A Comparative Study of Indian Pharmaceutical Exports Pre and Post WTO Era

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\textbf{ABSTRACT}

Export plays a significant role in the economic development of a country. It is even more important for developing countries like India which needs foreign exchange for financing its ongoing as well as new projects to generate employment, achieve higher rate of growth. Implementation of poverty elevation programs, improve the standard of living of its people and stabilize the price level. Role of WTO is very important in export. The WTO was established in 1995 and when compared with the GATT, was much wider in scope, with a stronger institutional basis and with treaty status. The main aim of this paper is to analyze the Indian Pharmaceuticals Export performance, pre and post implementation of WTO policies. It is clear that after implementation of WTO policies, compound annual growth rate (CAGR) of India’s Pharmaceuticals export have positive growth rate.

Keywords: Indian Pharmaceutical Export, Compound Annual Growth Rate, WTO, US-FDA, ANDA.

\section{I. INTRODUCTION}

India is increasingly becoming the focal point of the pharma industry for high quality, low cost pharma solutions while its generics market is growing strong and it is also evolving into a cradle for new drug. As one of the strongest emerging player in the global pharma industry, India has great opportunities to explore international pharmaceuticals market.

The main driving force behind Indian Pharma’s export growth is an expansion in the number of cGMP facilities and generic exports. For instance, 90 per cent of formulation approvals for anti-retroviral (ARVs), anti-tubercular and anti-malaria (WHO pre-qualified) have been granted to India. The fact that over 45 per cent of the production of pharmaceuticals in India is being exported which includes APIs as well as formulations and that too even to the most regulated markets including the US and Western Europe. India has the largest number of US FDA approved manufacturing units, Abbreviated New Drug Applications (ANDAs), approved Drug Master Files (DMFs) with the US FDA, by companies outside the US.

India’s pharmaceutical exports are expected to raise 25,000 million USD by 2020.

\section{II. REVIEW OF LITERATURE}

J Young Pharm. 2011 Apr-Jun; 3(2): 155–162. The GCC market is very lucrative in terms of benefits offered to the Indian pharmaceutical industry. With large pharmaceutical markets like the US, Europe and Japan getting saturated, it is the need of the hour that the Indian pharmaceutical industry in general and pharmaceutical companies in particular tap the opportunity of this “emerging” GCC market.

Business Research Papers Vol. 5 No. 6 November 2009, Pp.148-160 Ravi Kiran and Sunita Mishra the present paper examines the impact of new Patent Act on Pharmaceutical Industry of India especially on R&D. This paper seeks to evaluate the performance of a few leading Pharmaceutical Firms especially in terms of their ANDA filings and approvals as well as DMF filings with USFDA in post-TRIPS period.

Eurasian Journal of Business and Economics 2011, 4 (7), 53 -67. Ravi Kiran and Sunita Mishra showing performance of pharmaceutical industry in post TRIPS period is excellent. In the past three and a half decades most of the large private Indian pharmaceutical firms focused on reverse engineering R&D, and activity was limited to applying known knowledge, or to making small adjustments in the contents. This resulted in introducing new drugs early in the markets. (Lanjouw, 1996) opines that production technologies were well mastered and the lag period between the launch of a new product in its first market and India was thus reduced.

An International Journal of Advances In Pharmaceutical Sciences, Vol.2 (2 - 3) March – June - 2011 By V.S Sheeja and M.V. Naveen Pharmaceutical companies to use e-marketing as a complementary approach to traditional one. Many commercial studies show inconsistent reports for e-marketing prevalence among physicians in the USA that ranges from 25 percent to 60 percent.
The International Bank for Reconstruction and Development, Washington D.C, September 2002 by Ramesh Govindraj and Gnanaraj Chellraj. The authors argue that there is an urgent need to design interventions to modify the behavior of everyone involved in the pharmaceutical supply chain (producers, providers, retailers, consumers and governments) in order to reduce over-prescribing and the inappropriate drug use, and rationalize health expenditures.

