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"The Spillover Effect of MNCs on local firms: Reviewing the Empirical Evidence"

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Abstract
Since 1970s, different empirical studies have been conducted to assess the effect of MNCs presence on local firms. This article exhaustively review literatures and summarize the main findings. Accordingly, why foreign production, how MNCs affect host country? what spillover,? how spillover? what affect spillover? what are ultimate spillover outcome? Are the main category many researchers attempted to address. In literatures it is stated that resource, efficiency, market and strategic asset seeking are find to be the main reasons for foreign production. Regardless of the nature of motives, MNCs presences have both direct (immediate effect) and indirect (spillover) effects on local firms. As different findings reveal technology, knowledge and skill are among many to spillover from MNCs to local firms. 'How this spillover occurs?' is imperative questions addressed by researchers and hence demonstration, employees' movement, imitation, competition and linkages are identified to be the common channels of spillover. However, it is identified that the spillover occurrences is dictated by different factors among which absorptive capacity, technology gap, free employees movement, R&D cultures, investment policy are the commonly explained one. The occurrence of positive spillover is reflected by improved productivity, better efficiency, ease foreign market access and enhanced innovation rate. Finally, as indicated in literature, the ultimate outcome of spillover can be strongly positive, positive but weak, positive only under certain conditions, negative or there might be no spillover effects at all. As stated by authors, differences in the finding are contributed by publication bias as well as differences in data type and data analysis methodology. But, there is insignificant disparity among researchers about existence of spillover effect resulted because of MNCs presence.

Key words: why foreign production? What spillover? How spillover? What factors affect spillover?

1. Introduction

The genesis of multinational companies (MNCs) was boldly flourished following the collapse of the erstwhile socialist countries and replacement of free market in 1990s. Hence, the last two decades are remarked by stiff competitions to attract MNCs. Governments of host countries have been continuously relaxing their investment policy with the aim of ushering MNCs. In the mean time, copious studies have been conducted to investigate and explore the main reasons why courtiers lure MNCs. All researchers agreed that, the ultimate target behind all the efforts made by the host country is to reap the opportunities resulted from the presence MNCs. It is apparent that MNCs come with huge firm specific assets (FSA) to secured upper hand over local firms thereby multinational companies are acting as significant carriers of latest technology, advanced management know how and dynamic marketing skills. As evidenced in literature, in one way or another, the presence of MNCs strongly influence local firms in the host country.

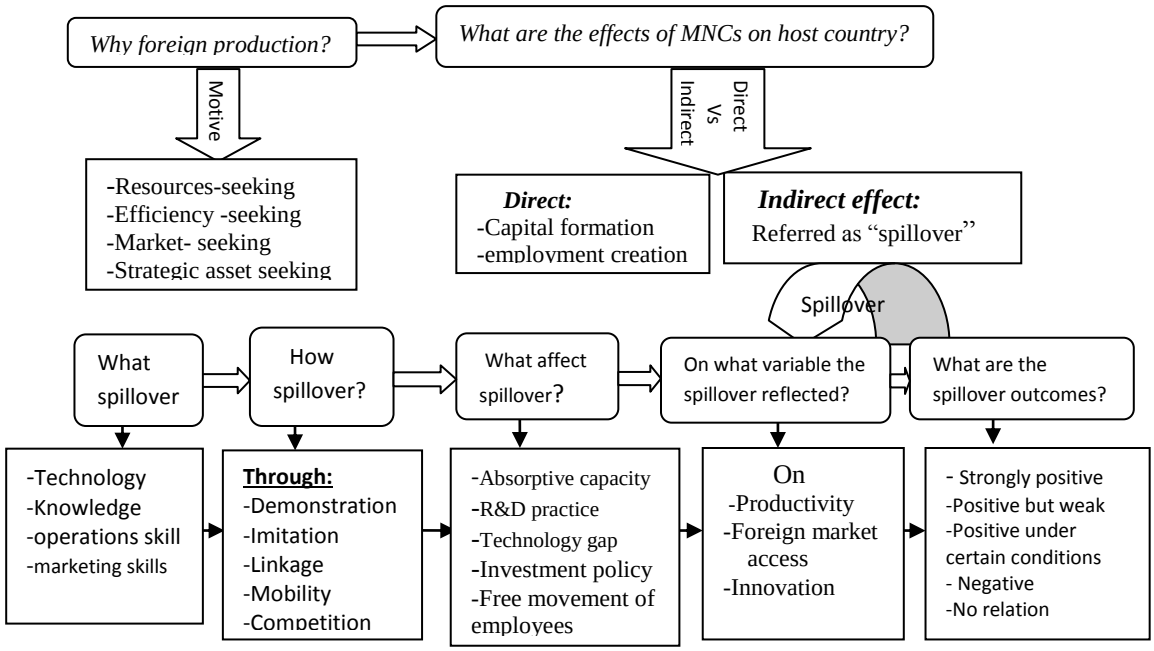
2. Conceptual analysis of spillover Effect

Studies have been attempted to unearth the real effect of MNCs presence by raising different questions. For plainness purpose, we can generally group the main points addressed by different Business researchers -as shown in the following diagram-as:

what are the motives for foreign production? What are the effects of MNCs presence to host countries? What to spillover from MNCs to local firms? How spillover resulted? What affect the spillover occurrences? On what base spillovers reflected? And what are the ultimate outcomes of spillover?

