

## **The Electronics Industry PLI Scheme: A missed opportunity?\***

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Electronics was rightly picked as one of the focus sectors, when the production-linked incentive scheme (PLI) was launched with the aim of increasing India's self-reliance in the manufacturing sector. The pandemic-related disruptions starkly revealed the perils of our digital economy's extreme supply chain dependence on China. Although the PLI scheme was initially announced only for mobile phones and specific electronic components, it has since been extended to medical devices, computer hardware, telecom & network products and solar photo-voltaic modules.

The scheme offers an incentive of 4% to 6% on a company's incremental sales, for a period of five years. Any India-registered company is eligible to apply if they meet the thresholds on additional annual investment and sales over 2019-20. The eligibility criteria support the government's stated intention to attract large investments. For high-end mobile phones, incremental investment in the first year must be Rs. 250 crore, with incremental sales of Rs. 4000 crore. The lower thresholds for "domestic" mobile companies apply to lower end mobile phones (less than Rs. 15,000 category).

Applications from global handset makers Samsung and Apple's contract manufacturers Foxconn, Wistron and Pegatron, along with some domestic players and component makers have been approved to export mobile phones worth around \$100 billion. The government is now reportedly seeking out key supplier firms—especially Samsung's and Apple's contract manufacturers—to extend incentives for local component production. Will this central reliance on large foreign players help India to develop an advanced parts and components ecosystem?

### **FDI-led integration into global supply chains**

By attracting large global original equipment manufacturers (OEMs) and component players, the Ministry of Electronics and Information Technology (MeitY) expects the PLI scheme to make "Indian" manufacturers globally competitive by creating economies of scale. They also believe that apart from making India an integral part of the global value chains (GVCs), large foreign investors will establish backward linkages with the domestic MSME (micro, small and medium enterprise) suppliers. These are not new objectives. Several policy reforms carried out by successive Indian governments since the mid-2000s have been aimed at attracting FDI to promote GVC engagement by Indian electronics firms to achieve these same benefits. These include the free trade agreements (FTAs) with ASEAN and others, and Make in India.

But time and again, Indian policymakers' faith in the ability of large foreign firms in high technology industries to support the growth of domestic suppliers has been found to be misplaced. The most recent example is mobile manufacturing, wherein the Phased Manufacturing Program (PMP) led to a significant increase in local assembly and exports of smart phones, but it also simultaneously led to a manifold jump in mobile parts and components imports. Mobile phone parts and components have become the top electronics imports since 2015-16.

## **Continuing lack of local supplier linkages and low/disconnected private R&D**

A recent ICSSR-funded study carried out by the authors to assess GVC participation by Samsung India Electronics clearly established that the shift towards domestic sub-assemblies did not increase domestic value addition. Even as the share of exports in Samsung India's total revenue began growing from 2017-18 and reached 20% in 2018-19, the company's import intensity was still as high as 85%, dominated by mobile parts and components.

More than 80% of the value of major imports by Samsung India in 2018-19 were purchased from the South Korean parent company and the Samsung Group's various subsidiaries abroad and in India. Domestic purchases of higher value added services like IT consultancy or other technical assistance were also with companies belonging to the Samsung group operating in India and abroad. The company spent just 0.05% of its turnover on local R&D in 2018-19. Due to all the payments for imports, royalties, IT and other services, there were rising net foreign exchange outflows from Samsung India, which stood at Rs. 431.2 billion in 2018-19.

It is not just Samsung, but its Indian subcontractors have also been carrying out heavily import-dependent operations. This is true of: (a) its local supplier for mobile components, Elentec India, a subsidiary of another South Korean company, Elentec Co; (b) its contract manufacturer for low-end to mid-segment smart phones, DBG Technology, a Chinese majority-owned JV with Karbonn Mobiles Chairman; and (c) its domestic EMS supplier, Dixon Technologies, which has got approval under the PLI Scheme for lower end smart phones assembly.

Clearly, whatever "success" has been achieved under the PMP in terms of mobile phone output and exports from India is not translating into the creation of a local manufacturing ecosystem, but instead leading to huge foreign exchange leakages. The net forex outflow from Samsung alone accounted for about 31% of India's total electronics exports in 2018-19!

With non-strategic tariff liberalisation under the ITA-1 and FTAs incentivising imports, this pattern of continuing import dependence by foreign invested and domestic companies is one of the key challenges that the PLI's current focus on output-based incentivisation has failed to factor in.

Lack of focus on R&D by the private industry has been the other major structural weakness behind low domestic value addition. Many studies have also highlighted how India's strong capabilities in integrated circuit (IC) design and the capabilities that exist in system design and manufacturing, take place within MNC R&D centres with patents abroad, and remain largely disconnected from domestic product firms. This is why the largest share of the value addition from an increase in product sales still accrue to the patent owners along the entire value chain, leading to forex leakages.

## **Re-design PLI to promote an innovation-led manufacturing ecosystem**

For the creation of "domestic champion companies" and "Indian OEMs" in electronics and to have "supply chain resilience" and "secure digital networks", the ownership and control of intellectual property (IP) of more and more designs, and the products based on them, must belong to companies headquartered in India. The PLI

Scheme must therefore be revamped to link the incentives directly to a company's investments of 5-6% of annual turnover on R&D. They must also be progressively tied to the number of patents filed in India based on research in India.

Simultaneously, India must re-visit the role played by our public sector telecom research laboratories, such as the Centre for the Development of Telematics (C-DoT) and the Centre for Development of Advanced Computing (C-DAC). They have made valuable direct and indirect contributions to the development of the domestic electronics industry by developing technologies and licensing them to indigenous companies for commercial production. An additional mandate for C-DoT or C-DAC to validate and acquire indigenously designed and manufactured products with embedded software/new technologies from start-ups and other SMEs can save the latter from having to sell their technologies to foreign investors of various hues. This would enable us to retain the ownership of new technologies with India.

Without a drastic change in policymakers' perception of the nature of state interventions required to overcome the industry's structural weaknesses, the current small window of opportunity to shift India away from being a digital colony will close in front of us.

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