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**Promises and Challenges in
India's Manufacturing Sector**

Guest Editors

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Promises and Challenges in India's Manufacturing Sector: An Overview

Shashanka Bhide, L. Venkatachalam and M. Vijayabaskar

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HVM and Employment Creation: Friends or Foes?

Rajat Kathuria and Mansi Kedia

(Page 15-34)

Abstract

India is not only constrained by manufacturing disabilities and prospects for diversification, but it also has a large working population that is seeking employment opportunities. High value manufacturing (HVM) is not envisaged to lead to mass employment opportunities. In this paper we attempt to address whether a focus on HVM is misplaced. It focuses on four metrics of employment and productivity: capital intensity, labour productivity, wage compensation ratio and capital output ratio, but it does not capture second order effects of HVM. We find that in its current state HVM in India is not very different from overall manufacturing in terms of its potential for employability. This result must be viewed in light of the large body of evidence that finds the capital intensity of Indian manufacturing to be unusually high. Our attempt to unpick HVM from overall manufacturing should be seen as a starting point for analysing the potential of HVM industries in India. Deeper analysis within and between industry clusters will provide greater insights into the forces that produce, sustain and could augment HVM in India.

JEL Classification: L60, E24, D24, O14

Keywords: High Value Manufacturing; Employment, Capital and Productivity; India; High Skill

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A Comparative Analysis of the Manufacturing Sectors in India and China

V.N. Balasubramanyam and Yingqi Wei

(Page 35-58)

Abstract

China has set a standard of sustained high economic growth performance for developing economies. India's own high rate of economic growth, especially in the period of 2004–05 to 2011–12, raised the prospect of closing the gap in growth rates with China's performance. However, India has not been

able to sustain high growth rates in the manufacturing sector's output. What can India learn from China's performance in the manufacturing sector? This paper argues that while the two countries have much in common, China's policy framework and growth and development experience may not be a model for India, because of significant differences between the two countries, such as geographical features, history of policies and political institutions. The paper argues that although there are lessons that India can draw upon from China's growth experience, they are limited. India has to formulate a policy framework drawing upon its own endowments.

Key words: Manufacturing growth, Economic transformation, Total Factor Productivity, Labour regulations, Firm size

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Kerala and Tamil Nadu: Differing Pathways to Development

Ahalya Balasubramanyam and V. N. Balasubramanyam

(Page 59-82)

Abstract

In the context of revival of industrial growth in India, particularly in the manufacturing sector, the growth and development experience of Kerala and Tamil Nadu poses several contrasts. Apart from the debate on the growth-first thesis, the size and structure of manufacturing in Tamil Nadu and Kerala present interesting questions: Is it the case that although the two states are geographically proximate to each other, factors that influence comparative advantage in manufacturing are starkly different in the two states? If this were the case, should it be of concern that manufacturing is lagging behind in Kerala? Is growth centred on manufacturing essential for the creation of jobs and growth of incomes? Can fiscal and monetary incentives promote the growth of manufacturing in Kerala? These issues form the subject matter of this paper.

Key words: Economic growth, Development Models, Industrialisation, Fiscal Strategy, Domar gap

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Prospects and Constraints of Manufacturing Growth in India

Sandip Sarkar

(Page 83-104)

Abstract

The economic growth experience of India in the last three decades seems to be out of line with the international experience of sustained economic development. First, Indian growth process has been led by tertiary sector both in terms of value-added and employment rather than manufacturing. Second, persistent dualism in non-household manufacturing in India with strong concentration of employment in small and large size group of establishments with conspicuous 'missing middle'. The productivity gap between two extreme size groups of manufacturing units of small (6-9 employment size) and large (500 and above employment size) is very large in India. Third, the predominance of small-size class with low productivity in non-household manufacturing employment seems to be associated with poor performance of Indian manufacturing exports.

The contention of this paper is that these phenomena are inter-related. It is a pointer to the lack of dynamic growth of Indian manufacturing units. In this context, the study tries to analyse the nature of constraints faced by Indian manufacturing as whole as well as specific constraints faced by different size classes of units based on both secondary evidence and primary survey findings.

Key words: manufacturing, missing middle, employment, exports and dualism.