Therefore, it is worthy to review different literatures that dealt with the relationship between MNCs presence and local firms operation. Hence the following diagram clearly summarizes and elucidates the effect of MNCs on local firms operations.

Diagram1.
The general impact and relationship between MNCs and local firms



2-1. Why foreign Investment

Different international literature exerts efforts, time and pecuniary to investigate the motives why copany leave their home country and invest in the country. In this regard, the early study to be referred is Dunning,(1993). Then after, different authors such as: Fosfuri et al(2001), Dunning,(2001), Nunnekamp and Spatz (2004), De Propis &. Driffield (2005), Alemayehu and Atnafu(2009) and many others agreed the category made by Dunning. Generally, according to aforesaid authors, the motives for foreign investment are categorized in to four seeking as briefed below:

a. ***Market seeking:*** also referred as demand oriented FDI. Such MNCs primary focus is to gain access to new local and regional markets or to maintain existing ones in the foreign market.
b. ***Resource seeking:*** are also referred as supply oriented MNCs. In this case, the focus is to gain access to cheap resources such as minerals, agricultural products and unskilled labor. In this case, the foreign firm is investing abroad in order to have access to resources not available in its home country rather than to exploit an advantage that it already possesses indeed, in some cases, this type of foreign investments turns out to benefit corrupt local elite rather than economic growth.
c. ***Efficiency seeking:*** are commonly described as rationalized or off shoring. Such MNCs invest in foreign markets to take advantage of a lower cost structure and is driven by low resource and input costs. According to literatures, Efficiency-seeking FDI are more likely to introduce technology and know-how that is compatible with the level of development of the host country through adaption and imitation of local suppliers. The purpose of this type of investment is to enhance the investing firm's global competitiveness and usually occurs in capital and technology intensive sectors
d. ***strategic asset seeking FDI:*** refers those designed to protect or augment the existing owner specific advantages of the investing firms and/or to reduce those of their competitors

2-2. Effects of MNCs on local firm: Direct Vs Indirect effect

The analysis of the effects of FDI on host countries in the literature implicitly distinguishes between its direct and indirect effects. According to Narula and Marin (2005), MNCs contributes to host country's economy in two different but interrelated ways-direct (primary benefits) and indirect (secondary benefits). As revealed in different studies, the basic purpose of attracting such giant companies in developing countries is primarily to realize the direct effect while indirect benefits is the ultimate target of developed country. Capital formation, creation of employment opportunity and formation of trade associated with the FDI project is categorized as direct effect which are straight forward and realized immediately by the host country. On the other side, the indirect effect is resulted because of different externalities which can be realized through process. These indirect benefits referred in literature as "***spillover***". Many researchers such as Blomstrom & Kokko (1998),, Lall (2001), Fan (2002) and Greenaway et al (2004) refer spillover as the externalities generated when local companies benefit from multinationals firm specific asset without increasing costs. Similarly, Narula and Marin (2005), after exploring the relationship between direct and indirect spillovers from FDI in Argentina, found that the indirect effects are efficient sources of MNCs-related spillovers. Spillover, as treated by Gersl (2008) and Gorg (2008) is the indirect benefits (secondary effect) emerged due to interactions between foreign and domestic firms. Based on the above literatures, spillover effects may be considered as the consequence of the performance of foreign firms and the resulting adjustment of behavior of domestic firms. According to Gorg (2008) and many other researchers, the long run benefits for the host countries comes from the spillover rather than the direct and immediate effect. Lastly, as pointed out by Rugraff and Hansen (2011), spillovers take place when multinationals are unable to, or uninterested in, extracting the full value of the resulting productivity increase of their activity in the host economy.

2-3. What spillover from MNCs to local firms?

There is an ongoing discussion regarding what spillover from foreign affiliates to local firms. In the following section we will discuss the most commonly stated one.

2-3-1. Knowledge spillover

Blomostrom and Kokko (1998) unfold that spillover from MNCs involves knowledge about both product and process technologies that improve product quality and productivity. According to Greenaway et al (2004) , and Franco and Sasidharan (2009), MNEs possess certain firm specific advantages in the form of knowledge-based assets (such as proprietorial information relating to product or process technology), managerial know-how, human capital assets and marketing expertise which will leak to local firm. Gorg (2008) pointed out that there is knowledge leakage from MNCs to local firms. As pointed out by Alfaro and Chen (2013), productivity gains are often attributed to knowledge spillover from multinational to domestic firms. Moreover, according to Fracasso and Marzetti(2013), one would expect international knowledge spillovers to have a greater impact on local productivity (or its growth) in those countries where human capital is more abundant. But most studies argue that knowledge spillover is not simply harvested by the local firms from MNCs operation. This fact is strengthening by Narula and Marin (2005) who emphasize the importance to acknowledge the fact that MNEs are rarely interested in the explicit transfer of knowledge. According to Ciravegna & Seldin (2008), many factors determine knowledge spillover from MNCs to local firms. For example, Gorg(2008) argue that knowledge spillovers can be exploited if knowledge gaps exist between multinationals and local firms while others find narrow knowledge gap as prerequisite to facilitate knowledge spillover. Generally, MNCs use knowledge that is suited (first and foremost) to their own needs and hence governments in the host country must create conducive environment to harness the opportunity of MNCs presence.

