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***Correspondence:*** All correspondence should be addressed to: Editor, Bangladesh Sociological Studies (BSS), Bangladesh Institute of Social Research (BISR), 15/1/1 (3rd. floor), Zigatala, Dhaka-1209, Bangladesh. Telephone: +88-02-8612916; Fax: 88-02-8615128; E-mail: bisr@agnionline.com; khurshed@bkdc.net; Website: www.bisrbd.org



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# Impact of FDI through Knowledge Transfer and Spillovers in the Readymade Garment Industry of Bangladesh

Mahjabeen Quader*

*This paper explores multinational enterprises (MNEs) impact on the readymade garment (RMG) of Bangladesh. The objective is to understand FDI, knowledge transfer, local firms' absorptive capacity and spillovers created because of MNE presence in the sector. In this regard, an extensive literature review has been conducted and a theoretical framework for analysis has been developed. Foreign direct Investment (FDI) is a critical tool for economic development for host-developing countries like Bangladesh as it brings multifaceted benefits such as knowledge transfer (product and process), employment, skill development, increased exports etc. The evaluation of MNE impact has revealed that some successful but limited transfer of product and process technology, managerial and marketing know-how has taken place and spillovers created. The industry has grown quite remarkably over the period of 20-years. However, the magnitude of MNE impact could have been greater if there was more inward FDI into the industry. Inward FDI has not been satisfactory for this industry. It has been identified that, in order to survive the post-quota period, the industry has to attract inward FDI to maximize benefits from MNEs, and improve productivity, quality, and be competitive.*

## ntroduction

Multinational enterprises (MNEs) have played an essential role in the development of many developing economies through foreign direct investment (FDI). FDI is welcome in developing countries for its contribution to knowledge transfer, increasing the volume of exports, creating employment, increasing government revenue and upgrading skill level of host country human resource. Developing countries are constantly thriving in attracting foreign investors by creating appropriate business environment and offering incentives to maximize the benefits of FDI.

This paper focuses on MNE impact in the readymade garment (RMG) industry of Bangladesh through FDI, knowledge transfer and spillovers. The industry has significant effect on Bangladesh's macroeconomic

* Investment Policy Analyst, *Bangladesh Investment Climate Fund (BICF)-IFC, World Bank Group.*
E-mail: MQuader@ifc.org

stability and continuance. It has become the main export sector and a major source of foreign exchange since 1980. The industry stands today with exports of about $9.2 billion per year accounting for 76 per cent of total exports of the country. Multi-Fiber-Arrangement (MFA), established by World Trade Organization (WTO) in 1974, acted as an external stimulator for the growth of this industry. MFA phase out since December 2004 has provided Bangladesh with opportunities to expand market shares along with competition pressure in the open market. The industry's survival in the post-MFA era is crucial due to its multifaceted impact on the economy.

There are extensive literatures on MNE, FDI, knowledge transfer and spillovers available on developing countries where MNEs are perceived as catalysts that increase competitions, transfer knowledge and help to a more efficient allocation of resources. Furthermore, an inward FDI to a host country speeds up the process of industrial development by creating spillovers within the economy.

The aim of this paper is to examine whether knowledge transfer through FDI has taken place and can be identified through its effects. In particular, we discuss the case of MNEs and their relationships with local firms to identify the spillovers created.

A theoretical framework of analysis has been established by borrowing concepts from theories and literatures related to FDI and its impact. Benefits in terms of knowledge transfer and spillovers from MNEs have been quite under-researched in RMG industry that has led to the first research question.

*Research question 1: Do foreign firms share/transfer knowledge to local firms of Bangladesh?*

Following the above question, extensive literature has been reviewed which revealed that MNEs do transfer/share knowledge in a variety of ways. However, the mere existence of knowledge within MNE does not guarantee that its benefits will be diffused through a host economy. Furthermore, the critical factors such as the extent to which the knowledge has been made available, ease/difficulty of the process of transfer and the ability to diffuse that knowledge by the host country firms will also be considered. It is, however, important to identify that local firms can acquire the knowledge and successfully adapt it to local condition and be competitive. For example, if the gap between the knowledge that MNEs have and absorptive capacity of local firms is too wide then the chance of successful knowledge transfer is greatly reduced and economy is unable to maximize the benefits out of it. This leads to the second research question.



*Research question 2: Are local firms of Bangladesh able to use this knowledge to become competitive?*

Presence of MNEs has always been discussed from the viewpoint that whether their investment is beneficial or costing the host country. FDI brings in numerous benefits to a host country; at the same time, it might affect the host country adversely. Precisely, what constitutes an undesirable level of MNE penetration in an economy is open to debate. Indeed a country may be dominated by, and dependent upon, external forces even where there is very little FDI in the economy. This may occur if the economy is engaged in sub-contracting for MNEs. A high level of dependence on MNE potentially reduces the host country's sovereignty and autonomy in making decisions and implementing them. The host economy government might find it extremely difficult to pursue a particular economic policy if there is insufficient leverage over MNEs. This leads to third research question:

*Research question 3: What are the key issues/challenges/concerns faced by local firms when dealing with MNEs?*

The analysis of this paper is qualitative in nature and the strategy adopted was case study. This strategy is particularly relevant in order to gain a rich understanding of the context of FDI and the processes enacted. Case study of RMG industry has been implemented for this research by collecting both primary and secondary data. Primary data has been collected through face-to-face in-depth interviews with MNEs and Bangladeshi firms. Secondary data has been collected from relevant and useful studies, reports, websites, etc.

The paper is organized as follows. Section 2 discusses the theoretical background for analysis. Section 3 discusses the research method and strategy used and section 4 provides discussion on the findings as cases. Section 5 is the concluding section that discusses the summary of all findings on knowledge transfer through FDI.

## Theoretical Overview

This section explains and discusses theories related to MNEs, FDI, knowledge transfer and spillovers and different empirical studies conducted on FDI by international business researchers. These theories are useful to relate concepts of FDI and MNE and their impact on host country. Figure1 is the framework of analysis used to show the overall impact on MNE and the relationships between MNEs, FDI, host country firms, knowledge transfer and spillovers.

In this section, definitions for key terms used in this research and the analysis of empirical research and findings of the previous studies conducted are provided. A comprehensive view of MNE impact is then developed through the analysis of existing research/literatures and theories related to MNE, FDI, knowledge transfer and spillovers. These literatures have helped to understand knowledge transfer and spillovers occurring through FDI. Useful insights have been derived about the knowledge transfer, including technological and managerial, and spillovers, including horizontal and vertical, can take place directly or indirectly by the MNEs. Framework of analysis is provided in the end of the section that is adopted for this paper.

## Theoretical Evidence

### *Foreign Direct Investment (FDI)*

FDI is simply direct investment which occurs across national boundaries, that is, when a firm from one country buys a controlling investment in a firm in another country or where a firm sets up a branch or subsidiary in another country (Dicken 2003). From a national viewpoint, FDI is two types: outward investment by domestic enterprises and inward investment by foreign enterprises. The country of destination of the investment is referred to as the *host country* and the country of which the MNE is a national, and the country of origin of the investment is referred to as the *home country* (Gillies 2005).

Hill (2005) discussed two main forms of FDI. The first is a green-field investment, involving the establishment of a wholly-owned-enterprise (WOE) in a foreign country. The second involves acquiring or merging with an existing firm in the foreign country. Furthermore, FDI can be *horizontal* and *vertical*. FDI in the same industry in which a firm operates at home is horizontal. Vertical FDI is investment in an industry that provides inputs for a firm's domestic operations, or it may be FDI in an industry abroad that sells the outputs of a firm's domestic operations.

The main focus of the paper is MNE impact where FDI is of particular importance for host-developing countries because first, it provides a direct channel for knowledge transfer; second, it provides opportunities for production and employment; and third, it establishes spillover opportunities (backward and forward linkages). With time, transfers assist in upgrading domestic suppliers, through increased technological and other capabilities, with spillover effects on the rest of the economy (Giroud 2000, UNCTAD 2001 as cited by Giroud 2003).



### *Types and Forms of FDI*

The major motivating factors for FDI are the avoidance of uncertainty and creation of barriers to entry. In particular, the motivation for investment differs according to the type of FDI the firm wishes to undertake. There are three types of FDI namely, natural-resource-seeking, market-seeking and efficiency-seeking.