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Labour Regulations and Growth of Manufacturing and Employment in India: Balancing Protection and Flexibility

Anwarul Hoda and Durgesh K. Rai
(Page 105-136)

Abstract

The factors responsible for the lacklustre performance of the India's manufacturing sector are well identified in contemporary literature. The important among them are the absence of world class infrastructure, complex system of internal taxation, an unpredictable taxation environment and regulations relating to land and labour. This paper explores the difficulties in the area of labour regulations, focusing on the enactments and provisions that inhibit flexibility of manufacturing enterprises in adapting to swift changes in the competitive environment in international markets. The regulations in India that impinge on labour flexibility and the related practices are analysed and compared with those prevailing in major developed countries and emerging economies, before coming to a conclusion on the changes that are needed in the country. Within the discussion, collective dismissal, fixed term contracts, contract labour, trade unions and unemployment insurance are taken up for a detailed scrutiny. Although the main aim of the authors is to obtain greater flexibility, the recommendations are designed to ensure that a balance is maintained between labour market flexibility and protection of labour.

JEL Classification: J21, J51, J52, J53, L60.

Keywords: Labour regulations, Labour market flexibility, Manufacturing, Employment, India

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Infrastructural Development and Firm Efficiency in India (1999–2007)

Neha Hui, Subham Kailthya and Uma Kambhampati

(Page 137-164)

Abstract

In this paper, we examine the impact of macroeconomic conditions and firm characteristics on firm efficiency and output in the Indian manufacturing sector. We estimate stochastic frontier production functions for six different industries using level annual data for 1999–2007. Our results indicate that while frontier output showed an overall increase, efficiency levels remained largely stagnant during our study period. We find no positive impact of infrastructural improvements on firm efficiency. The results stay robust to using a synthetic index of macroeconomic variables. In almost all the cases, we find that infrastructural improvements in power generation capacity, electrification of railways, bank expansion or road construction are associated with a rise in frontier output (or production potential of firms) and a decline in firm efficiency (or the actual to potential output ratio). Our analysis suggests that the underlying reason for this puzzle might be a shifting out of production frontiers over time at a pace higher than the rate of increase in output, which is consistent with uneven utilisation of improvements in infrastructure amongst firms.

Keywords: firm-efficiency, stochastic frontier model, time-varying efficiency, India

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Environmental Implications of the Manufacturing Sector: A Case Study of Textile Manufacturing in Tiruppur, Tamil Nadu, India

L. Venkatachalam

(Page 165-175)

Abstract

Growth of the manufacturing sector in India brings enormous social benefits in terms of increased income and employment. However, the pervasive negative externalities caused by the polluting manufacturing units cause a reduction in income and employment in other sectors that are affected by such externalities. This chapter highlights how the uncontrolled negative externalities would trigger institutional responses that could in the long run bring the growth of these polluting units to a standstill. Based on an analysis of the environmental impact of the textiles industry in the Tiruppur region, this chapter finds that the current institutions governing the pollution control measures in the textile industry have failed to achieve regional sustainable development; market-based institutions with an effective government regulation are prescribed to promote environmentally sustainable development where all the sectors enjoy enhanced pay-offs.

Key words: manufacturing industry, negative externality, institutional failure, rent-seeking behavior, market-based institutions.

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Estimating Linkages of Indian Manufacturing Industries into Global Value Chains using International Input–Output Table

Neha Gupta

(Page 177-202)

Abstract

It is important that a country links gainfully into global value chains (GVCs) and steadily increases exports of its value-added. In this context, the paper uses OECD-WTO Trade in Value Added (TiVA) database and estimates the change in India's domestic value-added (DVA) content in its exports from 1995 to 2009. The analysis is undertaken both at the aggregate and at the disaggregate levels for 18 sub-sectors, particularly for nine manufacturing sub-sectors. The share of India's DVA content in gross exports has been declining. However, this decline has been more prominent in case of sub-sectors like electrical and optical equipment, chemicals, business services and transport equipment (mostly manufacturing industries). Higher use of imported content in exports may adversely affect the existing input industries. Forward and backward linkages are measured for each sub-sector to estimate the 'extent of participation' and 'gains'. Manufacturing sub-sectors that have gained from linking into GVCs are identified. Broad policy directions are suggested.

Keywords: Global Value Chains, Indian Manufacturing, TiVA, Gains under GVCs, Domestic Value Added.

