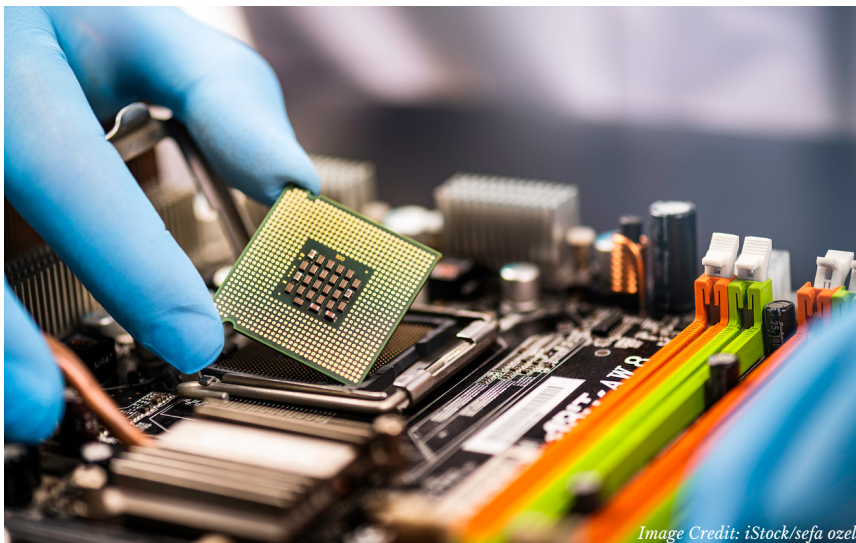


# China-India Brief

*A publication of the Centre on Asia and Globalisation*



*Guest Column*

## Confronting Trade-offs for India's Electronics Manufacturing Success

By Pranay Kotasthane

The improving performance of India's electronics manufacturing sector has been a topic of intense policy interest in the country. Electronics exports saw a spectacular growth of almost 50 percent in FY23, reaching **\$25.3 billion**. Electronics is now India's **sixth largest merchandise export**, overtaking readymade garments. Encouraged by these successes, the Indian government is confident of achieving its target of **\$140 billion** in electronics exports and **1 million new jobs** by FY26.

 Lee Kuan Yew  
School of Public Policy

 CENTRE ON ASIA  
AND GLOBALISATION

The *China-India Brief* is a bi-monthly digest focusing on the relationship between Asia's two biggest powers. The Brief provides readers with a key summary of current news articles, reports, analyses, commentaries, and journal articles published in English on the China-India relationship. It features a Guest Column weighing in on key current issues in China-India relations.

Centre on Asia and Globalisation  
cag@nus.edu.sg  
469A Bukit Timah Road, Tower Block 10,  
Singapore 259770  
<https://lkyspp.nus.edu.sg/cag>

*cont'd p2*

This sector's success is now portrayed as a vindication of the Indian government's flagship industrial policy instrument: the Production Linked Incentive (PLI) scheme. Policy debates surrounding the PLI have primarily focused on its design, effectiveness, and potential pitfalls. But the elephant in the room is the crucial role of Chinese companies in India's electronics manufacturing story.

I argue that achieving stated targets in electronics manufacturing requires a 're-coupling' between Indian and Chinese businesses on three dimensions: chips, investments, and talent. This is troubling for India since a stated reason behind government intervention in this sector was to reduce its import dependence on China.

### Chinese Chips

Chips, or integrated circuits (ICs) are India's eighth-biggest import item by value. ICs are a core component in all electronics. In a typical smartphone for instance, chips can comprise over 50 percent of the Bill of Materials.

India imports a significant proportion of its ICs from China. As shown in Figure 1, China and Hong Kong accounted for around 55 percent of India's total IC imports by value in FY23.

Figure 2 shows the trend of India's chip imports over the last six years. Here again, the role of imported chips from China is evident.

India has been increasing its chip imports from all countries, including from China. This trend indicates that more electronic device assembly is happening in India. A country will only import chips in large quantities if it has a vibrant downstream domestic equipment manufacturing ecosystem. As more Samsung, Apple, Dell, or Redmi devices get assembled in India, chip imports to the country will only rise further. As such, for substantial import substitution through domestic chip manufacturing to take place in India, even in the most optimistic scenario, will require at least a decade.