Rugman and Brewer (2001) have discussed natural-resource-seeking FDI when firms identify specific host country locations as an alternative source of natural resources at the lowest real cost. In this case, FDI is usually associated with the exports of resource-based products from the host country. Although the identification of location advantages clearly becomes much more complex when international productions involved, the predicted direction of the trade flows associated with natural-resource-seeking FDI is largely consistent with conventional trade theory. The home country will export capital-intensive products with high knowledge content. The host country will primarily export resource-based or labour-intensive products with low technology content.

Market-seeking FDI is more difficult to reconcile with conventional trade theory because it usually has an immediate import-substitution effect, but often also leads to trade creation (Rugman and Brewer 2001). This occurs, for example, when the newly established subsidiary uses intermediate outputs from the home country in its own production process, when it becomes a leveraging platform for additional exports in other product areas for the home country and finally, when its production is not used only serve a host country market but also third country markets.

Efficiency-seeking FDI leads to even higher complexity as regards the location advantages of the countries involved. This type of FDI is usually trade creating at the firm level, because it reflects a rationalization of the MNE's operations and typically a specialization of the various affiliates in its internal network. This increases both intra-firm knowledge and goods flow, and the international exposure of the affiliates. An in-depth, fine-grained-analysis, of firm specific advantages (FSA) and location advantages bundles at the affiliate level, is then required to understand exactly how location matters to the firm. Here, it is important to understand the specific role given to or earned by affiliates in the company. They may act as globally, rationalized subsidiaries performing a particular set of activities in the vertical chain or have a regional or world product mandate. In the case of a vertically-integrated chain consisting of several, globally rationalized businesses, intra-firm trade is likely to increase, building upon the location advantages benefiting each subsidiary, thereby leading to an increase of both intermediate goods

trade and international production (Cantwell 1994 as cited by Rugman and Brewer 2001).

Strategic-asset-seeking FDI is where new plants and acquisitions or joint ventures (JV), to create synergies with the existing pool of assets through common ownership (Wessen 1993 as cited by Rugman and Brewer 2001), secure assets of foreign firms. Here, the R&D is performed in host countries rather than the home country, which constitutes the key location advantage leading to FDI. To the extent that the acquired assets sourced from a host country are also linked to a localized innovation system, the MNE as a whole may get access to at least some spillovers from that innovation system. Conversely, the localized innovation system may benefit from being associated with the foreign MNE.

This research will analyze the type and forms of FDI in the RMG industry and subsequent knowledge/technology transferred and creation of spillovers to understand the relationships between MNEs and local firms/manufacturers.

*Benefits of FDI to Host Countries*

According to UNCTAD (2002), FDI is one means by which developing countries may cover shortfalls in domestic accumulation and gain access to technology, skills and managerial know-how. It can have positive benefits in terms of increasing the contestability of host markets, improving the performance of local industry and lowering prices. It may contribute directly to the competitiveness of local firms by being the vehicle by which they penetrate international production and marketing networks. UNCTAD suggests that efficiency-seeking FDI rather than market-seeking or natural-resource-seeking FDI yields the greatest improvements in local firm competitiveness and market shares. In this context, the need for local firms to incorporate themselves into international production systems, particularly those of manufactures involving high and intermediate levels of technology, is important.

UNCTAD has argued that the realization of the potential benefits of FDI depends critically on the initial conditions in the local market. FDI cannot substitute for domestic effort. If there are no local firms with which MNEs can interact, there can be no transfer of knowledge and technology and there are unlikely to be any changes to the host economy's dynamic competitive advantages. This suggests that achieving a more widespread diffusion of MNEs' technologies and



creating inter-linkages with local firms requires specific interventions[1] to promote local capacity development. There are large gaps in the competitive strength of MNEs and local firms in the majority of cases and studies of FDI in developing countries tend to confirm that they often have market power in their respective industries and limit domestic firms to lower-value-added activities in the industry, which are vulnerable to low-cost competition. This outcome is a result of both the specialization required by the new mode of competition and the fact that when the technological capability gap between the foreign affiliate and local firms is too large, the possibilities for performance-enhancing spillovers (i.e. technology transfer) are diminished.

Thus, MNE impact will depend upon three key factors: type of FDI, host country environment and MNE strategy for that host country.

*Knowledge Transfer*

Dhanraj *et al* (2004) have explained that knowledge has been characterized along different dimensions using various terms. *Tacit knowledge* is abstract and can be communicated only through active involvement of the teacher. Explicit knowledge is highly codified and is transmittable in formal, systematic language. Whereas *explicit knowledge* provides the building blocks, tacit knowledge provides the glue and integrating mechanism in learning. Explicit knowledge is embedded in standardized procedures. Tacit knowledge develops from the transfer of context-specific knowledge embedded typically in non-standardized and tailored processes. Although tacit knowledge is arguably more valuable, explicit knowledge is easy to acquire and can be exploited quickly. Giroud (2003) has explained that the most common form of knowledge transfer is technology transfer involving the transfer of physical goods, such as capital goods in the form of machinery and equipment. The transfer of tacit knowledge involves managerial skills, technical skills and know-how.

Three issues are especially important in evaluating the technological impact of MNEs on host economies:

- The *extent* to which technology is transferred
- The *appropriateness* of the technology transferred
- The *costs* to the host economy of acquiring technology

[1] Examples of intervention may be SME development, entrepreneurial skills development, support for R&D and the provision and upgrading of economic infrastructure, etc. (UNCTAD 2002).

Any mode of foreign involvement with a host country is a potential channel for technology transfer. Simply by locating some of its operations outside its home country the MNE engage in the geographical transfer of technology. Either the critical factor is the extent to which the technology is made available to potential users outside the firm directly, through linkages with indigenous firms, or indirectly, via, demonstration effects (Dicken 2003). In the case of developing countries, a major issue is the appropriateness of the technology transferred via the MNE. New technologies are invariably introduced by MNEs first in their home country or in other industrialized countries. Since they reflect the prevailing cost and availability of factors in those countries, the technologies tend to be capital rather than labour-intensive. However, in most developing countries the abundant factor tends to be low-skilled labour while capital is relatively scarce. Hence, there is much disagreement MNEs' extent to adapt their process technology in developing countries to make it more appropriate. Finally, the consideration of cost of acquiring the technology for host countries is extremely difficult to determine precisely. First, technology is only one part of overall package of attributes that the MNE brings to a host country, which makes it difficult to separate it out. Second, assessment of the cost involves assumes that it can be measured against alternative ways of acquiring the same technology. For this research, knowledge transfer has been used as a generic term to cover tacit and explicit knowledge.

*Spillovers*

The spillovers occur when local firms benefit from the MNE affiliate's superior knowledge of product or process technologies or markets, without incurring a cost that exhausts the whole gain from the improvement (Blomstrom *et al*, 2000 as cited by Giroud 2003). Potential spillovers to the host country due to FDI can be *horizontal (intra-industry)* and *vertical (inter-industry)* (Liu and Lin 2004 as cited by Zhao 2005). Horizontal spillovers refer to technology and knowledge leakage from MNEs to local firms within the same industry through a number of channels: first, local firms may be able to learn by observing and imitating; second, employees and managers who have been trained by MNEs may leave and either join or invest in new establishments. Vertical spillovers occur because of the close agglomeration of firms, and technology, knowledge and productivity spillovers may occur through demonstration effects, worker mobility and competitive effect where companies compete in the same industry or for the same customers (Scott-Kennel 2005, WIR 2001 as cited by Zhao 2005). Vertical spillovers can also occur through *backward and forward linkages* when a MNE proceeds to FDI and establishes a subsidiary in a host-country. Backward linkages refer to all the relations established with supplier firm, whereas forward linkages describe the relations established with the customers in the host-country (UNCTC 1981, Dunning 1993, Blomstrom et al. 2000, UNCTAD 2001 as cited by Giroud 2003).



The paper has explored intra and inter-industry spillovers that have been created due to FDI in the RMG industry.

## Empirical Evidence: MNEs, FDI, Knowledge Transfer and Spillovers

This section takes into account previous studies conducted by international business researchers dealing with MNEs, FDI, knowledge transfer and spillovers that have been conducted on host-developing countries that will aide the analysis of this research.

