‘Towards an optimal trips-compliant industrial policy for the pharmaceutical industry in Bangladesh’

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TOWARDS AN OPTIMAL TRIPS-COMPLIANT INDUSTRIAL POLICY FOR THE PHARMACEUTICAL INDUSTRY IN BANGLADESH

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What is TRIPS?

- Trade Related Intellectual Property Rights

Implications for the pharmaceuticals in LDCs

- Imitation to innovation by 2016
- Transfer of technology
- A call to promote R&D and technology collaboration
BUT scholars are apprehensive of TRIPS....
Bangladeshi pharmaceutical industry at a glance

• Protected since 1982
• Mostly generic producers (200+ firms)
• USD 1.13 b market
• 95% self-sufficiency; 70+ export destinations

BUT...

• 100% imported technology
• 95% imported raw materials
• R&D intensity <1%; Export intensity <1%
• Almost no FDI

THEN...

Is Bangladeshi Pharmaceutical industry vulnerable to TRIPS?
The concept of vulnerability

The gap between any potentially commercially threatening exogenous shock and adaptive capacity

Vulnerability (V) = Potential impact (I) − Adaptive actions (A)
Research questions

- What are the major types of vulnerabilities faced by Bangladeshi pharmaceutical firms?
- Are particular types of firms more vulnerable than others?
- Does collaboration contribute to lower vulnerability?
- What role can industrial policy play to promote collaborative R&D activities?
Conceptual framework

Impacts

Awareness

Firm level Awareness

Institutional Awareness

Collaboration

Firm level Adaptation

Institutional Adaptation
Six types of vulnerability

- Raw materials-related \((V_1)\)
- Technology-related \((V_2)\)
- Quality and regulatory compliance-related \((V_3)\)
- R&D and innovation-related \((V_4)\)
- Domestic competition-related \((V_5)\)
- International competitiveness-related \((V_6)\)
Methodology

Quantification of vulnerability

- Six types of vulnerability indices using impact variables (IVs) and adaptive action variables (AVs)
- $0 = \text{no vulnerability}$ and $1 = \text{full vulnerability}$
- Four robustness tests

Sample and data collection

- 94 Bangladeshi pharmaceutical firms
- Five-point Likert scale questionnaires

Classification of firms

- The use of cluster analysis
Results
(vulnerability scores)

<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw materials-related</td>
<td>0.69</td>
</tr>
<tr>
<td>Technology-related</td>
<td>0.68</td>
</tr>
<tr>
<td>Quality &amp; Regulatory compliance-related</td>
<td>0.58</td>
</tr>
<tr>
<td>R&amp;D and innovation-related</td>
<td>0.87</td>
</tr>
<tr>
<td>Domestic competition-related</td>
<td>0.28</td>
</tr>
<tr>
<td>Inl. competitiveness-related</td>
<td>0.79</td>
</tr>
</tbody>
</table>
Vulnerability-based classification (using cluster membership pattern)

<table>
<thead>
<tr>
<th>Group</th>
<th>No. of firms</th>
<th>Membership of Cluster 1 (less vulnerable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Least Vulnerable</td>
<td>9 (10%)</td>
<td>5 times</td>
</tr>
<tr>
<td>Medium Vulnerable</td>
<td>14 (15%)</td>
<td>2-4 times</td>
</tr>
<tr>
<td>Most Vulnerable</td>
<td>71 (75%)</td>
<td>0-1 time</td>
</tr>
</tbody>
</table>
Vulnerability-based classification of firms using cluster membership pattern

![Graph showing vulnerability scores for different types of vulnerabilities.]

- **V1** to **V6** represent different types of vulnerabilities.
- Mean vulnerability score is shown on the y-axis, ranging from 0 to 1.
- Categories include Least Vulnerable, Medium Vulnerable, and Most Vulnerable.
Comparison between the three groups in terms of collaborative behaviour

**Likert scale range:** 1 = Not important at all and 5 = Very important

- Technology collaboration with domestic firms
- Technology collaboration with foreign firms
- Joint R&D with local academia/institutions
- R&D collaboration with foreign firms/MNCs/intl. organisations

Type of collaborative strategy
Implications for the post-TRIPS industrial policy

- The industry is vulnerable
- Need for policy interventions
- Special focus should be on R&D and international competitiveness
- Need strategic and financial support
- A market–based and incentive-based firm-institution collaborative network
- Encouraging mergers and public listed companies
- Private-public partnerships in risky R&D projects