Public Defence Abstract

Unorganised Manufacturing in India: Financing the Firm Growth

Shromona Ganguly (FP/09/13)

Thesis Advisory Committee (TAC)

Prof. Partha Pratim Pal (TAC Chair)

Prof. Sudip Chaudhuri (Member)

Prof. Partha Ray (Member)

In a labour abundant country like India, the importance of the micro, small and medium enterprises (MSMEs) in its industrial sector cannot be overemphasised. The manufacturing MSMEs in India account for 6 per cent of the country's GDP, close to 33 per cent of the total manufacturing output, 45 per cent of the exports, and more than 90 per cent of the total manufacturing employment in the country. In addition, the MSME sector plays a crucial role in the Indian economy by being an important conduit for equitable regional development and income distribution. Further, the manufacturing MSMEs are strategically important as a source of foreign exchange earnings for India as these firms contribute a higher amount of the total output of the manufacturing subsectors where India enjoys a trade surplus during recent years. As per the fourth census of the MSMEs conducted in 2006-07, almost 96 per cent of the manufacturing MSMEs operating in India are unregistered, thus these firms come under the unorganised/unregistered part of the Indian manufacturing.

Due to the importance of the manufacturing MSMEs in its economy, India has a long tradition of providing special support to these firms through a wide range of protectionist as well as promotional measures, the most unique of which is the product reservation policy for the small scale industries (SSIs) under which a large number of industries were reserved exclusively for the production by the SSIs. Though the reservation policy was gradually dismantled after the liberalization as it faced the criticism of distorting the size structure within Indian manufacturing and providing perverse incentive to these firms to remain perpetually small, the industrial policy in India continues to provide other promotional support systems to the small industrial units through fiscal incentives and credit support programmes. In continuation to this, the Make in India campaign launched in 2014, which aims to revive the Indian manufacturing, has announced a slew of benefits for the small and medium enterprises in terms of reimbursement in technology acquisition, rollover relief from capital gains tax and measures to facilitate the flow of formal finance to the sector, apart from its sector specific initiatives. The need for designing special support policies for the small firms is based on the economic rationale of factor price distortion that these firms face due to various institutional factors and during the last few decades, the Indian poicy towards the SSIs/MSMEs has been mainly guided by the same argument (Hussain 1997). However, the offcial policy document of SSIs in India recognises the capital market distortion to be more severe and accordingly, various policies are in place to facilitate the flow of adequate and timely formal credit to the sector. Though the lack of access to credit is widely recognised as one of the most important problem hindering the growth of small firms within the Indian manufauing, very few attempts have been made so far to analyse the extent, nature and institutional barries associated with the above issue in India. The present dissertaion is an attempt to fill this gap in the literature and to understand in details the interaction between financial sector policies and industrial policy during the post-reform period in India which, apart from being a major force shaping the industrial structure of India, also plays an important role in influencing the performance of the small-sized firms within the Indian manufaturing. More specificlly, analysis presented in the thesis attempts to answer the following set of questions:

1. What is the nature of structural change that has been taking place within the manufacturing MSMEs in India during the post-liberalization period?

2. How does the trend in both partial and total factor productivities evolve in various industries within the unorganised manufacturing sector during the last decade?

3. Some past studies have found a rising trend in the capital intensity in India's unorganised manufacturing sector at a macro-level. We attempt to analyse whether this trend is due to the rising capital intensity of various sub-sectors within the unregistered manufacturing. Alternatively, we also look at whether the structural shift of the output composition of the sector towards the sunrise industries at the expense of traditional tiny and cottage industries explains such a trend.

4. What explains the differences in the nature of the informal industries in India and some of the East Asian economies, where the highly dynamic and productive informal firms' network has become an important part of the success of the export oriented

industrialization (EOI) of these countries? In this context, attempt is made to understand the role of government policy as well as ownership of financial institutions and its impact on industrial credit disbursement in India in a comparative perspective with East Asian countries.

5. What are the institutional changes that have taken place in the post-reform period in India's financial sector with a direct or indirect impact on the structure of industrial finance in general and finances to the smaller manufacturing firms, in particular?

6. In recent times, technology obsolence of the manufacturing MSMEs in India has been identified as one of the major factor deterring the export potential of these firms. Given that financing R&D activities are often difficult due to intangibility of such assets and the associated risk factors, to what extent the existing financial architechture of the manufacturing MSMEs in India faciliates productivity augmentation through technology adoption?

The attempt to answer the above questions has taken the form of analysis spread over a total of six chapters of the present thesis. The first chapter titled "The Unorganised Manufacturing Sector in India during the Post-reform Period: Performance and Policy Analysis" addresses the first four research questions in the list. The chapter provides a detailed and systematic analysis of the performance of the unregistered manufacturing MSMEs in India during the last two decades in terms of 1) output growth and composition 2) capital formation 3) total and partial factor productivities. The chapter deploys growth accounting technique and Tornqvist total factor productivity (TFP) index approximation for calculating the TFP of unorganised manufacturing in India at a disaggregated/sectoral level. The chapter finds that the unorganised manufacturing sector in India has undergone significant structural change over the years with the output composition shifting in favour of more modern and capital intensive industries like transport equipment and electrical machinery while share of some of the labour intensive sectors like food products, textile and wood products in total output declined. The chapter ends with a critical look at the past policies and concludes that industrial policy aimed to improve the performance of the MSME sector should be contextualised in the light of the changing nature of the small firms in Indian manufacturing.