*Knowledge Transfer*

A broad consensus suggests that local firms need a certain level of indigenous human capital to be able to benefit from knowledge transfer by MNE (Lall 1996 as cited by Meyer 2004). This argument has been theoretically developed with reference to the concept of absorptive capacity, that is, the firm's ability to recognize valuable new knowledge, integrate it into the firm and use it productively (Cohen and Levinthal 1990, Zahera and George 2002 as cited by Meyer 2004).

Meyer (2004) discussed that often policymakers favour export-oriented FDI projects which are expected to transfer knowledge on operating production and to enhance the trade balance by selling foreign markets. But some export processing operations operate in exclaves with few linkages to the local economy. Other FDI operations sell the global MNEs products and services to the local market, with or without local processing. Such FDI would transfer mainly operational and marketing knowledge, and benefit the local economy by providing higher-quality products. It also impacts on local competition, whereas export-oriented FDI normally does not. Thus, both types of FDI potentially transfer resources and capabilities that may give rise to spillovers, but their nature varies greatly.

Meyer (2004) suggested an organizational framework (Figure 1) for FDI impact in emerging economies. Meyer has pointed out intra-industry and inter-industry spillovers due to FDI while researching on positive and negative spillovers from FDI in emerging economies. In addition, absorptive capacity, entrepreneurship and industrial clusters in the

context of knowledge transfer are also critical factors to evaluate MNE impact in host-developing country. The figure has been used to show MNE impact in the RMG industry.

*Spillovers*

Mainly economists have developed the literature on FDI and technology spillover since the late 1970s. Although earlier studies provided support for the correlation between foreign presence and spillover effects, recent research has found evidence that is more controversial. While evidence from some countries continues to support the existence of spillover effects, empirical studies of other countries fail to find this support (Braga & Willmore 1991, Aitken & Harrison 1999, Djankov & Hoekman 2000, Cave 1974, Blomström & Persson 1983, Hymer 1976, Kokko 1994, Liu *et al,* 2000 as cited by Lin & Cao 2006). These conflicting results are partially due to the lack of a well-established theoretical framework for the analysis of spillovers and they also suggest that FDI spillovers may be highly country-specific or industry-specific.

Hejazi and Safarian (1999) in their research on international spillovers for trade and FDI have argued that technological spillovers are likely to be larger through MNE production and FDI than through international trade. Six out of G7 countries, US to all OECD countries and Israel were analyzed. FDI weighted and trade weighted stocks of G6 R&D indicated that the coefficient estimates for FDI are higher than trade; the importance of trade variable was much reduced and the overall spillover effects were larger implying spillovers through trade appeared to be through FDI. They concluded that economies that ignore FDI as a channel of technological diffusion will be flawed in two respects: the total spillovers will be underestimated; and the importance of international trade will be overestimated.

*1. Intra-industry (Horizontal) Spillovers*

A large body of empirical literature (Altenburg 2000, Blomstrom & Kokko 2002, Fan 2002 as cited by Meyer 2004) has analyzed the way FDI influences local firms in the same industry. The main theoretical foundations of these studies are knowledge spillovers based on demonstration effects and the movement of labour.

Demonstration effects work through the direct contact between local agents and MNE operating at different levels of technology. After observing a product innovation or a novel form of organization adapted to local conditions, local entrepreneurs may recognize their feasibility, and thus strive to imitate them. Prior to such an encounter local



entrepreneurs have limited information about the costs and benefits of new methods, and may thus perceive the risk of investment as too high. However, FDI introduces an existing proof of viable paths of development. As local businesses are exposed to existing users information about technological innovations and new management techniques is diffused, the uncertainty is reduced and imitation levels increase.

A second channel of spillovers is the movements of employees MNEs build local human capital through training of local employees, yet these highly skilled individuals may move to locally owned firms or start their own entrepreneurial business. Within MNEs, even rank and file staff acquires skills, attitudes and ideas on the job through exposure to modern organization forms and international quality standards. If these employees then move to local firms, they can take some of this tacit knowledge with them enhancing productivity throughout the economy.

The theoretical literatures do not gather convincing empirical support. The evidence of intra-industry spillovers is weak if appropriate panel data methodology is used (Gorg and Strobl 2001 as cited by Meyer 2004). Similarly, the linear technology gap hypothesis fails the empirical. Moreover, the literature suggests two partial answers on why spillovers benefit only some firms, and not the average firm. First, spillovers emerge if local firms develop capabilities to decode, interpret and apply knowledge, or if employees leave the MNE to set up their own business. Second, these spillovers would not necessarily benefit firms in the same industry, whereas the hypothesized negative spillovers would.

*2. Inter-Industry (Vertical) Spillovers*

Spillovers through forward and backward linkages are, in Meyer's (2004) view, based on more convincing theoretical arguments, yet methodological problems make it difficult to demonstrate them empirically. These vertical spillovers do not rely on externalities but are part of the consumer and producer surplus created by market transactions.

Foreign firms often purchase intermediate goods from domestic suppliers, which can create spillovers through several mechanisms (Lall 1978, Smarzynska 2002 as cited by Meyer 2004). MNEs improve the productivity of indigenous firms by providing technical assistance and training of employees to increase the quality of suppliers' products, by helping in management and organization and by assisting them in purchasing of raw materials. They may set higher requirements regarding product quality and service aspects of the supply relationships, such as just-in-time delivery, thus providing incentives to improve product quality and production processes. At the same time, FDI may increase

demand for intermediate goods, and thus allow local suppliers to realize scale economies.

Supplier relationships are in particular associated with international production networks (Chandler *et al.* 1998, Rugman and d'Cruz 2000 as cited by Meyer 2004). MNEs at the core of a production network transplant networks structures when undertaking FDI, and thus change the nature of market transactions in the industry. Local firms can link into such networks as sub-contractors or as original equipment manufacturers.

Empirical evidence of vertical spillovers is hard to establish, as this requires data on industry-level input-output relationships. Smarzynska (2002), as cited by Meyer (2004), finds in Lithuania higher productivity in supplier industries to industries with high foreign presence, while at the same time finding no evidence of spillovers within the same industry. In a study for Indonesia, Blalock and Gertler (2003) as cited by Meyer (2004), find strong evidence of vertical spillovers from FDI whereas FDI in the same industry has no significant effect.

*Absorptive Capacity*

One of the key elements in knowledge transfer is the ability of the host country to absorb technological expertise. Technology absorption depends on the existing educational and skill levels of the labour force, the availability of local entrepreneurship and the government's capability to maintain a stable political and macroeconomic environment (Lall 1994 as cited by Giroud 2003).

International researchers have analysed absorptive capacity in the context of knowledge transfers within MNEs and within strategic alliances, including joint venture in emerging economies. Lyles and Salk (1996) and Lane *et al* (2001) as cited by Meyer (2004) find that local joint venture partners improve their capacity to learn if organizational flexibility is promoted, collaboration and exchange of information within the organization are encouraged, greater latitude in altering activity patterns, and if processes are adapted to perceived changing needs and conditions.

Recent empirical studies suggest that absorptive capacity is crucial for local firms to benefit. Liu *et al* (2000) find for UK that foreign presence in a sector positively affects the labour productivity of domestic firms, but is positively moderated by local firms' absorptive capacity. Kathuria (2000) finds that spillovers in India depend to a large extend on the investment by local firms in learning and R&D (Meyer 2004).



*Entrepreneurship*

Entrepreneurship is a major source of economic growth in emerging economies. FDI can also act as stimulus to evolutionary processes of resource creation by promoting innovation and discovery (Kogut 1996 as cited by Meyer 2004). They are, moreover, an important source of innovation, often developing new knowledge by combining knowledge obtained from foreign partners with local knowledge. Studies of successful local firms find that many entrepreneurs or top managers had prior links to MNEs. Altenburg (2000) reports that spin-off electronics companies in Malaysia maintain close relations as suppliers and subcontractors with the MNE.