These figures have sounded alarm bells in Indian strategic circles, prompting the push for tighter controls over imports from China. However, such measures are unnecessary and counterproductive for three reasons. First, chips imported from China are not necessarily 'Chinese' chips. China is a much bigger player in outsourced assembly and packaging of chips than in fabrication. So, it's highly likely that many of the packaged chips that India buys from China were originally fabricated as dies (unpackaged chips) in other countries, such as Taiwan or South Korea. Moreover, even if the chips were indeed fabricated and packaged within China, the work could actually have been done by foreign companies with facilities in China (such as Samsung, UMC, and SK Hynix), rather than 'Chinese' companies *per se*.

### FY23 CHIP IMPORTS, US\$ MN

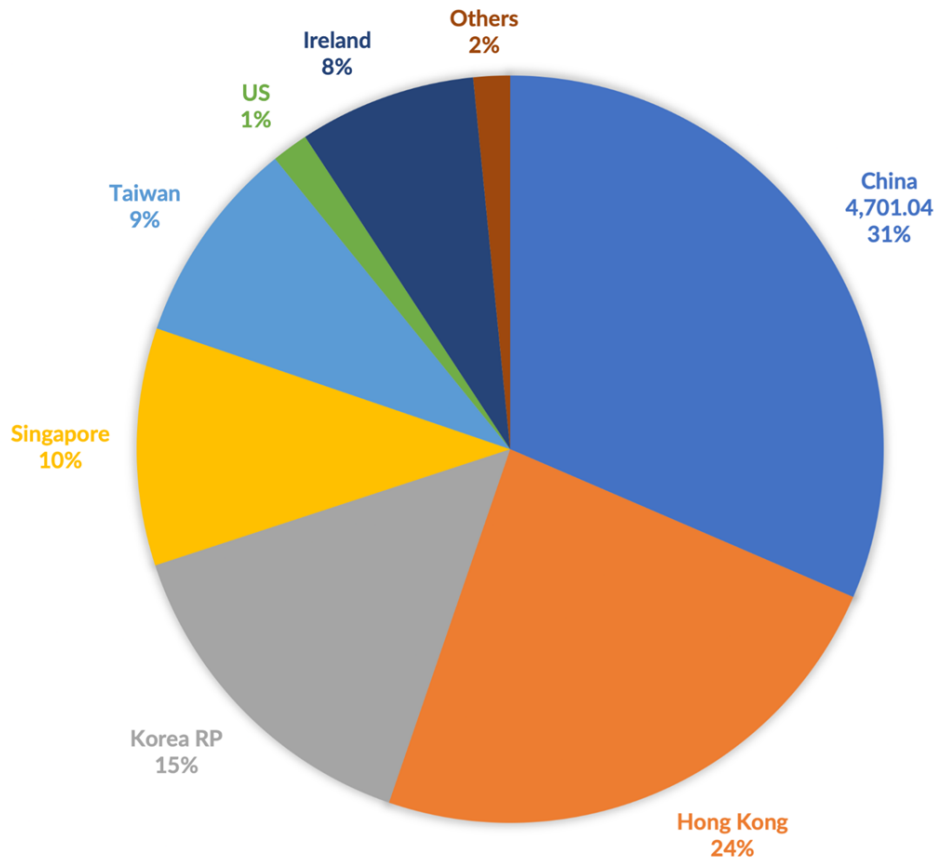


Figure 1. India's foreign chip imports for FY23. Based on data from the Ministry of Commerce and Industry, Government of India

