

Role of Foreign Direct Investment in Research and Development of Pharmaceutical Industries in India

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Research Article

Volume 3 Issue 6

Received Date: November 18, 2018

Published Date: December 18, 2018

DOI: 10.23880/fsnt-16000169

Abstract

Multinational companies (MNCs) have responded to India's movement towards compliance with the WTO intellectual property agreement, TRIPS, by increasing the quantity and quality of foreign direct investment (FDI) in the areas of pharmaceutical research and development (R&D) and manufacturing. Drug prices do not necessarily provide an accurate signal of consumer's preferences in all cases. However, it is not always clear why the market sustains high prices for some new drugs when cheaper alternatives of seemingly comparable quality are available. By contrast, MNCs have adopted a more cautious attitude toward patenting and commercialization of pharmaceutical products in India, waiting to see how Indian courts and patent office's interpret the new laws, and awaiting the enactment of data exclusivity legislation.

Keywords: Foreign Direct Investment; Intellectual Property Agreement; Pharmaceutical Industry

Abbreviations: FDI: Foreign Direct Investment; IP: Intellectual Property; KPO: Knowledge Process Outsourcing; NLEM: National List of Essential Medicines; R&D: Research and Development.

Introduction

India has charted its own intellectual property (IP) path over the last 35 years, attempting to foster the growth of a domestic pharmaceutical industry and access to medicine while, more recently, also addressing the requirements of the international IP regime. Living in a globalized era, R&D is getting very competitive these days. It can benefit the domestic industry in terms of increased focus on innovation and improvement among drug manufacturers. The main characteristic feature of markets

is the high entry barrier created by few domestic firms. In such a scenario, the entry of foreign firm forces the domestic firms to become more efficient thereby a reduction in the market concentration. At the same time, competition from foreign firms can lead to crowding out of domestic firms. Those firms, which are unable to compete with the foreign firms, are forced to make an exit. Production costs have risen in the pharmaceutical industry by increased complexity of the chemical structure of drugs. Therefore, FDI may result in the improved productivity levels of domestic firms. Outsourcing production and research activities leads cost reduction for the company and many foreign pharmaceutical companies outsource parts of their entire production in India. The focus of the study is R&D performed by the MNCs' affiliates in India.

Review of Literature

With Indian companies having lost the capacity to manufacture drugs by “process patent” and have lost major domestic manufacturing companies to MNCs the prediction seems to be really coming true. Mani & Sunil [1] analyzed the transformation and development in India and China; shows that foreign firms actually divert demand from the domestic firms. Therefore in the short run, the productivity of the domestic firms decline. From the point of view of the customer, competition effects are certainly beneficial due to availability of the improved quality of products. Competition is considered as a driver of innovation also. This increased competition forces domestic firms to improve their productivity by using more efficiently existing resources, shifting to sophisticated and advanced technology, providing training to workers, and undertaking R&D expenditure to develop indigenous technologies. Susan E. Feinberg and Sumit KM [2] examined the Technology spillovers from Foreign Direct Investment in the Indian Pharmaceutical Industry. The results revealed that during the 1980’s and early 1990’s was characterized by a policy environment designed to deliver low cost drugs to India’s poor, domestic industrial capabilities and limit MNCs control over equity and technology ownership. Wagner J [3] observed the causal effects of exports on firm size and labour productivity using Matching Approach. The multinationals have helped to develop the Indian pharmaceutical industry in terms of educating people, especially in marketing and scientific communication skills. Through the MNCs’ presence in the industry the domestic firms get access to new ideas and the local workers gain more knowledge about international practices. The multinational affiliates in India follow the parent companies training schemes, which are often well developed, and it can be argued that this advantage has benefited the Indian industry as a whole in terms of increased knowhow. Rau BS, et al. [4] observed the current status of Pharmaceutical Patenting in India. Collaboration projects are expected to be beneficial for the domestic firm since the MNCs bring in financial means and at the same time help Indian companies to gain international credibility and move up the learning curve. R&D centers in the Indian pharmaceutical industry have begun to emerge, which increases employment opportunities and also reverses the brain drain from India. Duperon WO & Cinar EM [5] have discussed on “Global Competition Versus Regional Interests: FDI and Pharmaceuticals in India”; the result shows the history of

