Effect of FDI on the Productivity of the Egyptian Manufacturing Sector

Nada Massoud, University of Reading, UK.

EXTENDED ABSTRACT:

Technology transfer play a key role in economic development and it was identified as the main contributor, in the endogenous growth theory, of the increasing non-convex growth rates[1], through increasing productivity. Technology transmission takes place through a variety of forms and transmission channels, the most important of which is the TNCs operations in developing countries, or the FDI inflows to these countries, as it is assumed that for a company to go international it has to possess higher technologies and superior efficiency of operations. This is presumably transferred to the locally owned firms in the host country. Potentially, through advancing technology in developing and emerging-market countries, FDI positively impact long term economic growth. The channels through which FDI causes technology transfer, either directly or indirectly through spillovers are:

- *Horizontal linkages:* Local firms in the same industry or phase of production may imitate technologies due to increased competition from TNCs
- *Vertical linkages:* TNCs can transfer technology to local firms that supply them with intermediate goods or to the buyers of their products.
- *Labour migration:* workers trained or previously employed by TNCs may transfer their knowledge to domestic firms when switching jobs or setting up their own business
- *Internationalisation of R&D:* If R&D activities are located abroad, it may raise the local knowledge and create a new knowledgeable generation due to the public good characteristics associated with the R& D activities

The presence of FDI productivity spillovers is one of the major issues that attracted economists and policy makers' attention. FDI was theoretically assumed to bring with it technology and transmit it to the domestic firms. The presence and magnitude of such productivity spillovers is of crucial importance if FDI incentives are to be economically justified. If spillovers were thought to be negligible, host country authorities, in the absence of financing constraints, are better off pursuing generic investment promotion policies.

The empirical evidence on the presence and magnitude of FDI productivity externalities, in the Egyptian manufacturing sector is the focus of this paper.

The paper starts by analyzing the absorptive capacity of Egypt as recent empirical studies on FDI externalities have highlighted that productivity spillovers to domestic companies are not automatic, and that the host country has to have a certain level of absorptive capacity to benefit from FDI, and thus before analyzing the how productive TNCs are in Egypt, or if there are any spillovers from them to other domestic firms, or to the overall manufacturing sector, we analyse the Egypt's absorptive capacity to see if it sufficient for productivity spillovers or not.

After this, in sections three, four and five of the paper, the empirical analysis attempts to answer three questions: the first is whether TNCs are more efficient than domestic firms, the second is whether there are productivity spillovers from TNCs to locally owned firms within the same industry or in related industries?. The third question is whether, as a result of the TNCs operations in Egypt, there are aggregate improvements in the country's overall productivity. We differentiate, within the sector between different manufacturing sub-sectors, and use a log-linear Cobb-Douglas production function for the purposes of the analysis.

[1] As opposed to the "steady state" predicted by the traditional Solow growth models.

Finally, the paper identifies the factors affecting the magnitude and direction of spillovers from foreign firms to domestic firms in the Egyptian manufacturing sector through analyzing four aspects:

First, we analyse the size of the technology gap between Egyptian firms and TNCs, which is proxied by the gross output per employee in the foreign sector to that of the whole industry.

Second, the industry-specific characteristics, namely capital intensity and labor productivity that are measured as Capital–Labor ratio in each industry and output per labor respectively.

Third, domestic private firms linkage role is analysed using the percentage of private sector in the whole industrial sector output.

Finally, the foreign companies' market share in the industry is analysed, and it is measured as the share of foreign participation in the sector employment.

The paper ends by a conclusion that summarizes the main findings of the analysis and their implications for Egyptian policy making.