



Exports, capabilities, and industrial policy in India



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ABSTRACT

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An extensive literature argues that India's manufacturing sector has underperformed, and that the country has failed to industrialize; in particular, it has failed to take advantage of its labor-abundant comparative advantage. India's manufacturing sector is smaller as a share of GDP than that of East Asian countries, even after controlling for GDP per capita. Hence, its contribution to overall GDP growth is modest. Without greater participation of the secondary sector, the argument goes, the country will not be able to develop and become a modern economy. Standard arguments blame the “license-permit raj”, the small-scale industrial policy, and the labor laws. All these were part of the industrial policy regime instituted after independence. This regime favored the heavy-machinery subsector. We argue that despite its shortcomings and misallocations, the bias towards machinery, metals, chemicals, and other capital- and skilled labor-intensive products allowed Indian manufacturing to accumulate a wide range of capabilities. We show that India's manufacturing sector is more diversified and sophisticated than one would expect given the country's income per capita. This positions India well to continue expanding its exports of other sophisticated products. India's failure, however, lies in not being able to diversify into labor-intensive sectors and generate the type of structural transformation seen in China. *Journal of Comparative Economics* 41 (3) (2013) 939–956. Asian Development Bank, Levy Economics Institute of Bard College, NY, USA.

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1. Introduction

A key stylized fact in the development literature is that manufacturing is a key driver of growth. Indeed, the importance of industrialization, and in general structural transformation, as the key to develop was highlighted by Kaldor (1967) and emphasized recently by Rodrik (2006). In this framework, the manufacturing sector assumes a central role in the growth process, thanks to its ability to generate spillovers; and its potential for capital accumulation, technical progress, economies of scale, induced productivity growth in the sector, and capacity to raise the overall productivity of the economy. For these reasons, Kaldor argued that manufacturing is the “engine of growth”, in the sense that the faster the rate of growth of manufacturing output, the faster the rate of growth of overall output (GDP).¹ A second stylized fact in development is that the

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¹ Felipe et al. (2009) estimate the responsiveness of the rest of the economy's growth rate to growth in the individual sectors of the economy. Their estimates show that, in developing Asia, both industry and services have acted as engines of growth, and that services has had a larger impact than manufacturing. The reason is that many of today's services are also subject to increasing returns to scale.

share of the manufacturing sector in overall output increases with income per capita before it starts declining, i.e., an inverted U-shape relationship (Chenery and Taylor, 1968; Felipe and Estrada, 2008).

In India—despite the early emphasis on industrialization after independence and deregulation of the manufacturing sector as a key element of the reforms implemented since the mid-1980s—large-scale industrialization, as seen in East Asia, has not happened. Indeed, one of the salient features of India's economic structure is the relatively low share of the manufacturing sector in GDP, about 15%, and it has not changed much over the last 30 years. This share is significantly smaller than that in the East Asian countries, and much smaller than China's, where the share of manufacturing in GDP is about 35%. Using a logistic regression and controlling for income per capita and its square, population, and the share of trade in GDP ratio, Felipe and Estrada (2008) estimated that India's manufacturing share is about five percentage points smaller than it should be. Several reasons have been discussed in the literature for the underperformance and the relatively small size of the manufacturing sector in India. These include the industrial policy framework adopted in the early days of planning, along with the industrial and import licensing regime, the small-scale sector reservation policy, the rigid labor laws, and the lack of physical and social infrastructure.

The relatively high growth achieved by India recently has come largely from the service sector, which has emerged as the main driver of growth, and has contributed an increasing share of the country's overall growth rate: services contributed 50% of the overall growth during 1980–1990, 61% during 1990–2000, and 64% during 2000–2007.² The information technology (IT) sector has become a leading sector in India during the last decade. The IT sector was outside the ambit of the licensing system and did not suffer from regulation and control of its activities to the extent that the manufacturing sector did.

Under the development strategy adopted after independence, the public sector was assigned the role to lead India's industrial development, with an emphasis on the heavy machinery sector. Labor-intensive products were reserved exclusively for small-sized units under the small-scale industries reservation policy.³ The idea was to protect these sectors from competition from larger units so that they could generate employment in a labor-abundant country. Kochhar et al. (2006) argue that on the eve of the reforms, India's policy stance with respect to the manufacturing sector was biased in favor of the skilled labor-intensive or large-scale activities, and that the manufacturing sector was more diversified than would be expected given India's income level. They found that this pattern persists even after 20 years of significant reforms. This, they argue, has been the result of a policy regime that has protected small-scale industries, made it hard to lay-off workers in firms above a certain size, restricted imports if something could be produced domestically irrespective of cost, and promoted higher education and scientific learning.

Viewing development as a path-dependent process that involves structural transformation and the accumulation of capabilities, this paper contributes to the debate on the effects of industrial policy in India by providing a positive analysis. To this purpose, we examine the composition of exports at a highly disaggregated level and focus on two different aspects of the export basket, namely, its sophistication and its diversification. The sophistication level of the export basket of a country captures its ability to export products produced and exported by the rich countries to the extent that, in general, the exports of rich countries embody higher productivity, wages, and income per capita. Diversification, on the other hand, captures the ability to become competitive in a wider range of products and is measured by the number of products exported with revealed comparative advantage (RCA). Hidalgo et al. (2007) argue that development must be understood as a process of accumulating more complex capabilities and of finding paths that create incentives for those capabilities to be accumulated and used. A sustainable growth trajectory must, therefore, involve the introduction of new goods and not merely involve continual learning on the same of set goods.

Using highly disaggregated SITC 4-digit data for 1962–2007 covering almost 800 product categories, we find that India was a positive outlier on both sophistication and diversification, i.e., India's export basket was more sophisticated and diversified than would be expected for a country at its stage of development. Further, we find that the diversification and sophistication of “core” products (metals, machinery, and chemicals) was above what one would expect given India's per capita income. We also find that the share of core products in total manufacturing products exported with revealed comparative advantage is relatively high. In other words, a labor-abundant country like India, whose comparative advantage lies in labor-intensive activities, has diversified in the skill-intensive and capital-intensive sector. We argue that this is a legacy of India's industrial policy, despite all its shortcomings and failures. We find that the number of labor-intensive products exported with RCA as a share of total manufacturing products exported with RCA is below what would be expected for a country at India's level of development. This where India lags vis-à-vis China, and the reason, at least partly, why it has not seen structural transformation at the scale it has happened in China.

The rest of the paper is organized as follows. In Section 2 we discuss India's industrial policy landscape. Section 3 examines the evolution of both the sophistication and diversification of India's export basket, and compares them to those of China. We also discuss the performance of the labor-intensive sectors and analyze India's progression into sophisticated products. Section 4 provides a discussion of the key findings. Section 5 summarizes the arguments.

² Dasgupta and Singh (2005) have argued that the services sector in India, especially the information and communication technology (ICT) sector, have the potential to play the same role, in a Kaldorian sense, as the manufacturing sector. Eichengreen and Gupta (2010) argue that sustained economic growth will require shifting labor from agriculture into both manufacturing and services. Panagariya also (2008: 287) argues that “India must walk on two legs”, manufacturing and services. On the other hand, Nagaraj (2006) argues that services cannot become an engine of growth in India because they lack the potential to create the jobs needed to absorb the vast labor pool from the rural areas. This role, he argues, has traditionally been performed by the industrial sector.

³ The original legal framework is provided by the Industries Development and Regulation Act of 1951.

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