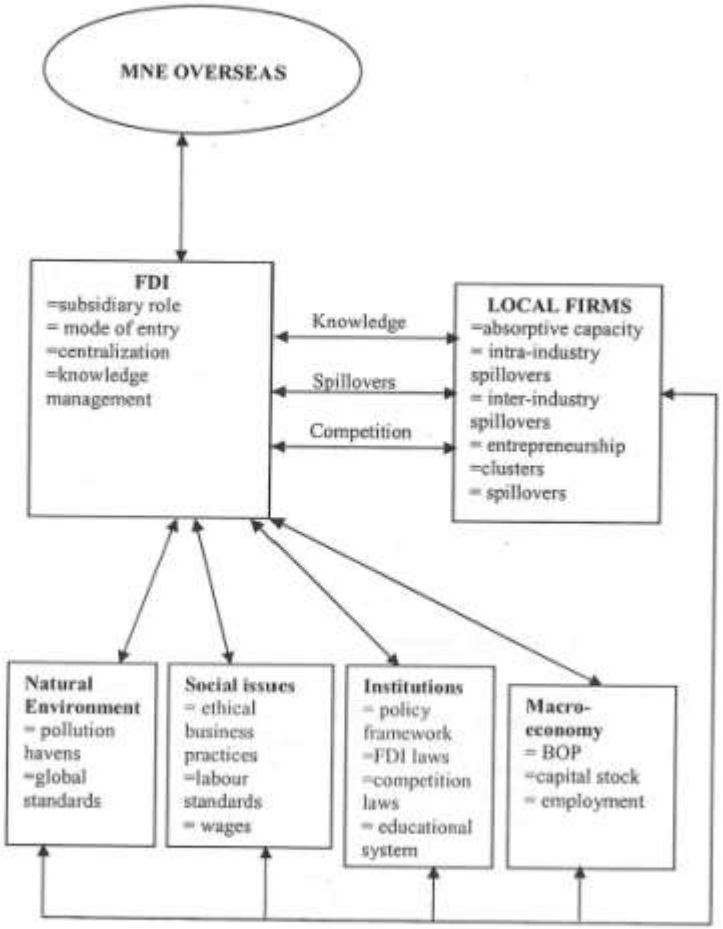
## Analytical Framework

The analytical framework of this paper is developed based on Meyer's (2004) FDI impact framework. Figure 1 by Meyer (2004) provides a graphical presentation of MNE impact through FDI in emerging economies. Although the figure shows other components of FDI impact, the analysis of this paper will be confined to FDI, local firms, knowledge transfer and spillovers. This framework will be used to identify and explain relationship between MNEs and Bangladeshi firms and the consequent knowledge transfer and spillovers.

## Research Method and Strategy

After deciding on the nature of this research and the approach, the research strategy has been determined. Although the most popular research strategy in business and management research is the survey method which has been used by Giroud (2003), Dhanraj *et* al. (2004) and Bresman *et al.* (1999) in their study, due to the limitation of time and that the research topic being exploratory for Bangladesh context survey method was not feasible to use. Hence, the strategy adopted was case study. Case study strategy has been defined by Saunders *et al* 2000 as the development of detailed, intensive knowledge about a single "case", or a small number of related "cases". This strategy is particularly relevant in order to gain a rich understanding of the context of the research and the processes enacted (Morris and Wood 1991 as cited by Saunder *et al.*

**Figure 1.** Framework for FDI in Emerging Economies




*Source:* Meyer 2004



(2000). The case study approach also has considerable ability to generate answers to the question "why?" as well as the "what?" and "how?" questions (Robson 1993 as cited by Saunder *et al.* 2000). In this research the RMG industry has been used as the case study under which specific individual companies have been used to explore MNE impact in the industry.

The research has explored MNE impact and the reasons behind the choice of this industry and topic have been given in earlier chapters. MNEs are the benefactor for any transfer of knowledge and creation of spillovers through FDI in the industry. This was evident in the findings where it has been mentioned that the industry was established due to JV with Daewoo. MNEs' participation in this research will clarify understanding whether there has been any knowledge transfer and to what extent local environment of Bangladesh has made it easy/difficult for the transfer to take place.

Bangladeshi RMG manufacturers are the recipients/beneficiaries of the knowledge and managerial/marketing know-how from MNEs by being part in their supply chain and interaction. Their participation in this research has been very crucial to assess the impact of MNEs especially to shed light on local absorptive capacity and spillovers created.

The ultimate aim is to answer the research questions that have been explained earlier.

The target population, therefore, involves MNEs and local firms involved in the manufacturing and exporting of woven and knitwear. For the ease of the research process, convenience sampling method has been employed using the researcher's previous network in the industry to contact the sample. Two MNEs and 4 local firms have been interviewed. Although this method of sampling is usually prone to biases and influences that are beyond a researcher's control (Saunders *et al.* 2003), but limited time, resources and the research being exploratory this was the appropriate sampling method. A small sample size enabled the researcher to spend more time and effort on each of the company interviewed (Dillman 1978 as cited by Giroud 2003).

Although convenience sampling was adopted, the researcher regards the interviewees as good representatives on three accounts. First, these 6 companies are top-performing in the industries; therefore, their experience of knowledge transfers some commonalities of the other companies in the industry. Second, two of the companies are pioneers in the industry to bring in the knowledge into the industry. Third, the local interviewees have considerable experience in the industry, with MNEs and international buyers.

The interviews lasted on average 50 minutes to an hour long. All the interviews were transcribed word for word allowing second analysis of the interviews. The interviews were aimed at getting into as much

information as possible on possible knowledge transfer. Each company interviewed was very different from one another. The MNEs varied greatly from the local firms. Even among the two MNEs, they had different organizational structure and strategy with regard to their production and technology sourcing and managing. They also differed in dealing with local firms (explained in findings). The complexities arising due to the differences can only be studied in-depth by going to the company and interviewing the managers on the specificities of their own company. Interview results were analyzed on a case-by-case basis.

## Case Analysis of MNEs and Bangladeshi Firms

Companies have been selected based on considerable years of experience in this sector and have reasonable investment amount. The time of establishment of the MNEs varies between the early 1990s and the mid 1990s. They have Greenfield investments at EPZ and manufacturing knit and woven wear. When MNEs were asked for the main reasons for the establishment of factories in Bangladesh, both the companies answered "low-cost location" as the first reason; then followed facilities of EPZ and favourable export policy. Table 1 provides a summary of all the companies interviewed.

This section will focus on the findings obtained from in-depth interviews about the specific nature of knowledge transfer that has taken place in the RMG industry. The results presented are narrated from interviews and are thus descriptive in nature.

An important point of information revealed through the interview is that the manufacturing MNEs and buyer MNEs are different. They have investments in the RMG industry of Bangladesh. While buyer MNEs such as H&M, Marks & Spencer, Wal-Mart and others, might have had investment in other countries, have souring offices in Bangladesh. Their sole function is to meet and visit the manufacturing plants, either local or foreign, place orders, provide quality and quantity specifications and ensure international compliance.

## MNE1 (Indonesian)[2]

The company has witnessed remarkable growth over the last 5 years. It is the single largest integrated knitwear manufacturer in the DEPZ and exports sweaters/knit garments to foreign buyers and sells intermediary

[2] The company names are disguised due to confidentiality reason.



**Table 1.** Summary of Companies Interviewed

| COMPANY | MNE1 | MNE2 | COMPANY1 | COMPANY2 | COMPANY3 | COMPANY4 |
|---|---|---|---|---|---|---|
| Nationality | Indonesia | Hong Kong | Bangladesh | Bangladesh | Bangladesh | Bangladesh |
| Year of Establish. | 1997 | 1992 | 1979 | 1985 | 2000 | 1998 |
| Establishment of MNE in Bangladesh: Reason | - Low cost location<br>- EPZ facilities<br>-Favourable Export Policy | - Low cost location<br>- EPZ facilities<br>- Favourable Export Policy | - Terminated Contract with Daewoo<br>- Potential International Market<br>- MFA | - Spillover from Co.1<br>-Potential International Market<br>- MFA | -GSP facilities to EU<br>-Growth of Knitwear export<br>-Increased buyer base for Bangladesh<br>- Favourable Export Policy | - MFA<br>- GSP facilities to EU<br>- Growth of Knitwear export<br>- Increased buyer base for Bangladesh<br>- Favourable Export Policy |
| Establishment of local firms for business opportunity | | | | | | |
| Activity | Manufacturing | Manufacturing | Manufacturing | Manufacturing + sub-contracting | Manufacturing | Manufacturing + sub-contracting |
| Products | Knitwear | Knitwear + Woven wear | Knitwear | Woven wear | Knitwear | Knitwear + Woven wear |
| Ownership pattern | Wholly-foreign-owned | Wholly-foreign-owned | Wholly owned | Wholly owned | Wholly owned | Wholly owned |
| Type of investment | Greenfield | Greenfield | Greenfield | Greenfield | Greenfield | Greenfield |
| Employment | 7750 | 6800 | 2100 | 1650 | 2000 | 2744 |
| Annual Sales ($) | 100m | 64m | 17m | 7.5m | 19m | 16m |

*Source:* Author's Compilation from Interview Data

products (yarn, knit fabric) to Bangladeshi knit garment exporters. The Indonesian based company, owned by a Chinese ('Sung') family, has large knitwear plant in Indonesia, yarn spinning operation in China and marketing office in Hong Kong. MNE1 had turnover of $20 million company when it started its operation in 1998. In 2005, within 7-years of operation, the company has more than $100 million turnover. MNE1 has re-invested most in its Bangladesh operation and has plan for further expansion than its operation in China.