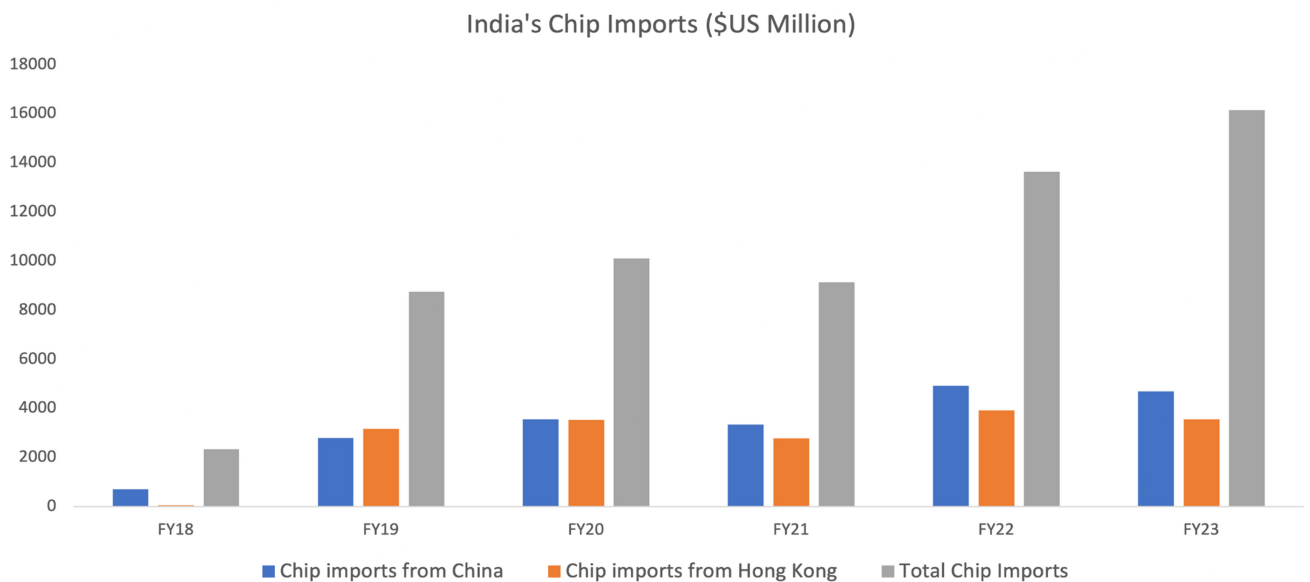


Figure 2. India's foreign chip imports FY18-23. Based on data from the Ministry of Commerce and Industry, Government of India

Second, chip dependence on China is not a strategic vulnerability. As long as multiple alternative suppliers are available outside China—which is the case for most commodity chips—the dependence fails to translate into a tool of statecraft that China can deploy against India.

Finally, for India's own chip assembly and packaging to take off, the frictionless import of unpackaged chips without barriers is imperative. Thus, there is no avoiding the continued import of chips from China over the next few years.

### Chinese Investments

Let's turn to the significance of Chinese investments in Indian electronics manufacturing. In April 2020, the Indian government changed its **foreign direct investment (FDI) policy**, making prior approval mandatory for foreign investments from India's neighbouring countries—a move likely aimed at China. While there are understandable national security reasons for such a decision, the move negatively impacts the growth of India's electronics manufacturing sector as Chinese companies are crucial players in the ecosystem.

For instance, look at the Apple ecosystem, which alone accounts for over 50 percent of mobile exports from India. Apple outsources all its manufacturing. Of the 188 companies in its **supplier list**, 151 are Chinese or have a substantial manufacturing presence in China. The only

way for Apple to shift a part of its supply chain to India is to get its Chinese suppliers to invest there. But the FDI restrictions have thrown a spanner in the works. In 2021, Apple's attempt to get its largest vendor, the Chinese manufacturing conglomerate BYD, to assemble iPads in India, **failed** because of New Delhi's restrictions on Chinese investment.

Since then, the Indian government has tried to make some concessions to Apple. In January 2023, New Delhi gave **initial approval** for the entry of around a dozen of Apple's Chinese suppliers, but on the condition that they had to enter into joint ventures with Indian partners, and that the latter would have to be given a majority stake. However, this change has not led to a major rekindling of investor interest.

Similarly, when Chinese mobile phone manufacturers in India came under fire from the Indian government for not exporting enough and not utilising more local suppliers, they **responded** that the FDI restrictions made it difficult for them to bring in their Chinese component suppliers to set up shop in India.

Discouraging Chinese investments in this sector will only mean higher imports of components. Assemblers will pay back a major chunk of industrial policy incentives as import tariffs to the Indian government, without really improving their global competitiveness.





If India wants to occupy a central role in electronics manufacturing, it will have to reconsider its view on investments from China, at least in the non-strategic areas.