Economic Reforms, WTO and Indian Drugs and Pharmaceuticals Industry: Implications of Emerging Trends - Nagesh Kumar and Jaya Prakash Pradhan

The ability of Indian enterprises to develop cost effective processes has attracted the attention of leading MNEs to the country for entering into strategic alliances with local companies for process development. This remarkable success was achieved within two decades and was facilitated in large measure by the soft patent regime that the country adopted in 1970. The liberalization of the industrial, trade and price policies in the 1990s has started to affect the prices of medicines.


Indian Pharma traditionally was against IPs in general in the 70’s and 80’s. The National sector was pro-non-branded generics and anti-trademarks in the 70’s. The Indian dominance in the branded generics has made the National sector extremely pro-trademarks. Similarly, Indian National sector was anti-patents in the 70’s. Patent practice by Indian National Sector has commenced post-TRIPs. Once the Indian pharma industry starts participating in Innovative Research and Drug Discovery Programmes, a day is not too far, that India may move to the forefront of patent advocacy and all related practices

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The statistical analyses indicates clearly that WTO and intellectual property will have a long lasting effect on the Indian pharmaceutical industry and companies have to utilize their R&D to bolster their chances of succeeding in this highly competitive market.

III. METHODOLOGY

Data Sources
Keeping in view the objective of the present study, the secondary data have been taken from the reputed sources. Notable among these are:-
- Handbook on Indian Economy, Reserve bank of India 2014
- PHARMA EXPORT PROMOTION COUNCIL HANBOOK 2013
- Economic Surveys (various issues), Ministry of Finance, GOI.
- Handbook on Indian Economy, RBI , 2014
- IMS Surveys- Indian Medical Survey - ORG MARG

Statistical Techniques
The compound annual growth rates of the pharmaceutical exports have been calculated by the following formula.

\[ Y = AB^t \]

Where,

\[ Y = \text{Growth rate of the given variable. I.e. Exports} \]
\[ t = \text{Time period} \]
\[ A \& B = \text{Coefficient} \]

Then, compound annual growth rate is given below:

\[ \text{CAGR} = ( b-1) \times 100 \]

Where,

\[ A= \text{Intercept} \]
\[ b= \text{Antilog of log ‘B’} \]

IV. DATA ANALYSIS

### Pharmaceutical Export Year Wise

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Exports</th>
<th>India In USD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$ Million</td>
<td>Year</td>
</tr>
<tr>
<td>1973-74</td>
<td>47.9</td>
<td>1995-96</td>
</tr>
<tr>
<td>1974-75</td>
<td>54.3</td>
<td>1996-97</td>
</tr>
<tr>
<td>1975-76</td>
<td>48.7</td>
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<td>2003-04</td>
</tr>
<tr>
<td>1982-83</td>
<td>114.9</td>
<td>2004-05</td>
</tr>
</tbody>
</table>
### V. CONCLUSION

The available data shows the CAGR of Indian pharmaceutical exports before WTO implementation was 17.51 and post WTO is 18.67. The total CAGR combined pre and post WTO is 16.36. From the above study we can conclude that Indian pharmaceutical exports have positive compound annual growth rate after implementation of WTO policies. The above an all pharmaceutical production in India is continuously growing at the rate of 16.36 CAGR. This is one of the few industries that India has developed supremacy across the globe and saved millions of life.

### VI. SUGGESTION

Indian Pharmaceutical Export faces both opportunities and challenges with liberalization of domestic and global market. There is need to develop strategy for a pharmaceutical sector. Appropriate measures are require to move away from the traditionally approach and build a productive and internationally competitive pharmaceutical products. Promoting more rapid pharma growth is important not only to achieve higher economic growth but also to lift healthcare standards across the globe. Quality manufacturing with economical price adhering the global standards, technical excellence is the key of success.

The most important suggestion is to increase public investment in a pharmaceutical with a view to robust growth of pharmaceutical exports from India. Public Pvt Partnership is a key of development in this sector.

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