The company directly exports sweaters and knit garments to reputed buyers mainly in EU and in US such as Littlewoods, Dunnes Stores, Wal-Mart, Carrefour, Texeurop, and Li & Fung.

The integrated production facility in the EPZ comprises yarn spinning/dyeing/finishing and manufacturing of sweater/knit garment. The company has also manufacturing plant outside EPZ to produce semi-finished knit sweaters for final finishing at the main plant in EPZ.

MNE1 takes advantage of the integrated production facility and plans to become a one-stop supplier of different sweater/knit garments to the existing buyer-base. It is diversifying into more value-added finished knit products by making use of the technical expertise and R&D experience acquired from its headquarter manufacturing base in Indonesia and transferring it to Bangladesh. MNE1 procures export orders and sources raw materials through overseas marketing office in Hong Kong and uses China operation to ensure steady source of grey yarn at competitive prices – leading to better profit mark-up. The company has good record of accomplishment of retaining customers and has plans to expand buyer-base in EU and US. By maintaining optimum stock for on-time delivery of both intermediary/finished products, the company is successful in having shorter lead-time, which is critical to success of garment trade.

## Supplier & Buyer Analysis

Main raw material is yarn (acrylic/cotton/blended) comprising around 90 per cent of material cost and 10 per cent is dyes, chemicals and accessories. Due to higher capacity of the dyeing unit than the spinning unit, MNE1 also imports grey yarn to ensure higher utilization of the dyeing unit to meet growing demand. Raw materials are mainly imported from different suppliers in India, Pakistan, Indonesia, China, Singapore and dyes/chemicals from the EU.

MNE1 also sells dyed yarn worth US$46 million per year and knit fabric worth US$7.7 million per year to 80 local sweater/garment manufacturers/exporters. There is no single buyer amounting to more than 20 per cent of the sales and the top 25 clients of MNE1 constitute



50-60 per cent of its total revenue. Major local buyers are ultimately exporting to MNE buyers i.e. H&M, Point Zero, Wal-Mart, Li & Fung, etc.

## Knowledge Transfer and Spillovers

There has been considerable degree of knowledge transfer through MNE1. The technology has been transferred from Indonesia. MNE1 already has a plant in Indonesia, so the company has basically replicated the model of Indonesia in Bangladesh. The only difference is in scale of operation (not as large-scale as in Indonesia). Indonesian experts came at the start of operation to train the staff of Bangladeshi operation.

The policy guidelines of MNE1 are received from Indonesia. Expatriate Managing Director and Director look after day-to-day operations and marketing assisted by expatriate and local staffs experienced in production, marketing & finance. The Hong Kong based marketing office provides support in marketing and procurement.

Presently MNE1 sub-contracts around 20 per cent of their knit sweater export to cope with the production pressure during peak season. The company has long-standing relationship with these manufacturers and directly manages the plants to ensure quality aspects. However, the company is expanding its capacity to gradually replace this sub-contracting arrangement. The company is gradually moving into more direct export of value added and diversified knit garments, from 49 per cent to around 60 per cent.

MNE1 is the pioneer in Bangladesh to produce specialized knit fabric i.e. polar fleece, requiring greater technical expertise. When MNE1 came to Bangladesh, there were only two dyeing factory (including MNE1). The current number of factories is 56 in Bangladesh and the workers have gone from either MNE1 or the second factory. The magnitude of spillovers due to MNE1 is quite significant and has significant contribution to the knit industry of Bangladesh. Bangladeshi sweater factories are linked to MNE1 either as buyer of raw material (yarn) or as a sub-contractor. The local firms being part of MNE1's supply chain and the interaction has contributed to the development of the backward linkage in the sweater factories in Bangladesh. According to the Director, some of the local firms have stopped buying yarn from MNE1. This is because the local firms using the experience with MNE1 have developed the required backward linkage establishment. MNE1 sources 80 per cent of its accessories locally and 20 per cent imported. They source packaging 100 per cent locally. Raw yarn and Acrylic fiber are 100 per cent imported as Bangladesh do not produce it. Figure 2 gives a complete

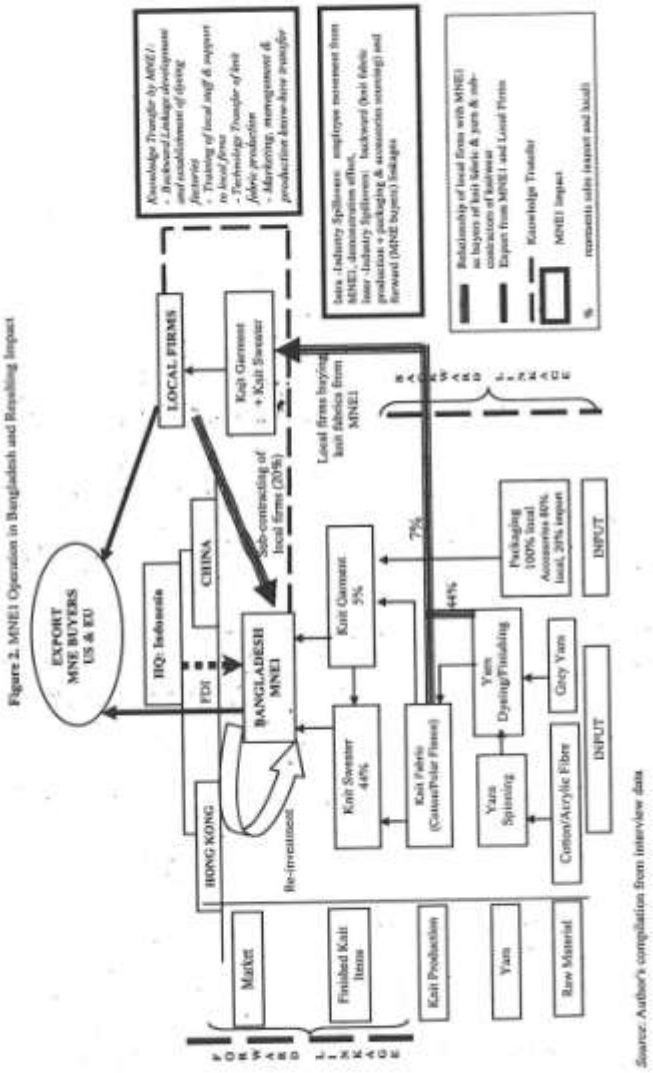



Figure 2. MNE1 Operation in Bangladesh and Resulting Impact

Source: Author's compilation from interview data



graphical presentation of MNE1's activities, impact and contribution to the RMG industry in Bangladesh.

MNE1 experienced commendable sales growth of 30 per cent in 2004 primarily due to volume production from expanded capacity. Sales growth is also contributed from higher export of sweaters to MNE buyers i.e. 46 per cent of sales compared to 35 per cent in 2003 in line with MNE1's strategy to move into more value-added knit products.

The company has been successful in becoming the largest knitwear manufacturer in Bangladesh. Furthermore, it has attained location and cost economies of scale through efficiency of operations, which has been possible due to successful transfer of knowledge from its Indonesian base.

## MNE2 (Hong Kong)

MNE2 is a family owned group of companies established in 1976 in Hong Kong. The group is in operation since early 1990s is one of the leading export oriented RMG/textile group in DEPZ. The group has integrated operation (fabric manufacturing, dyeing & finishing and front-end RMG manufacturing for reputed buyers in EU and US) under three different names MNE2a, MNE2b and MNE2c. Bangladesh is the group's main operation with integrated units MNE2a, MNE2b and MNE2c.

MNE2a is a 100 per cent export-oriented dyeing and finishing industry which started its operation in 1996. The company imports grey fabrics, bleach, and dye and sells finished fabrics to the export-oriented Bangladeshi RMG manufacturers. It has installed production capacity of 3M yards/month.