### Chinese Talent

Chinese talent is another crucial element of the global electronics supply chain. After the Galwan Valley clashes, the Indian government introduced **new restrictions** that made it difficult for Chinese businessmen, academics, industry experts, and advocacy groups to obtain Indian visas. While this might be justifiable from a national security perspective, the move has **adversely affected** Taiwanese companies trying to scale up manufacturing operations in India. Here too, the Indian government will have to strike a balance between geopolitical concerns and its manufacturing ambitions.

### Confronting Trade-offs

India's predicament in electronics manufacturing reflects the complexity of this supply chain. It is challenging to indigenise all stages of electronics manufacturing. External dependencies for intermediate goods, specialised equipment, international talent, and critical materials will continue to remain even when the final product is made in India. And because China is a central node in the electronics manufacturing supply chain, de-coupling from these entities will be counterproductive for India's manufacturing ambitions.

In this author's view, the Indian government needs to make two shifts in its policy approach to China.

One, distinguish between the Chinese government and Chinese businesses. Indeed, the Chinese Communist Party's (CCP) controlled economy means that Chinese businesses have less agency than their counterparts in the US or India. It is also true that China's aggression on the border and adversarial positions at multinational fora show that it sees a growing India as a threat, not an opportunity. However, it is also important to note that Chinese businesses—especially suppliers to other multinationals—have different incentives than the CCP. Outside a narrowly defined set of strategic sectors such as defence and telecommunications equipment, investments by such businesses in India is a net positive.

Chinese investments can also give India foreign policy leverage. Economist Swaminathan Aiyar's **recommendation** that “massive foreign investment is a bigger risk for the foreigner than the investee country. So, let us attract as much Chinese investment as possible, since the main risk will be theirs, not ours,” needs deeper deliberation beyond simplistic binaries.

Two, the Indian strategic establishment needs a sharper definition of what constitutes ‘strategic.’ It is insufficient and counterproductive to define entire sectors as strategic. Not all types of chips or LCDs are strategic. Dependence on China for these items does not make it a strategic

vulnerability for India.

China's success in manufacturing was possible because it was willing to harness Western investments despite political and ideological differences. Though the India-China relationship remains complicated due to simmering tensions along their shared border, India must take a leaf out of China's book and cautiously utilise Chinese products, investments, and talent to close the power gap.

**Pranay Kotasthane is Deputy Director of the Takshashila Institution and chairs the High Tech Geopolitics Programme. He tweets at [@pranaykotas](#).**

## News Reports

### Bilateral relations

**Modi & Xi reached 'consensus' on stabilising ties at G20 Bali meet, says Chinese foreign ministry**

The Print, July 26

The statement comes eight months after the two leaders publicly exchanged greetings on the sidelines of the G20 summit last year at Bali.

**Wang Yi calls for efforts to improve China-India relations**

Xinhua, July 25

Wang Yi met with Indian National Security Adviser Ajit Doval in Johannesburg on July 24.

**China's foreign policy chief Wang Yi tells India border dispute should not define relationship**

South China Morning Post, July 17

China's top diplomat made an appeal at a meeting with India's External Affairs Minister to focus on "common interests" and meet China "halfway" to defuse border tensions.

**India to acquire 97 new drones under 'Make in India' programme**

India Today, 17 July

As part of the "Made-in-India" programme launched by the Union Government, Indian armed forces are expected to develop their defensive capabilities along the India and China borders.

### China and India in the Region

**India hands over warship to Vietnam, with an eye on China**

The Times of India, July 23

Against the "backdrop of China's belligerence in the region", India is looking to upgrade its strategic defence partnership with Vietnam through "significantly [enhancing] the scope and scale of existing security collaboration".

**Japan Signs Chip Development Deal With India**

Voice of America, July 21

Japan and India have signed an agreement for the joint development of semiconductors, in what appears to be another indication of how global businesses are reconfiguring post-pandemic supply chains as China loses its allure for foreign companies.

**Sri Lankan President Wickremesinghe seeks to disarm India's China fears**

The Straits Times, July 18

Sri Lanka's president arrives in India for his first visit to the regional powerhouse, with concerns mounting in New Delhi over China's increasing influence in the strategically placed but financially bankrupt island.

**Yellen visits India again to promote closer ties and tackle global economic problems**

Associated Press, July 16

Yellen's frequent stops in India signal the importance of that relationship at a time of tension with China.



