

## IT Hardware & Electronics: Regulatory & Policy Benchmarking

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The IT hardware and electronics sector is largely dominated by Taiwanese products, as discussed in the earlier sections. While India is a strong player in the IT software, it is way behind major countries in the production of IT hardware and electronics. Other major countries in this sector are Japan, China, Singapore and Germany. The key factors that have contributed to the success of Electronics and IT hardware in the competing countries are the implementation of latest technology, skilled labour and overall development of ICT in the country. Though India has no dearth of skilled human capital, the development of IT hardware and electronics has lagged behind China and others due to lack of technology and inadequate government policies. Further, the Indian industry faces several other challenges including infrastructure bottlenecks, supply chain issues, inadequate R&D, rigid labour laws, etc. which put Indian players at a disadvantage against other Asian counterparts. The factors establishing competitive advantage to countries like China, Taiwan, Japan, Germany and Singapore vis-à-vis India are discussed hereunder with a view to formulate suitable recommendations for improving competitiveness of Indian IT hardware and electronics industry as well.

### **Focused government initiatives have been critical in development of industry**

The governments of competing countries have played a major role in facilitating the growth and development of IT hardware and electronics sector. Besides laying down favourable industrial policies for the sector, the state has actively participated in development of the sector either through investment facilitation or through creation of demand in the form of self-consumption. For instance, the Singapore government has not only actively promoted investments in the IT and electronic firms, it has been a key investor in several enterprises. Further, the Singapore government has taken efforts in developing the IT infrastructure in the country; the government offers attractive financial incentives to both adopters and innovators of IT technology. In case of China, the government has facilitated the growth of IT hardware industry not only through its industrial, investment and trade policies but also by serving as a major consumer of IT hardware products.

The Japanese government has been supporting the high technology industries for over four decades. Ministry of International Trade and Industry has played a key role in development of all major industries in Japan by providing protection from import competition, facilitating technological knowhow, and providing assistance in mergers.

The German government has also launched a 'High-tech Strategy' campaign for advancement of new technologies. The programme involves provision of R&D grants, loans at reduced interest rates, and special partnership programmes.

### **Favourable foreign investment climate in competing countries has provided technology advantage**

India has liberal investment policy with respect to electronics and hardware sector that allows 100% FDI under the automatic route, yet it has not been able to attract huge FDI in the sector as done by other Asian countries like Singapore and China.

Singapore has been a favourite hub for foreign investments for a long time on the back of strategic advantages such as geographical location, excellent infrastructure, political stability, availability of skilled manpower, favourable tax regime, minimal transaction costs, protection of IPR and supportive

government bodies like Singapore Economic Development Board (EDB) and Singapore Trade Development Board (TDB). China too is an attractive destination for foreign investments in the IT hardware and electronics sector due to its low manufacturing costs, attractive tax incentives and investment packages, excellent infrastructure, flexible labour policies and a huge domestic market. Taiwan's success in IT hardware and electronics sector can also be attributed to the huge investments by multinational companies that were attracted by its export processing zones, tax incentives and cheap & non-unionised labour.

The major benefit of foreign investments in these countries has been access to modern technology, which has provided a definite competitive edge to these countries. In case of China, the development of advanced technology in the industry can be attributed to the government's policy of allowing market access to foreign firms only in exchange of bringing foreign capital and transferring technology to domestic firms by forming joint ventures and alliances with them.

In case of India, lack of technology has led to low level of competitiveness in the Indian IT hardware and electronics industry. There is very little domestic R&D in the sector due to which the industry is largely dependent upon advanced technology from abroad. Further, developed countries are involved in continuous innovations which lead to rapid changes in technology, providing a competitive edge to those countries in terms of cost and quality. In India, lack of innovation makes the existing technology obsolete and redundant. Moreover, unlike other Asian countries, India has not been able to attract enough foreign investments to ensure technological development of domestic industry. India has distinct advantages in the form of low costs, skilled manpower and large market, but the major disadvantages in the form of inflexible labour laws and high tax regime have restricted foreign investments to reach their potential. Nevertheless there have been government initiatives in the recent past such as the formulation of semiconductor policy, which are expected to attract foreign investors for setting up manufacturing plants in India.