MNE2b is the textile company of the group, which started its operation in 1996. MNE2b manufactures cotton woven fabric and supplies mainly to its operation in China. It has installed capacity 1.5M yards/month i.e. 18M yards/annum.

MNE2c is the baseball cap manufacturer and garments wing of the group. The company started their Headwears division in 1992 and subsequently has started a separate garments division in 1999 to produce bottom items such as pants, skirt, shorts, etc. The cap division is equipped with embroidery machines and the monthly production capacity is approx. 80,000dz. The Garments division has production capacity of 375,000 pcs/month. Currently, 60 per cent of MNE2c's business is in garments and 40 per cent is in caps compared to 20 per cent in garments and 80 per cent in caps 2 years ago, respectively. The company has obtained permission from BEPZA to transfer the RMG business unit from MNE2b to MNE2c from October 2005. MNE2b sells about 40 per cent of its production directly to the RMG units. Figure 3

gives a complete graphical presentation of MNE2's activities, impact and contribution to the RMG industry in Bangladesh.

The group has planned a well-devised strategy to be a survivor/benefactor in the post MFA situation. The group has an integrated operation from grey fabric manufacturing (MNE2b), dyeing, bleaching and finishing (MNE2a) to front end RMG/Cap (MNE2c) manufacturing with large capacities and strong buyer bases in EU and US markets. The backward integration of MNE2b has reduced MNE2a's dependence on imported fabrics ensuring shorter lead-time, higher value-addition and flexibility to meet buyers' needs.

Over the years, the group has developed a good record of accomplishment with ultimate buyers. The factories comply with the buyers' requirement of product quality and plant specifications resulting in MNE2a being nominated by a few key European buyers as their preferred supplier of fabrics for the local vendors (RMG units). This also ensures fabrics sales to other RMG factories. By increasing RMG manufacturing capacity, MNE2a has increased its front-end RMG sales providing shorter lead-time, quality fabrics and capacity to ensure minimum order size. MNE2c has long experience in the cap industry, mainly in US and quota-free countries. With the installation of MNE2b, the group has successfully developed and implemented an integrated operation of fabric weaving, processing and RMG/Cap manufacturing, which provides more value-addition helping maintain margin.

MNE2a procures grey fabrics of different counts and quality from both foreign (70 per cent) and local suppliers (30 per cent). Foreign raw materials are imported mainly from Pakistan, India and China. With the implementation of MNE2b, MNE2a has started to procure about 30 per cent of its fabrics from MNE2b, thereby reducing dependency on imports.

At present, MNE2a's 30 per cent sales is to MNE2c. The rest 70 per cent is to the Bangladeshi firms. Main buyers for MNE2a includes Mark Designers Ltd (Bangladesh), Paddock's Jeans Ltd. (Macau), Red Point Jackets Ltd. (Bangladesh), Dada Dhaka Ltd (Korean), Pacific Jeans Ltd (Bangladesh), Hamim Group (Bangladesh), Siam's Superior (Thailand), MBM Group (Bangladesh), Liberty (India), whose end buyers are GAP Inc, Sears, JC Penny, Marks & Spencer, Hucke, Dhamcotex, Auchan, Jeans Center, C&A. Buyer base is well diversified.

MNE2c has been nominated as the preferred supplier of major EU buyers such as H&M, C&A, PHV, Mondial, Celio, Indetex, BHS, Liz Claiborne, in Bangladesh and US.

MNE2b imports raw materials (cotton yarn) from foreign and local suppliers and sells to MNE2a. With the transfer of RMG division from MNE2b, MNE2c procures raw materials from MNE2a. The buyer base of the MNE2c's RMG Division is also diversified with reputed buyers



such as MTX (UK), Second Skin (Canada), BHS (UK), Corona (UK) and Frankona (Germany) being the largest at the moment. Other buyers include Mexx (Netherlands), Tchibo (Germany), La Mode (UK), Corona (UK), Celio (France).

## Knowledge Transfer and Spillovers

MNE2 has experience of over 28 years in the RMG/textile industry. The group has brought market and technological knowledge into Bangladesh. For efficient operation the group has in place highly-skilled management team from Hong Kong. MNE2 has hired local staff and provided training to them locally and overseas to improve performance of the local staffs. The machines have been transferred from Hong Kong and workers have been trained accordingly. Furthermore, the group has implemented SAP Enterprise Resource Planning system that helps the management with timely and update MIS to run the integrated operations. The marketing office in Hong Kong helps to keep the lead-time to a minimum through prompt sourcing of raw materials. Today the group has successfully developed highly skilled local professionals who are managing their product lines, marketing, design and procurement efficiently. The efficiency and productivity is reflected in their increased sales, returning and new buyers.

Presently, MNE2c sub-contracts around 8 per cent of its RMG export to cope with the production pressure. MNE2c has developed dependable relationship with sub-contractors and directly manages the plants to ensure quality aspects. MNE2c has projected increased sales for the next year, which might also increase the sub-contracting percentage to 10 per cent.

The local firms being part of MNE2's supply chain as sub-contractor and buyer have given access to the knowledge of technological know-how and production process. Furthermore, the Bangladeshi firms have also been exposed to managerial know-how being sub-contractors and buyer information. The local firms using the experience with MNE2 have successfully been able to absorb the knowledge, implemented in new establishments, and increased local sales for MNE2. MNE2 imports 100 per cent of its raw material for production of finished fabrics, 80 per cent of its accessories are sourced locally and 20 per cent imported. They source packaging 100 per cent locally.

MNE2a has experienced 33 per cent increase in sales due to increased demand from Bangladeshi RMG firms. MNE2c has achieved a sales growth of 23 per cent due to strong marketing effort of the forward linkage. Increased demand in raw material has also stimulated sales growth for MNE2b by 6 per cent.

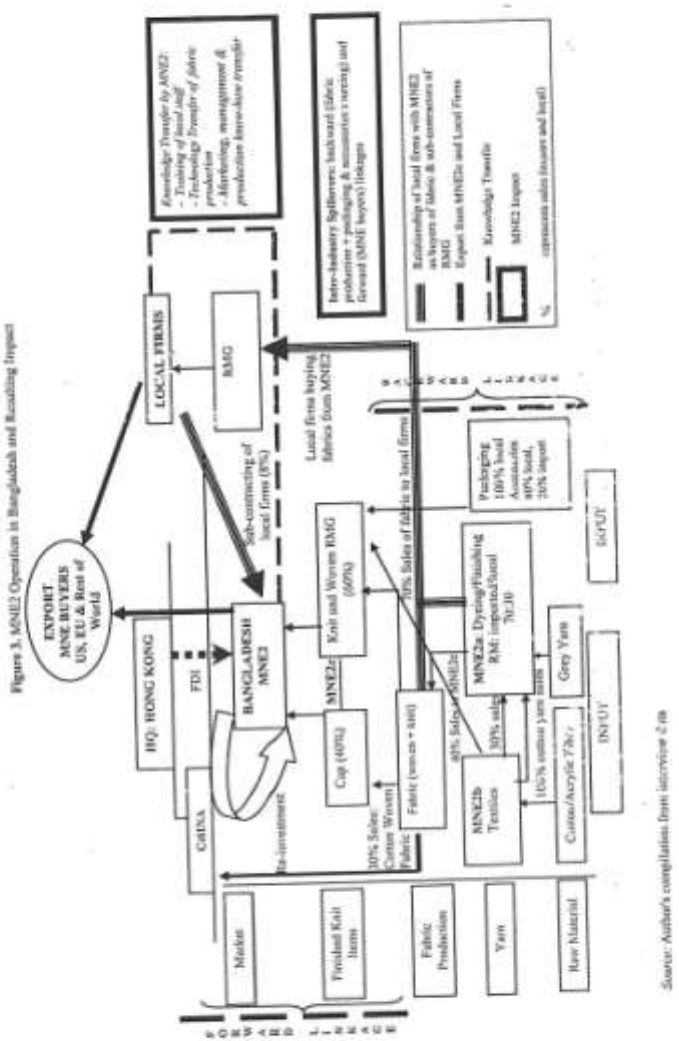



Figure 3. MNE2 Operation in Bangladesh and Resulting Impact

Source: Author's compilations from interview data



While MNE2's direct export contributes about 50 per cent of total group turnover, MNE2c is a nominated supplier of a number of key global buyers and supplies woven fabrics to the top tier Bangladeshi RMG exporters. The efficient operation of backward linkage of MNE2b further helps the group shorten the lead-time, which has now become crucial to this export business. Overall, the group has been successful in transferring knowledge into Bangladesh, attaining location and cost economies of scale through efficiency of operations and contributing to increased local export oriented RMG company base.

