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Tariff liberalization and trade specialization: Lessons from India

Michele Alessandrini [a], Bassam Fattouh [b,*], Benno Ferrarini [c], Pasquale Scaramozzino [a,b]

[a] Department of Economics, Università di Roma Tor Vergata, Italy
[b] Department of Financial and Management Studies, SOAS, University of London, United Kingdom
[c] Economics and Research Department, Asian Development Bank, Philippines, Manila

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ABSTRACT

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This paper analyzes the effects of policy reform on the structure of India's trade in manufactures, from 1990 to 2006. It computes comparative advantage indicators on the basis of disaggregated trade flow data and assesses the effects of trade liberalization on the evolution of India's pattern of trade specialization. Industries where import tariffs have been reduced the most have experienced the highest increase in specialization. Moreover, trade liberalization has helped India improve its comparative advantage in industries with medium- to high-technology content, as well as in some of the industries enjoying the most robust growth in global demand. Liberalization policies have been instrumental in enhancing the international competitiveness of industries. *Journal of Comparative Economics* **39** (4) (2011) 499–513. Department of Economics, Università di Roma Tor Vergata, Italy; Department of Financial and Management Studies, SOAS, University of London, United Kingdom; Economics and Research Department, Asian Development Bank, Philippines, Manila.

1. Introduction

Until the early 1990s India was a relatively closed economy. Average import-weighed tariffs exceeded 80%, more than 90% of tradable goods were protected by quantitative restrictions on imports, and foreign investment was subject to strict limitations (Chadha et al., 2003). In 1991 the country embarked on a series of major trade reforms, progressively cutting tariff- and non-tariff barriers, phasing out quantitative restrictions, and easing limitations on the entry of foreign investment. Even though India today can still be considered a heavily protected economy on many accounts, progressive liberalization has produced remarkable results. The country's openness to international trade has more than trebled since the late 1980s and its economy has been expanding at an astounding pace, second only to China's, who embarked on reforms earlier and more incisively so (World Bank, 2008).

Much of the literature on India's economic reforms has focused on the impact of trade liberalization on the manufacturing sector. The prevailing evidence suggests that the progressive reduction of import tariffs exerted a positive effect on India's industrial productivity (Goldar and Kumari, 2003; Mitra and Ural, 2007; Sen, 2009a), notwithstanding some evidence of a slowdown in total factor productivity growth in manufacturing during the 1990s (Goldar and Mitra, 2002; Das, 2004). The impact of trade reforms varied across production inputs, hence individual industries' performance. Access to wider

* Corresponding author. Address: Department of Financial and Management Studies, School of Oriental and African Studies, Thornhaugh Street, London WC1H OXG, United Kingdom. Fax: +44 2078984089.
E-mail address: bf11@soas.ac.uk (B. Fattouh).

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and cheaper imports of capital and intermediate goods embodying advanced technology accelerated manufacturing industries' adoption of capital-intensive production technologies. As shown by Pattnayak and Thangavelu (2005), in fact, trade reforms led to greater capacity utilization and investment in capital goods, which improved the productive performance of those industries experiencing capital-augmenting technical change. By contrast, the overall impact of tariffs reduction on manufacturing employment has been minimal since it favored skill-intensive and large scale industries, rather than labour-intensive manufacturing (Kochhar et al., 2006). As a consequence, labour-intensive industries - and the vast excess supply of India's unskilled labour force - have not been able to reap maximum benefit from the reforms and to exploit the gains of the increasing integration of India with the rest of the world economy (see Gupta et al., 2008 and Sen, 2009b).

Research so far has focused less on the systematic study of the changes to India's industrial trade structure in the wake of progressive trade liberalization.[1] One notable exception is a fairly substantial body of computable general equilibrium studies, taking more limited focus on the impact on India from complying with World Trade Organization (WTO) legislation (*e.g.*, Mattoo and Stern, 2003), or from entering preferential trade agreements (e.g., see Francois et al., 2008 on the effects of the EU-India Free Trade Agreement).