#### **Lack of availability of raw materials puts Indian industry at a disadvantage**

One of the main reasons for low development of Indian domestic hardware and electronics industry is the poor development of domestic components industry, due to which the industry is largely dependent on imports of the raw material. The domestic manufacturers need to import material from countries such as China, Taiwan and Korea. The low production volume of Indian manufacturers inhibits them to negotiate competitive rates from these suppliers, which impacts the cost of production. Supply chain bottleneck due to poor infrastructure further compounds the problems of the industry, which adds to the cost of production.

#### **Tax incentives and subsidies have increased global competitiveness of competing nations**

India has a disadvantage against competing countries in terms of the tax structure. The corporate tax rates are amongst the highest in India and are compounded by multiple indirect taxes. Further, the import duty on IT systems and hardware and electronic components is nil, which has led to high imports and proved detrimental to the growth of domestic IT hardware and electronics industry.

In comparison, tax structure in countries like Singapore, China and Taiwan is more investor friendly. Singapore government has progressively reduced tax and it is currently at just 17%. Moreover, the government provides various tax and non-tax incentives, as discussed in the earlier section. In case of

Taiwan, companies in the Hsinchu industrial park enjoy various tax incentives and non-tax subsidies. Companies at the park do not have to pay duties on imported machinery or raw material. Further, companies in this park are offered concessional loans at 2% lower interest rates than in other parts of the city. Consequently, Taiwanese products are rendered highly cost competitive in the global markets.

Japan's success in electronic manufacturing can also be partly attributed to the subsidies and tax incentives provided by the government under two laws namely the Machinery Industry Law (1956) and the Electronics Industry Law (1957) that were formulated to promote experimental research and initial production, and also to promote industrial rationalization of machine tools and electronic technologies. Under these laws, subsidies for technology R&D were provided, along with special loans and tax incentives for firms that developed or used advanced production technologies.

The central and local governments in China have also played a major role in facilitating growth of IT hardware and electronics industry. The local governments compete with each other in attracting IT manufacturing firms to their region by offering lucrative incentives to the enterprises. The central government too provides several benefits like subsidized bank loans, tax holidays, tax reimbursements and direct investments.

Additionally, most of the competing nations provide preferential access to domestic manufacturers of IT products. China and Taiwan have policies wherein locally manufactured IT related strategic products are provided favourable treatment for government procurement.

#### **Favourable trade measures are important for maintaining global competitiveness**

The most competitive nations in the IT hardware and electronics sector provide several export incentives to the industry and have also invested in development of infrastructure to maintain the global competitiveness. As discussed in earlier sections, countries like Mexico, Singapore and China have introduced various incentive programmes to encourage exports from their country. Further, the industries set up in export processing zones in those countries are generally exempted from all kinds of taxes and levies.

Indian government has also implemented various export promotion schemes and set up various export processing zones and technology parks to boost the exports. Companies in these zones/ parks are provided special tax incentives, duty free imports as well as tax holidays. Indian government does not levy any import duty on the finished electronic goods which is hampering the growth of domestic industry as imported items are more cost effective than the domestic products.

FTAs have also helped in expansion of IT hardware and electronics exports, notably in the case of Mexico which has witnessed high growth in its IT exports post the entry into NAFTA. The Mexican players benefit from the zero-duty regime with the USA and clubbed with lower logistics costs (due to geographical proximity with the USA), they enjoy greater competitiveness in the US market.

#### **Most competing nations have maintained a strong focus on Skill development**

The IT hardware and electronics industry requires highly skilled manpower at all levels, who can facilitate research and development to foster innovation and product diversification. Most technologically



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advanced countries have thus focused on skill development of the industry. For instance, the Taiwanese government has provided huge grants for setting up institutes and departments related to electronics. Further, it has established various agencies and research centres to undertake R&D in the electronics sector. The Hsinchu-based, government-funded Industrial Technology Research Institute hosts several laboratories in which over 5,000 researchers work in co-operation with local companies. Indian government needs to take similar steps to lay a strong foundation for long term development of this potential industry.