The sales growth of the group has been very encouraging for re-investment/expansion. The group has already invested $32 million in setting up factories (exclusive machineries) and expansion plan is already in place with the projected sales growth.

## Impact of MNEs on Bangladeshi Firms

Impact of MNE1 and MNE2 has been various and diverse for local firms as well as for the industry. MNE1's impact is evident in terms of employment, capital, increased export, knowledge transfer, and intra-industry and inter-industry spillovers (backward and forward).

Knowledge transfer has taken place in both tacit and explicit forms. Machinery and technology has been transferred from Indonesia. Training to local staff and support to local firms (sub-contractors) have been provided by MNE1. In addition, managerial and marketing know-how skill development and information sharing have taken place significantly. Most important knowledge transfer that has taken place is through the diffusion of expertise of establishing dyeing factories for sweater factories to local firms.

Intra-industry spillovers have been created from demonstration effect and movement of employees from MNE1 who have set up their own business. Inter-industry spillovers have been benefiting local firms in two ways: MNE buyers and sub-contractors. The MNE buyers have come to Bangladesh in the first place due to MNE1. This is creating opportunities for forward linkage for the local firms which are greatly gaining from being part of the supply chain of MNE buyers.

MNE2's impact is also evident in terms of employment, capital, increased export, knowledge transfer, and intra-industry and inter-industry spillovers (backward and forward). Knowledge transfer has taken place in both tacit and explicit form. Machinery and technology has been transferred from Hong Kong. Training to local staff has been provided by MNE2, locally and overseas. Managerial/marketing skill development and information sharing have also taken place for local staff. Local firms are benefiting from information sharing about MNE

buyers, markets and better technology by being part of MNE2's supply chain as sub-contractors and buyers of raw material. Inter-industry spillover is evident.

The significant impact amongst all has been in supplying of fabric that has reduced the lead-time for local firms.

### Presence of MNE Buyers

MNE buyers generally give the companies sample of products, which have been developed, in other countries. Seldom do they give information on new products, as they tend to develop in areas close to their market. Furthermore, sometimes buyers limit their scope to give the companies sample to copy. The MNE buyers generally do not have/give detailed information regarding composition of fabric, type of blends or any other material. The companies find it extremely difficult to replicate products without any base information and therefore in certain cases faults do arise at a later stage, which affects quality and productivity. The companies feel that if the foreign buyers could give them the details of the product composition, the development and absorption of technology would have been much easier.

This is a clear indication on the competitive environment and demand for high value-added RMG that the local firms are exposed to in post-quota period. It also gives indication that limited knowledge transfer has taken place among local firms and is thriving to keep themselves competitive in comparison to other countries like China, Srilanka, India, etc. Production of high value items requires technologically advanced plant with high skilled and efficient producers of RMG items.

The local firms are affected and having repercussions due to the change in marketing structure of international RMG industries which is transforming into a *buyer-driven* chain (Dicken 2003). MNE buyers' high purchasing power offers them leverage over RMG manufacturers, thus limiting providing support to local firms. The market is shifting day by day from standardized items to differentiated and fashion items that changes frequently. This forces manufacturers to respond far more rapidly to MNE buyers' demands and specifications. Under such circumstances, lead-time becomes as important as cost. The local firms are already under pressure to reduce lead-time and increase productivity and with the shift in the international market, the transferred knowledge is seemingly proving to be not enough.

Presence of MNE buyers has exposed the weaknesses of the business and the market to the buyers. MNE buyers in Bangladesh have access to all local policies, production facilities, capacities, etc. making them aware of the shortcomings that local firms have. This is a great



disadvantage for local firms, as in a bargaining situation the buyers tend to capitalize on them and take away local firms' competitive advantage.

The MNE buyers pre-empt cost increase by putting pressures in advance to local firms. For example, currently the industry is going through an industrial action by which a wage board has been formed and this will result in substantial increase in wages. Garment factories input is only the CM portion, which varies in between 20 per cent and 35 per cent of the FOB cost. The current labour cost is about 8 per cent to 9 per cent of the FOB cost and is likely to increase to around 14 per cent of the current cost. Sensing this, the buyers have already put pressure on reducing the cost for the current buying season on the Bangladeshi companies. It may have a negative impact on the manufacturers and may force certain operations to become unprofitable and shut down.

The MNE buyers exert enormous purchasing power and leverage over RMG manufacturers (Dicken 2003). This is because the MNE buyers stimulate demand through fashion change by shifting consumer demand from low-margin basic items to higher-margin fashion-related items resulting in enormous expenditure in promoting products, labeling and differentiating. This clearly indicates rational for MNE buyers to look for low-cost sourcing. The implications for local RMG firms are that they cannot be negotiating for cost-reduction with MNE buyers, rather have to identify ways to speeding up production cycles to reduce cost and respond quickly to buyers. Otherwise, the buyer-driven MNE buyers will shift to competitor countries for sourcing.

The business of the Bangladeshi RMG firms is a link in the foreign supply chain i.e. MNE buyers and is very dependent on their purchases. Therefore, to meet their requirement in post-quota world local firms had to upscale their production as buyers have decided to reduce the number of suppliers. Continuous production capacity increment has therefore become a normal requirement for staying in the business.

The buyers are also emphasizing on compliances, which are making production very costly, however, are not at all interested in looking at sharing these incremental costs.

### Concluding Remarks

The policy to restrict FDI into the sector has in one way benefited by stimulating local entrepreneurship in the industry; but in another way it has harmed the industry from knowledge transfer from MNEs and creation of spillovers. FDI could have transferred the required technological know-how and expertise especially in the woven wear section. MNEs could also contribute to skill development for higher value items and market diversification. The limited numbers of foreign

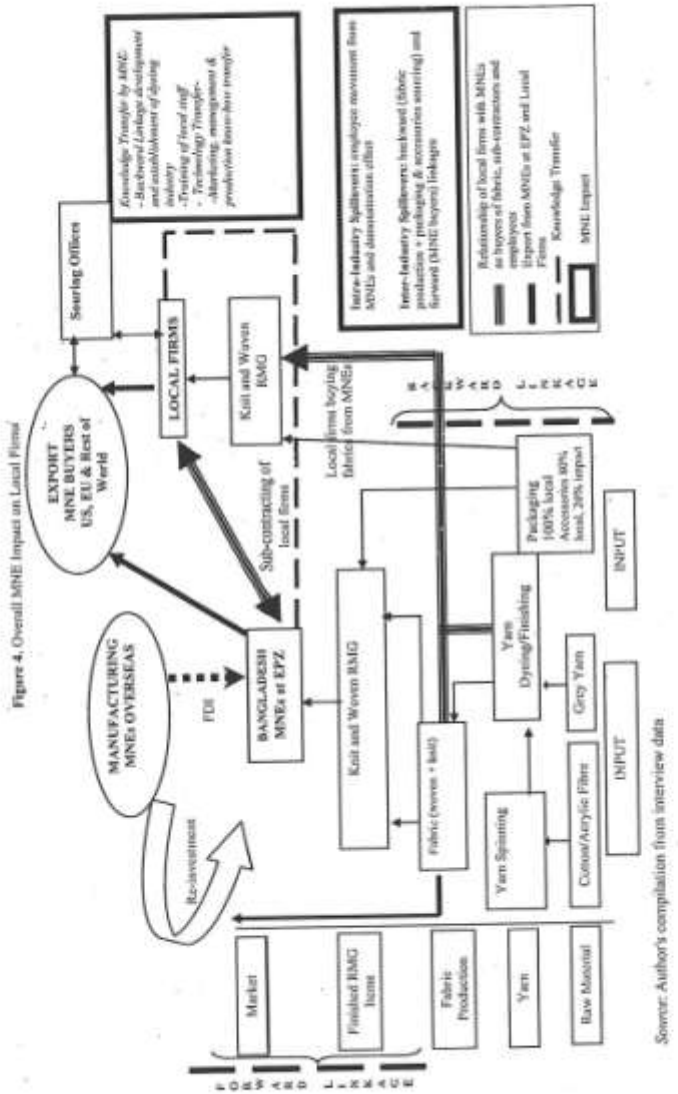



Figure 4. Overall MNE Impact on Local Firms

Source: Author's compilation from interview data



involvement in the industry have restricted local firms from benefiting better technological, greater managerial and marketing expertise.
Figure 4 provides a graphical representation of overall MNE impact on local firms in the industry.