Indian internal protection in the pharmaceutical industry and suggests ways in which India may continue to benefit when regulatory barriers are reduced and global trade covenants are abided. They first examined trends in global FDI and Knowledge Process Outsourcing (KPO). It highlights changes to Indian policy, and subsequently discusses other matters associated with the protection of IPRs including parallel imports, price discrimination, and corruption. Lastly, suggestions are made for viable ways of enabling India to comply with WTO mandates for participation in the global marketplace, while concurrently attending to its domestic needs as well. Sharma C [6] analyzed on R&D and productivity in the Indian pharmaceutical firms by utilizing the data of the post reform period (1994-2006). The empirical analysis examined the relative productivity performance of firms undertaking R&D in comparison with those who do not do R&D. The results of analysis indicate that, R&D firms have productivity edge over non- R&D firms. Results of the regression analysis confirm that foreign firms operating in the industry are more sensitive towards R&D activates than the local firms, as interaction of their dummy with the R&D variable yield elasticity to 0.36, which is meant that 1 percent increase in R&D intensity of foreign firms leads to 0.36% growth in their TFP. The results of the effects of R&D capital on firms output under the production function framework indicate that the output elasticity to R&D capital varies from 0.10 to 0.13, implies 1 percent increase in R&D capital leads to 0.10 to 0.13% growth in firms output. Joseph RJ [7] has attempted to discuss on the R&D Scenario in Indian Pharmaceutical Industry, the result shows that Now, the pharma industry spends 18 per cent of its sales turn over on R&D as compared against 1 per cent in 1994-95. The R&D activities of Indian firms are increasingly getting concentrated on life style diseases of global nature and they don’t find an opportunity in local diseases such as TB and malaria. Approval stages and at promotional stages further encouraged Indian firms to develop new drugs in collaboration with MNCs. Basant R & Sunil M [8] studied on Foreign R&D Centers in India and analyzed their Size, Structure and Implications; the result shows that India has a fair amount of innovation capability in pharmaceutical research. Karunakaran N [9] analyzed some economic aspects of the Pharmaceutical industries in India.

There are of course a number of international pharmaceutical companies (Table 1) outsourcing portions of a large R&D project to Indian entities.

Company Name	Sales (In Crores of Rupees)
Sun Pharmaceutical	217636
Lupin Limited	84193
Dr. Reddy's Lab	63779
Cipla	52081
Aurobindo Pharma	42454
Cadila Health care	38677
Glenmark Pharmaceuticals	29047
Glaxo Smithkline Pharmaceuticals Limited	28587
Divis Laboratories	24847
Torrent Pharmaceuticals	22320

Source: Government of India (2017), Annual Report, Office of Controller General of Patents, Designs, Trademarks and Geographical Indication, New Delhi.

Table 1: List of major pharmaceutical companies in India.

Scope of the Study

The Government has taken various policy initiatives for the pharmaceutical sector. These include tax-breaks, weighted tax deduction at 150 per cent. For the new investment, 100% FDI will be allowed under the automatic route under which investors only need to inform the Reserve Bank about the inflows and no specific government nod is required. The high Indian interest rate shows that India needs funds from overseas and hence the FDI is inevitable in the present situation. The FDI in the

Indian pharmaceutical industry is thought to be mainly seeking markets. India's large population and wide disease pattern make the country attractive for pharmaceutical firms. Cost competitiveness, strong manufacture base, cheap and efficient labour, widely spoken English literates, renowned scientists & research personnel are the main factors attracting MNCs to invest in India. India has many advantages for foreign investors and consequently, the country has future potential to become an attractive destination for outsourcing of new drug discovery and clinical research (Table 2).

Growth drivers	Components
Market based pricing	Cost-based pricing is complicated and time-consuming than market-based pricing; Market-based pricing is expected to create greater transparency in pricing information and would be available in public domain; Prices of NLEM drugs linked to WPI.
Essentiality of drugs	Determined by including the drug in National List of Essential Medicines (NLEM) (348 drugs at present); Promote rational use of medicines based on cost, safety and efficacy.
Price control	The regulation of prices of drugs on the basis of regulating the prices of formulations only; Only finished medicines are to be considered essential which would prevent price control of APIs, which are not necessarily used for essential drugs.

Source: IBEF (2017), "Pharmaceuticals", Tech Sci. Research: 30, www.ibef.org

Table 2: Growth drivers and national pharma policy.

Expected Contribution to the Subject

As far as research is concerned, it provides a varied scope for Indian firms collaborating with foreign firms. It brings together the Indian intellectual and foreign technological expertise providing good quality bulk drugs with affordable price, exploring opportunities to research related fields and develop exports. It takes firms to focus towards more personalized medicines, based on a better understanding of specific patient's genetics as well as various outcomes based on research bringing differentiated products in markets. The scope of

Ayurvedic Pharmacy reached huge market potential. So, in India FDI is widely considered to be encouraged in R&D in this arena.

Conclusion

Drug prices reflect the value that consumers receive from different drugs; prices will encourage pharmaceutical companies to try to develop more of the kinds of drug products that consumers value most. Many new drugs are often essentially equivalent to existing drugs and are not necessarily more effective. Pharmaceutical manufacturers

have aptly noted that research and development is risky and expensive. Most of the drug companies research, more on lifestyle drugs than on life saving drugs.

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