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Living with Mega-Trade Blocs: India needs a Strategy

Rajesh Chadha and Devender Pratap

(Page 203-224)

Abstract

The paper contributes to understanding the impact of opening up of imports of mining and manufacturing sectors on resource allocation across sectors of production. India is expected to leverage its comparative advantage in labour-intensive sectors of production when its mining and manufacturing sectors are opened up to external competition, along with its trading partners also lowering their tariff barriers. This study shows that trade liberalisation is expected to lead to positive outcomes by expanding sectors that produce manufactured goods in which the country has a comparative advantage due to its wage rate advantage. This does not mean that we are ignoring the

importance of hi-tech, capital-intensive manufacturing sectors. The trade opportunities must be exploited through a well-chartered regional trade agreements route along with implementing the right domestic policy regime so as to leverage India's comparative advantage and economic growth along with rapid job creation.

Key words: India, trading blocs, manufacturing, tariff barriers, general equilibrium modelling

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Manufacturing and Trade Liberalisation of India: The Continuing Debate

Sayantana Ghosh Dastidar

(Page 225-244)

Abstract

The paper identifies the reasons behind the differential performance of the registered and unregistered manufacturing sectors of India during the post-reform period. The motivation for this study comes from the econometric findings of Ghosh Dastidar and Veeramani (2014) that trade liberalisation has positively influenced the growth performance of the unregistered sector but not that of the registered segment. Trade liberalisation seems to have benefitted the unregistered sector indirectly through the increase in sub-contracting activities from the registered sector. The absence of rigid labour regulations also helped the unregistered sector undergo re-structuring during the post-reform period and achieve faster growth through the elimination of inefficient firms, something that the registered segment failed to do.

Keywords: Registered Manufacturing, Unregistered Manufacturing, Trade Liberalisation, Growth, Employment, India

JEL Classification: F19, O14, O25, L60

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Foreign Direct Investment and the Economy of India

Yi Sua and Chengang Wang

(Page 245-256)

Abstract

This short paper contributes to the debate on the role of foreign direct investment (FDI) in the Indian economy. First, a review of the trend and pattern of inward FDI and the relevant literature on its determinants and impact shows the effects of liberalisation measures on the inward FDI and their impact on productive efficiency of domestic firms are unequally distributed. Second, an analysis of Indian outward FDI, including a comparison of technical efficiency between Indian multinationals, foreign multinationals and Indian domestic firms, reveals that large Indian firms, including Indian multinationals, are able to compete with foreign multinationals in terms of technical efficiency. We attribute this to the opportunity entrepreneurship that Indian managers possess. We argue that Indian firms may be better placed to utilise technology licensing agreements and not rely heavily on foreign equity investments.

JEL Classification: F21, F23, L6, L25, O24

Keywords: Foreign Direct Investment, Technology Licensing Agreement, Technical Efficiency, Opportunity Entrepreneurship

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Technology Import, R&D Spillovers and Exports: A Study of the Automobile Sector in India

Santosh K. Sahu and K. Narayanan

(Page 257-274)

Abstract

We examine the importance of a firm's R&D activity, technology import and intra-sector R&D spillovers on the decision to export and export intensity using firm-level panel data for the Indian automobile sector for the period 2000–2014. R&D and technology import activities are found to be important determinants of export activity. There is evidence that R&D spillovers exert positive effects on firms' export intensity and decision to export. In addition to these results, firm age and size are nonlinearly related to export decision and export intensity. Energy efficiency plays an important role in export behaviour for firms that are continuously exporting and those that are exporting for at least one year.

Keywords: Decision to export, export intensity, indian automobile sector, R&D intensity, Technology import intensity.

JEL Codes: L10, L21, L22, L62

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Employment Growth in India's Organised Manufacturing: Trends and Determinants

Bishwanath Goldar and Maitri Ghosh

(Page 277-302)

Abstract

This paper analyses trends in the growth of employment and explores the determining factors of employment generation in the organised manufacturing sector in India. Given the common contention that labour market rigidities have a strong negative impact on employment generation, the role of labour market reforms is given particular importance in this study. In this process, the impact of imported raw materials and foreign technology is also analysed. Both plant-level and company-level databases are used for the analysis. Estimation results suggest that output growth and factor price changes significantly affect employment generation in Indian manufacturing. Importantly, an increase in contractual labour in Indian industries contributes to employment generation. The results further suggest that labour market reforms significantly foster growth in employment generation in organised manufacturing in India and imported raw materials do not slowdown employment growth.

Key Words: Employment growth, Indian manufacturing, Labour reforms, Use of imported materials.

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