There are two categories of MNEs identified to be in operation at present, which are Buyer MNEs and manufacturing MNEs with FDI. The buyer MNEs do not have any investment rather they have a sourcing office. Their sole functions are to visit factories for compliance check, place orders, and provide code of conduct to the factories and not involve any purchase. The manufacturers do selling either directly or through the buying houses. The major buyers who have offices in Bangladesh are Wal-Mart, H&M, Tesco Marks & Spencer and Li & Fung.

The diffusion of product and process technology, good practices, managerial know-how, etc., from MNEs to local firms and then from one local firm to many others has led to the remarkable growth of this industry. Manufacturing MNEs contribute to knowledge transfer to local firms today mainly in three ways:

1. Local firms being part of the supply chain of MNEs as sub-contractors expose themselves to the product technology and knowledge.
2. Local firms as buyers of raw material from MNEs expose themselves to the process technology of raw material.
3. Training of local staff who were employees of MNEs now have production facilities of their own.

The type of FDI that the manufacturing MNEs are engaged in can be categorized into *natural-resource-seeking* where Bangladesh as host country is involved in labour intensive RMG products. The home country of MNEs possesses high knowledge content, which is then transferred to Bangladesh. This, however, is not in line with UNCTAD's discussion that efficiency-seeking FDI yields the greatest improvements in local firm competitiveness and market shares. There has been achievement in widespread diffusion of MNEs' technologies, creating intra-industry spillovers and promoting local capacity development. It has been evident from data collected that the knowledge gap between MNEs and local firms is not too large at the basic RMG items production but is quite significant in high value-added items. Also, the gap is not that evident in knitwear but in woven wear the gap is high, that is why the possibilities for performance-enhancing spillovers i.e. technology transfer, have been limited in the industry.

Successful knowledge transfer has been possible because the Bangladeshi firms have been able to utilize and implement the knowledge learnt to become competitive, produce quality RMG products

and achieve growth. The absorptive capacity of Bangladeshi firms as identified is quite high and inspiring. However, Bangladesh is faced with some issues and concerns in dealing with buyer MNEs.

Buyer MNEs' limited role in knowledge transfer (product and process) is affecting the local firms negatively. Buyer MNEs generally do not have/give detailed information regarding composition of fabric, type of blends or any other material, which the local firms find hard to replicate affecting quality and increasing rejections. Access to the knowledge to product composition is important in making local firms more absorptive. The international RMG market is buyer-driven and each stage of the production chain has its own specific technological and organizational characteristics. Demand is becoming increasingly dominated by the purchasing policies of these MNE buyers, which have been termed as *retailing revolution* by Dicken (2003). In addition, there has been shift in the structure of marketing which is catering for high-value items for which the buyers are putting tremendous pressures on manufacturers. Due to the varied demand scenario, international RMG market is dominated by international sub-contracting rather than FDI. All these helps to understand the limited roles of the MNE buyers with respect to knowledge transfer. With respect to being compliant, the MNE buyers (Dicken 2003) are under pressure from pressure groups such as Oxfam, labour unions, etc. to monitor manufacturers in order to remove illegal practices. In addition, evidence suggests that Bangladeshi manufacturers have provided inadequate attention to social compliance. Furthermore, local firms have shortcomings to orientation of international market. Cost negotiation is not going to be a fruitful solution to local firms' concerns rather in order to be competitive and retain MNE buyers they have to be complaint.

At this point, the theoretical framework for this research is presented to discuss MNE impact on RMG industry discussing the type of knowledge transferred and creation of inter and intra-industry spillovers (Figure 5). Information on MNEs and local firms is mostly collected from primary data (interview) and information on other components of the impact is collected from secondary data to complete the figure.

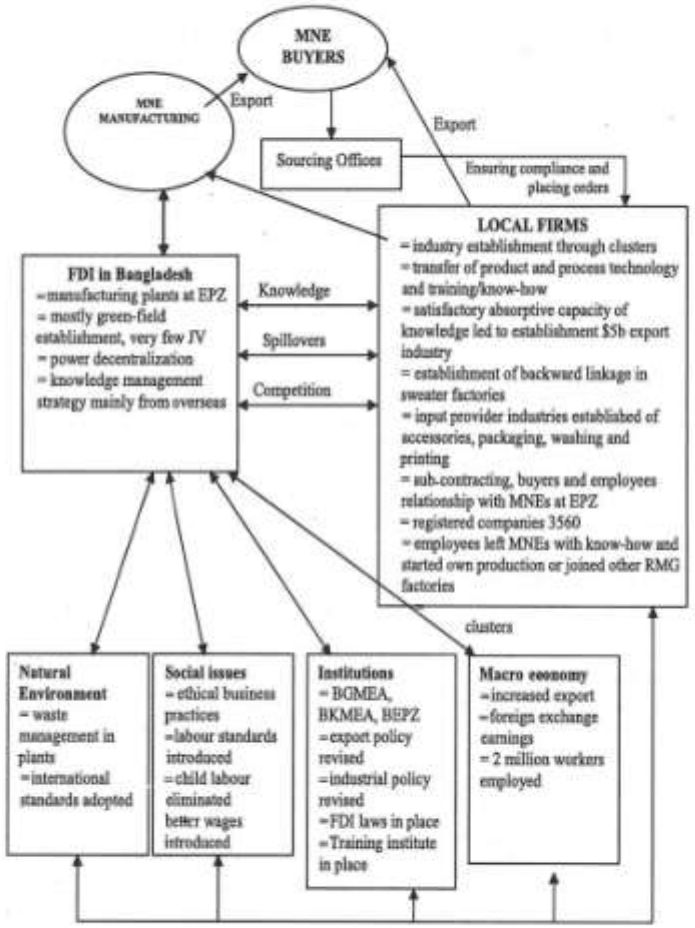
The figure illustrates how MNEs through FDI in RMG industry have led to knowledge transfer, increased competition, and creation of intra and inter-industry spillovers developed industrial clusters and increased entrepreneurship.

Knowledge has been transferred in the forms of product and process technology, skill development through on and off the job training, information sharing on operation and marketing know-how and information sharing on new products and markets.

Intra-industry spillover has taken place for Bangladeshi firms through demonstration effect and by being in direct contact with MNE as sub-



**Figure 5.** Application of Meyer's (2004) FDI Framework in the RMG Industry of Bangladesh




*Source:* Author's compilation from interview and secondary data

contractors, buyers and employees and operating at different levels of technology. Local entrepreneurs have been part of MNE exposing them to technological innovations and new management techniques, which are then diffused resulting in increased imitation and enhancing productivity. Bangladeshi human resource has proved its absorptive capacity, as discussed by Meyer (2004), that they possess the ability to recognize valuable new knowledge, integrate it into the firm and use it productively.

Inter-industry spillovers have taken place through the creation of forward and backward linkages in the industry. Backward linkage creation and development is evident in the sweater factories. Forward linkage is evident through the sales figures, increased buyer base and the sourcing offices of the buyers located in Bangladesh. In addition, local input provider industries such as accessories, packaging, washing and printing have also developed.

On the macroeconomic end, this industry employs 2.0 million workers and export from this industry constitutes 75 per cent of total exports. Industrial and export policy have been revised to suit the need of the investors (both local and foreign) involved in exporting finished products and importing raw material. Local firms are now making immense effort by investing to be compliant with international labour standards and ethical practices. Factories now have better interior with the necessities in place. Furthermore, waste management system is in place by factories to avoid any adverse environmental consequence due to their operations.

In summary, the impact of manufacturing MNEs is many folded. They have brought in and are bringing in significant knowledge and technology to the industry along with international buyers. MNEs have stimulated entrepreneurship, individuals who have left MNEs to establish their own business and eventually generated large spillovers in the industry. The companies have become competitive and are not only competing within the industry but also internationally with India, Pakistan, Srilanka, Vietnam and China. The open market now has provided challenges and opportunities for the industry. It is, therefore, essential that every effort be made not only to retain its current competitive edge in the RMG industry but also to enhance it by improving productivity through skill development, technology transfer and FDI.

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