Chapter 2 and 3 aim to address the fifth research question in the list. Chapter 2, titled "Financing Micro, Small and Medium Enterprieses in the Indian Industry: the Instituional Setup" discusses some of the existing theoretical framework for understanding the role of financing institutions and their ownership structure in the context of SME credit flow. The chapter also delineates the various formal institutions present in the small business credit market in India. The major observation of the chapter is that there is a growing pattern of credit retrogression observable in the case of bank credit flow to industry. Over the years, large firms account for an increasing amount of total credit flow to the industry while the share of small firms has come down.

Chapter 3 of the thesis, titled "Development of Capital Market and Bank-centric Industrial Finance in India" is aimed at understanding the impact of the changing financial market structure of India on the financing pattern of its non-financial (more specifically, manufacturing) firms. The chapter attempts to analyse the changing nature of India's financial sector by adopting the conceptual framework of classifying a financial system by the 4×2 matrix proposed in Čihák et al. (2012). The chapter uses the autoregressive distributive lag model and bound test (Pesaran et al., 2001) to empirically analyse the impact of capital market development on the credit intensity of manufacturing output in India. The meso and micro or firm level evidences presented in the chapter indicates that despite stock market development, banks continue to remain the major source of financing for Indian firms. The financing pattern of manufacturing firms in India varies significantly across various size categories. Analysis of firm-level data suggests that while for larger firms, the financing pattern remained broadly unchanged since liberalization, the smaller firms are increasingly moving towards other sources of financing, such as inter-corporate borrowing.

The importance of the National Innovation System (NIS) in the fostering technology adoption in the industrial sector is well documented in the literature (Nelson 1993) though the role of financial instituions within the broad concept of the NIS remains unexplored in the extant literature. In the backdrop of the recent policy initiative to foster growth of relatively modern and innovative manufactuing firms under the Startup India initiative, it is important to analyse the adequacy of the extant institutionl setup within the country with respect to the same objective. In this context, Chapte 4, titled "Finance and Productivity: an Empirical Analysis of the Technology Intensive modern Manufacturing MSMEs in India" aims to conduct a detaliled empirical exercise of the firm-level productivity dynamics within the Indian manufacturing indutsry during the period 2002-2016 in order to understand the relation between manufacturing firms' R&D expenses, productivity and sources of financing across a wide range of industries and firms of various size categories. Chapter 4 contributes to the extant literature on productivity measurement in Indian manufactuing by systematically analysing the productivity trend at a micro or firm level using the semi-parametric methodology of production function estimation. Further, the chapter decompose the productivity gain at industry level following the empirical methodology of Olley and Pakes (1996) into its two main sources, i.e., average firm-level productivity change and reallocation of resources at the industry through firm entry/exit. Finally, the econometric analysis in the chapter aims to undertand the nature of the relation between firms' financing sources and its R&D expenditure. The major findings of the chapter are that while capital market's contribution in financing industry remains relative low, the non-bank non-market sources of finance coexist with the formal sources in Indian manufacturing. The access to bank and market-based sources of financing is primarily available to larger firms while smaller sized firms are more reliant on other sources of finance. Further, empirical analysis provides some evidences of a negative correlation between firms' technology intensity and proportion of bank financing.

The objective of chapter 5 is to understand the impact of the more market oriented approach that India adopted after reform on the industrial credit disbursement. As a part of the overall mandate of ensuring greater market forces in credit alllocation, the financial sector policies in India gradually dismantled the specialized development banking model and instead emphasised more on its commercial universal banking system for credit disbursal in an efficient manner. Chapter 5 aims to understand the impact of such policies on the credit disbursement to Indian industry, again with a focus on credit to small firms. Further, the comparative analysis of financial sector policies in India and East Asian countries in the chapter complements the India-specfic empirical analysis presented in the earlier chapters and provides important policy implications. Finally, chapter 6 concludes the thesis with main observations, discussion on policy implications, coupled with some limitation of the present study and future research directions.

References in abstarct

1. Čihák, M., Demirgüç-Kunt, A., Feyen, E., & Levine, R. (2012). Benchmarking financial systems around the world.World Bank Policy Research Working Paper No 6175. Retrieved from https://openknowledge.worldbank.org/bitstream/handle/10986/12031/wps6175.pdf on January 20, 2017.

2. Hussain, A. (1997). Report of the Expert Committee on Small Enterprises, January 27, 1997. Retrieved from http://www.dcmsme.gov.in/publications/comitterep/abid.htm on July 20, 2017.

3. Nelson, R. R. (1993). National Systems of Innovation: A Comparative Study. Oxford University Press, NY.

4. Olley, G. S., & Pakes, A. (1996). The Dynamics of Productivity in the Telecommunications Equipment Industry. Econometrica, 64(6), 1263-1297.

5. Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds Testing Approaches to the Analysis of Level Relationships. Journal of Applied Econometrics, 16(3), 289-326.