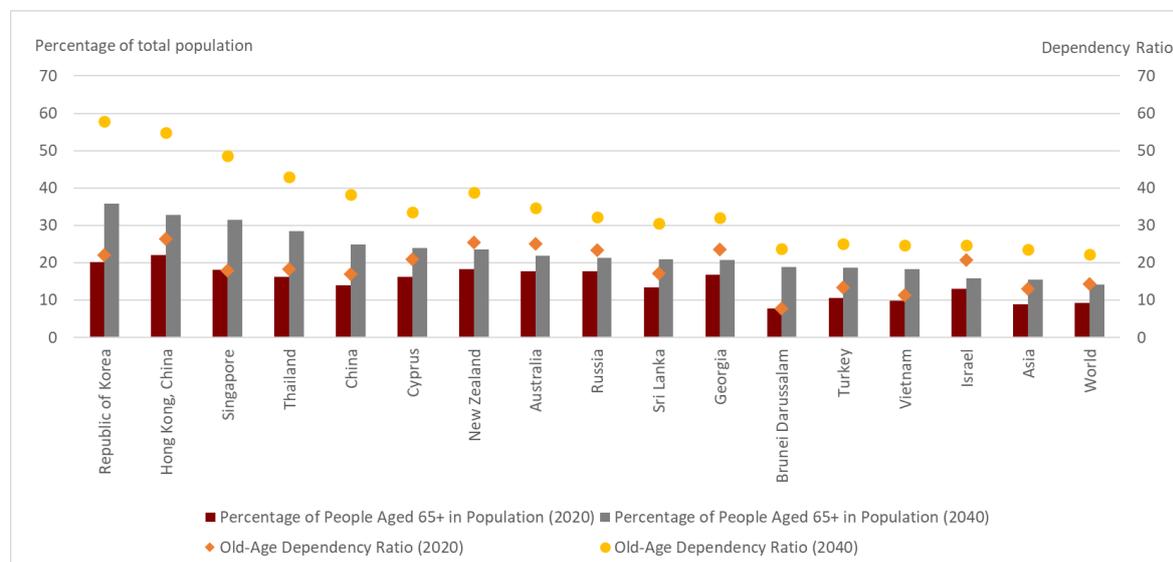
Based on preliminary reports, COVID-19 has also affected the elderly more. Given Asia's demographic trends, the number of Asia's senior citizens (65 years and above) is projected to nearly double from 412 million in 2020 to 802 million within a short span of 20 years. Much of the increase will be driven by China, India, Indonesia, Bangladesh and Vietnam (in terms of the absolute number of the elderly population). Many countries will witness a significant rise in the ratio of people aged 65 years to total population (Figure 3). It is clear that healthcare infrastructure will need to be expanded, and the COVID-19 crisis further underscores this.

Figure 2: Correlation Between Quality of Infrastructure and Health Security<sup>[4]</sup>



Data Source: Global Health Security Index Report (2019) and Global Competitiveness Report (2019)

**Figure 3: AIIB Regional Members with High Aging Population and Old Age Dependency Ratio <sup>[5]</sup>**



Data Source: World Population Prospects 2019, UNDESA

Secondly, public health infrastructure needs to be supported by robust information and communications technology (ICT). ICT improves efficiency in healthcare delivery and epidemic control. Mobile communications, broadband internet and computing have been used in epidemic response, and are particularly helpful in delivering information when transport services are curtailed. During the Ebola crisis for example, several civil society groups leveraged text messaging to warn communities, some in far-flung villages, about the Ebola virus and how to avoid it. Mobile computing tools were also able to deliver standardized learning for health workers in the field, with information continuously updated as new procedures are corroborated.<sup>[6]</sup> Moreover, software technologies such as real-time monitoring systems were used for contact tracing.<sup>[7]</sup> All these examples require investments in digital connectivity infrastructure (e.g., use of satellite technology to connect remote locations), as well as investments in utility infrastructure (e.g., access to power and electricity).