## Trade and Economy

### **IMF raises growth forecast for India, which is set to be fastest growing major economy in 2023**

CNBC, July 26

The IMF now expects India to grow 6.1% in 2023 and 6.3% in 2024, while its forecasts for China remain unchanged at 5.2% this year and 4.5% next year.

### **BYD's US\$1 billion investment plan reportedly rejected by India on security grounds in blow to global strategy**

South China Morning Post, July 24

BYD's go-global drive has hit a speed bump after its proposal to build a US\$1 billion car and battery manufacturing plant with a local partner in India was rejected.

### **China's top diplomat urges India to provide a fair and transparent business environment for Chinese firms**

Global Times, July 15

Wang Yi called for "mutual support instead of suspicion" over India's recent targeted and "unjustifiable" restrictions against Chinese firms.

### **India-China Trade Shows First Signs Of Slowdown In Years**

Outlook India, July 14

China's exports to India in the first half of this year totalled USD 56.53 billion compared to USD 57.51 billion last year registering a decline of 0.9 per cent, according to the data released by Chinese customs.

## Energy and Environment

### **Russia proposes joint research module on space station for China, India, Brazil and South Africa**

CNN, July 25

Russia's space agency has extended an offer to Moscow's partners in the BRICS group – Brazil, India, China and South Africa – to participate in the construction of a joint module for its planned orbital space station.

### **G20 bloc fails to reach agreement on cutting fossil fuels**

Reuters, July 24

Major fossil fuel producers Saudi Arabia, Russia, China, South Africa and Indonesia are all known to oppose the goal of tripling renewable energy capacity.

### **First Solar to make solar panels in India; no China input: US energy secretary Jennifer Granholm**

The Economic Times, July 22

First Solar of the US will invest "hundreds of millions of dollars" for solar panel production in India that will not source materials from China.

### **Oil markets will face 'serious problems' as demand from China and India ramps up, IEF secretary general says**

CNBC, July 22

Joseph McMonigle, secretary general of the International Energy Forum, attributes the push in oil prices to an increasing demand from China and India - two of the biggest oil consumers right after the US.



## Analyses

### **China's Border Talks With Bhutan Are Aimed at India**

Foreign Policy, July 18

*By Marcus Andreopoulos, a Senior Research Fellow at the Asia-Pacific Foundation*

The disputed Doklam plateau is a pressure point for both regional powers. Beijing is moving in.

### **India's Efforts to Strengthen Indian Ocean Security**

Council on Foreign Relations, July 18

*By Manjari Chatterjee Miller, Senior fellow at CFR, and Clare Harris, Research Associate at CFR*

India is building its naval assets and maritime surveillance capabilities to counter the growing threat of China in the Indian Ocean Region.

### **India's biased approach and anti-China policies undermine its business climate**

People's Daily Online, July 18

*By Zamir Ahmed Awan, a Non-Resident Fellow at the Center for China and Globalization (CCG) and a sinologist at the National University of Sciences and Technology in Pakistan*

In light of simmering geopolitical tensions and due to India's biased approach and anti-China policies, bilateral trade between India and China has declined during the first half of this year.

### **China can't just keep building the world's biggest dam in secret**

Nikkei Asia, July 14

*By Brahma Chellaney, Professor Emeritus of Strategic Studies at the Center for Policy Research in New Delhi and a former adviser to India's National Security Council*

China's Brahmaputra project poses risks for India and Bangladesh.

### **Despite the excitement, India's South China Sea policy remains unchanged**

The Interpreter, July 14

*By Abhijit Singh, a Senior Fellow at New Delhi-based Observer Research Foundation and head of the Maritime Policy Initiative*

Backing the Philippines over the 2016 arbitration award on the South China Sea doesn't mean India is about to abandon caution in efforts to balance China.

