# INDIA'S INTEGRATION IN GLOBAL VALUE CHAINS: CASE STUDY OF MACHINERY AND TEXTILE & CLOTHING INDUSTRIES

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by

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## CERTIFICATE

This is to certify that the thesis titled **"India's Integration in Global Value Chains: Case Study of Machinery and Textile & Clothing Industries"**, being submitted by **Ms. Neha Gupta** to the **Indian Institute of Technology Delhi**, for the award of the degree of **Doctor of Philosophy**, is a record of original bona-fide research carried out by her under our supervision. In our opinion, the thesis has reached the standards fulfilling the requirements for submission relating to the degree.

The results contained in the thesis have not been submitted, in part or full, to any other institute or university for award of any degree or diploma.


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## ABSTRACT

Global value chains (GVCs) consist of several pre-manufacturing, manufacturing and post-manufacturing activities that bring the product from the stage of conception to its final use. Intermediate goods rapidly cross the international borders leading to huge rise in imported content of exports. The thesis focuses on this changing landscape of international trade. Developing countries are largely stuck in low-value manufacturing stages of GVCs rather than high-end services that generate higher value added in production process. Available literature reveals that India lags behind many other Asian countries, particularly China, in terms of linkages into GVCs. Manufacturing sector of India is also found to be 'hollowing-out', i.e., its domestic value-added growth is declining. The thesis aims at estimating the extent of integration of Indian manufacturing sector into the GVCs, focusing on machinery and textiles and clothing industries. Four different quantitative methodologies are used: trends in exports of intermediate inputs and intra-industry trade index based on trade data; vertical specialisation index based on India's input-output tables; and foreign value added in exports and gains under GVCs using inter-country input-output tables of OECD-WTO Trade in Value Added (TiVA) database (2013). To capture the qualitative aspects of integration into GVCs, the thesis undertakes industry specific surveys. Suitable policy interventions are further suggested for enabling greater linkages of the two industries into GVCs.

Trade data estimations show that Indian 'machinery industry' has very low levels of integration in GVCs, especially when compared with East Asian and South-East Asian countries. Trade shares for 'finished machinery' have been higher. In contrast, India is importing fewer inputs used in production of textiles and clothing (T&C) products, but exports inputs in huge amounts

to a large number of countries. Indian 'T&C industry' is therefore linked at lower ends in GVCs and has very low intra-industry trade (IIT). But, India's machinery industry has very high vertical IIT and uses comparatively higher amount of 'imported content in its exports'. TiVA database shows decline in India's share of domestic value added (DVA) exports in its gross exports. However, India has 'net gains' from linking into GVCs in the two industries as the ratio of forward linkages to backward linkages is greater than one. This indicates that value-added exports are greater than value-added imports in these industries. Cross country input-output tables thus provide better insights into functioning of GVCs. 80 Indian firms and industrial associations have been interviewed covering 16 States of India. The surveys throw light on the constraints faced by the two industries while linking and upgrading in GVCs. These are multi-tax structure prevailing in the country; poor infrastructure facilities; shortage of power; lack of manpower; weak domestic value chains; and rigid labour laws. The surveys highlight lack of capacities of Indian industry to produce big and sophisticated machines. Machine tool segment is still very small. In T&C industry, fabrics and garments are India's weakest links and they face tough competition from China, Bangladesh, Vietnam, etc. These manufacturing industries can upgrade in GVCs if government policies and business environment become conducive in India.

India has enough potential to compete with other countries in the upper-ends of value chains in both the industries. It can make use of its competitive services sector to capture higher gains from exports of manufactured products and accordingly develop its own GVCs. Technological upgrading and skill development is needed to effectively upgrade in GVCs. Domestic value chains can be strengthened for helping India to initiate, link and upgrade in GVCs. India should enhance its designing, branding and R&D services (pre-manufacturing services) as well as sales, marketing and post sales services (post-manufacturing services).

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