Thirdly, infrastructure supporting economic activities and supply chains will have to be more resilient. With the COVID-19 outbreak, businesses are naturally looking to strengthen the resilience of their supply chains against such outbreaks and natural disasters in general. This could mean diversifying their production, supplies and markets. This could also mean employing ICT technology to better monitor the various aspects of supply chains, making more use of automation, online commerce, etc., to ensure that production and trade can continue despite disruption. To support segments of the population affected by quarantine or stay-home arrangements, a robust supply chain is needed to keep them supplied with essentials. Work or study from home measures are widely practiced during this outbreak, and affected population will have to be supported by good national and cross-border ICT infrastructure.

#### **D. Strong Demand for Infrastructure Development Post-Crisis**

One can expect infrastructure financing to be highly subdued in the first half of 2020. Once the immediate task to contain COVID-19 is over, the focus will need to shift from crisis management to assisting developing economies invest in adequate infrastructure for development, as well as to prevent and mitigate the impact of future outbreaks. AIIB has approved financing for satellite ICT infrastructure to provide connectivity to remote areas in Indonesia, as well as financing for many water and sustainable cities projects across Asia. Furthermore AIIB-funded water, sanitation and drainage infrastructure projects in Pakistan, Bangladesh, India and Egypt are already on track to provide the communities there with access to clean water and sanitation. More investments will be required post-crisis.

As of late March 2020, China's experience showed that COVID-19 could be contained if the immediate measures were taken. Post-crisis, AIIB expects infrastructure development to rebound in line with underlying infrastructure demand, as well as the added priorities that arise from the outbreak. As a multilateral organization, AIIB will work with various stakeholders to prioritize infrastructure projects in areas of sustainable cities, resilient infrastructure, healthcare and ICT. Raising infrastructure spending and investing it well for development remains critical.

**Asian Infrastructure Investment Bank  
March 25, 2020**

## Notes

- [1] Adda, J. (2016). Economic Activity and the Spread of Viral Diseases: Evidence from High Frequency Data. *The Quarterly Journal of Economics*, 131(2), 891-941. doi:<https://doi.org/10.1093/qje/qjw005>
- [2] China's National Bureau of Statistics news releases on March 16, 2020 updating major economic activities in January and February 2020. See [http://www.stats.gov.cn/tjsj/zxfb/202003/t20200316\\_1732233.html](http://www.stats.gov.cn/tjsj/zxfb/202003/t20200316_1732233.html)  
[http://www.stats.gov.cn/tjsj/zxfb/202003/t20200316\\_1732236.html](http://www.stats.gov.cn/tjsj/zxfb/202003/t20200316_1732236.html)  
[http://www.stats.gov.cn/tjsj/zxfb/202003/t20200316\\_1732235.html](http://www.stats.gov.cn/tjsj/zxfb/202003/t20200316_1732235.html)
- [3] Baldwin, R. & Mauro, B.W. (2020). Mitigating the COVID Economic Crisis: Act Fast and Do Whatever It Takes. CEPR Policy Portal. Retrieved from: <https://voxeu.org/content/mitigating-covid-economic-crisis-act-fast-and-do-whatever-it-takes>
- [4] The Global Health Security Index is a cross-country assessment of global health security capabilities. The index illuminates preparedness and capability gaps to address outbreaks in the following health security areas: prevention, detection and reporting, rapid response, health system, compliance with international norms, and risk environment.
- [5] Old Age Dependency Ratio = (Ratio of population aged 65+ per 100 population aged 15-64); Elderly Population is defined as the population age 65 and above. The data is the median interval of UN Population Projection.
- [6] See World Economic Forum. 2015. 4 Ways Technology Can Help Fight Future Epidemics. 4 June. See <https://www.weforum.org/agenda/2015/06/4-ways-technology-can-help-fight-future-epidemics/>
- [7] One example is the Epi Info viral hemorrhagic fever (VHF) application. Developed by the Centers for Disease Control and Prevention, it is an open-sourced program that helps speed up contact tracing and data visualization for the outbreak. See <https://www.cdc.gov/media/releases/2014/p0429-new-software.html>