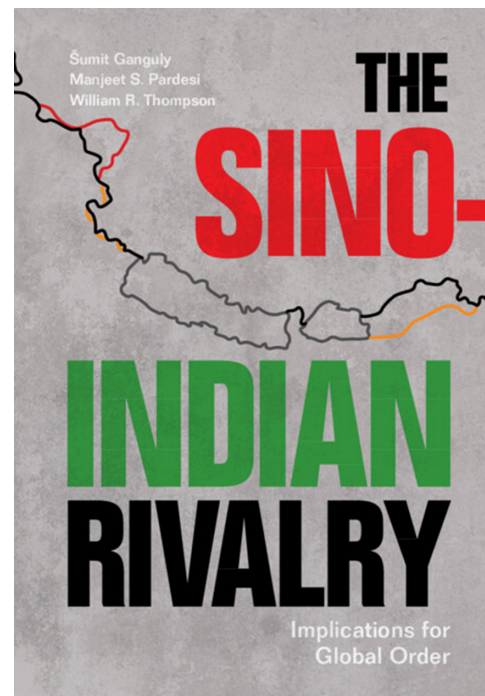
## Books and Journals

### **The Sino-Indian Rivalry: Implications for Global Order**

Cambridge University Press, 2023

*By Sumit Ganguly, Distinguished and Rabindranath Tagore Professor at Indiana University, Bloomington, Manjeet S. Pardesi, Associate Professor at Victoria University of Wellington, and William R. Thompson, Distinguished and Rogers Professor Emeritus, Indiana University, Bloomington*

Drawing on a wide body of literature on international rivalries, this comprehensive and theoretically grounded work explains the origins and evolution of the Sino-Indian rivalry. Contrary to popular belief, the authors argue that the Sino-Indian rivalry started almost immediately after the emergence of the two countries in the global arena. They demonstrate how the rivalry has systemic implications for both Asia and the global order, intertwining the positional and spatial dimensions that lie at the heart of the Sino-Indian relationship. Showing how this rivalry has evolved from the late 1940s to the present day, the essays in this collection underscore its significance for global politics and highlight how the asymmetries between India and China have the potential to escalate conflict in the future.






## Our team



Byron Chong is the editor for the *China-India Brief*. He is a Research Associate with the Centre on Asia and Globalisation, part of the Lee Kuan Yew School of Public Policy in Singapore. He has a Masters in Strategic Studies from the S. Rajaratnam School of International Studies, at Nanyang Technological University.

 @WenzhongByron

 [sppcwb@nus.edu.sg](mailto:sppcwb@nus.edu.sg)



Mae Chow is a Research Assistant at the Centre on Asia and Globalisation. She has a Masters in International Affairs with a specialisation in International Security from the Lee Kuan Yew School of Public Policy.

 [mae.chow@nus.edu.sg](mailto:mae.chow@nus.edu.sg)



## THE CENTRE ON ASIA AND GLOBALISATION

---

The Centre on Asia and Globalisation is a research centre at the Lee Kuan Yew School of Public Policy, National University of Singapore. It conducts in-depth research on developments in the Asia-Pacific and beyond, and aims to provide academics, decision-makers, and the general public with objective analysis on issues of regional and global significance. The Centre's motto "Objective Research with Impact" reflects its commitment towards ensuring that its analysis informs policy and decision makers in and about Asia.

## OTHER CAG PUBLICATIONS

---

- *Asian Conceptions of International Order: What Asia Wants* edited by Kanti Bajpai and Evan Laksmana (International Affairs, 2023)
- *How Realist Is India's National Security Policy?* edited by Kanti Bajpai (Routledge, 2023)
- *Deterring Conflict and Preserving Peace in Asia* edited by Drew Thompson and Byron Chong (Centre on Asia and Globalisation, 2022)
- *What Can the United States Learn from China about Infrastructure?* by Selina Ho in *The China Questions 2* (Harvard University Press, 2022)
- *India Versus China : Why they are Not Friends* by Kanti Bajpai (Juggernaut Books, 2021)
- *Winning the Fight Taiwan Cannot Afford to Lose* by Drew Thompson (Strategic Forum, 2021)
- *Routledge Handbook of China-India Relations* edited by Kanti Bajpai, Selina Ho and Manjari Chatterjee Miller (Routledge, 2020)



Compiled and sent to you by Centre on Asia and Globalisation  
and the Lee Kuan Yew School of Public Policy, National University of Singapore

*China-India Brief is supported by Wilmar International Limited*

Feedback or comment?

Contact our Editor: Byron Chong (Research Associate) [sppcwb@nus.edu.sg](mailto:sppcwb@nus.edu.sg)

Subscribe: <https://cag-lkyspp.com/cib-subscribe>