The aim of this paper is to investigate how the trade structure of India's industry has responded to liberalization since the early 1990s. The paper assesses the evolution of the country's revealed compared advantage (RCA), or trade specialization, computed on the basis of detailed merchandise trade flow data[2]. India's trade specialization pattern is further classified by the level of technology embodied in the products traded, as well as product sophistication. The paper then estimates the effects of progressive tariff cuts—a proxy for broader trade liberalization—on the comparative advantage structure of India's merchandise industry.

Notwithstanding its focus at the level of industries, not firms, this paper is broadly consistent with Bernard et al. (2007) who show that the role of firms in the reallocation process triggered by trade liberalization bears out strongly at the level of industries, with some sectors being able to respond to the increased competitive pressure brought about by liberalization through improved productivity and profitability at the expense of the remaining sectors. For the case of India, our paper shows trade liberalization to have fostered the country's competitive position in some of the sectors with medium and higher technological content, as well as in sectors that have been enjoying a rapid expansion of world demand.

The findings on India are also broadly in line with those of other studies, assessing RCA trends in various countries of Asia. For example, Yue and Hua (2002) show that China's exports have gradually shifted toward the resource- and technology-intensive categories during 1980–2000, particularly those associated with processing industries. Similarly, Dowlinga and Cheang (2000) find that 1970–1995 trends in the pattern of revealed comparative advantage in Asia is consistent with the "flying geese" theory of development. Over time, technological progress in the advanced countries is passed onto the less developed countries, which progressively graduate from low-technology and labor-intensive products and move onto the high-technology and higher value-added industries. For the case of Asia, many countries' RCA patterns have evolved in relation to Japan's. This led the way for technological upgrade in production and exports by the Newly Industrialized Economies (NIEs) including South Korea, Taiwan, Singapore and Hong Kong-China, and subsequently by the second-tier NIEs, such as Thailand, Malaysia, Indonesia and Philippines.

The remainder of the paper is organized as follows. Section 2 traces the key policy reforms and liberalization episodes that India has undergone since the early 1990s. Section 3 measures the revealed comparative advantage of India's industry, categorizes its industries by the level of technological content and product sophistication they embody, and analyzes the evolution of India's trade specialization. Section 4 implements a dynamic estimation technique across industries and time, to assess the effect of liberalization on the structure of India's international trade. Section 5 concludes.

2. Trade liberalization episodes in India

Since the early 1980s, the economy of India has been expanding at an average rate of about 6% per year in real terms (World Bank, 2008). This makes it the economy with the most robust and sustained growth record, second only to China.[3] India's early performance was shaped by two policy approaches that the Government of India had been pursuing since the 1980s: the piecemeal reforms promoted by Prime Minister Indira Gandhi and later reinforced by the office of her son Rajiv, during the second half of the 1980s, and the more systematic strategy in the 1990s, first enacted by the Minister of Finance Manmohan Singh under the Narasimha Rao government (Panagariya, 2008). The approach followed during the 1980s introduced a number of measures of external liberalization. For instance, it expanded the Open General Licensing (OGL), which included the list of commodities for which no formal license was required for foreign trade. Moreover, the number of commodities for which the government had monopoly rights for import declined (the so-called "canalized" imports). In almost all cases, the items on these lists were machinery or raw materials for which no substitutes were produced in India (see Panagariya, 2004, 2008). The reforms implemented during the 1980s were however introduced with caution and almost "by stealth",[4] possibly because of concerns about their political feasibility (see the discussion in Panagariya, 2008, chapter 4). By contrast, the more systematic

[1] One exception being Alessandrini et al. (2007).

[2] According to UNCTAD (2007), merchandise includes Food items, Agricultural raw materials, Fuels, Ores and metals and Manufactured goods. In the case of India, manufactured products represent more than 75% of Indian trade (see Table 2).

[3] China outperforms any other country, with almost 10% real annual growth during 1980–2006 (World Bank, 2008).

[4] Marathe (1986), quoted in Panagariya (2008), p. 468.