2-3-2. Technology Spillover

The early study about technology spillover is made by Arrow (1971).He maintain that technology diffusion is like the spread of a contagious disease, where personal contact is needed for the spread of the disease. Often, MNCs do not completely protect their technology from leak and spillover. For example, Kokko (1994) argued that MNCs appears to be an important channel for the transfer of modem technology to local firms if appropriate policy intervention is made.

Similarly, Blomström & Kokko (1993) opined that the main benefits of MNCs to host country is stem from the inflows of new technology to local firms. By the same token, Aitken et al (1997) find that MNCs directly or indirectly affect the endogenous growth rate via technological spillover. As suggested by Pant and Mondal (2010), technology transfer from FDI in India is more likely to be achieved by the presence of foreign firms rather than by simple purchase of technology. According to Zhu (2010), the inflows of foreign investment significantly spur industrial development through technology spillover. Recent studies like Abereijo and Ilori(2012), highlighted that local firms learn new technology from the nearby MNCs. Some researchers like Giroud (2007) made the assumptions that technology is transferrable at no cost because of its public good nature. But, to the contrary, some researches reveal that, to attract MNCs developing countries have very loose environment protection policy while developed countries tighten their policy to ensure safe living environment. This opens the room for MNCs to dispose old and obsolete technology to developing countries which discourage local firm's imitation efforts. For example, according to Alemayehu and Atnafu (2009), in Ethiopia Lifan Company of Dutch assembles 1 car per day where as in their home country they have used far better productive technology than host country.

2-4. Spillover channels: how do spillovers occur?

In the following discussion, we will review the theoretical and empirical literatures on the channels through which spillover occur from foreign affiliates to local firms. To better understand the effect of MNCs on the host country, we must go for nuance investigation of the various channels of spillover. For example, Blomström and Kokko (2003) highlighted that, because of the existence of different channels, MNCs do no able to protect the FSA from spillover. According to Görg (2008) and Blake et al (2009), the inability of the multinationals to protect FSA from spillover is due to the following main channels:

2-4-1. Inter-firm mobility of employees: People are technology using animals and hence employees have indispensible importance as a conduit of knowledge spillover from MNCs to local firms. Blomström and Kokko (1998), Greenaway et al (2004), and Narula and Marin(2005), Görg (2008) and Phucharoen(2014) accentuate that so as to increase their own productivity MNE trains up local labor and, according to them, after trained and worked in MNCs , there are many cases in which they move to domestically-owned companies, taking with them FSA from MNCs to local firms. To further emphasize the benefits, those moved workers could formally or informally teach the knowledge to workers of local firms and hence the effect becomes triple. As suggested by Alfaro and Chen (2013), foreign multinationals generate positive productivity externalities and Knowledge transfer through partnerships, interaction and movement in labor markets. Generally, through the worker mobility, domestic firms could be benefited from the knowledge-invested employees who have moved from foreign-invested firms to local firms.

2-4-2. Linkages with MNCs

As stated in the empirical studies, domestic firms supplying to or purchasing inputs from multinationals may be exposed to the superior technology and, hence, be able to upgrade their own production techniques. To ensure the smooth operations of their business, in one way or another, MNCs interact with local firms. Narula and Marin(2005) suggests that to run their business, MNE subsidiaries need to interact with domestic external economic agents, and these interactions may results in FSA spillover to the rest of the host economy. Most study finds strong correlation between linkage with MNCs and local firm's productivity. Pinilla (2003) find that the productive linkage established between local and foreign companies influence the internationalization process. But there is no guarantee for the positive spillover from the bare interaction. Many literatures revealed that MNCs are more willing to transfer the knowledge to their suppliers rather than transferring to their local counterparts in the same industry. Hence linkage is an important spillover channel. There are two types of linkage:

Horizontal linkage: this types of linkage occurs when in the same industry MNCs work together with other local firms performing equivalent business activities. Unlike vertical spillover, most studies shows negative or no spillover in the case of horizontal externalities. For instance, Gersl (2008) states that the horizontal spillovers seem to be much less important than the vertical spillover. On the other hand, authors like Blake et al (2009) find that horizontal spillover do not exists for private local firms but only to State-owned firms. In spite of all this findings, it is commonly referred in literature as spillover channel.

Vertical linkage: often vertical linkages- in literature- are treated as input-output linkages unlike horizontal linkage, researcher found strong correlation between vertical linkage and spillover. For example, Smarzynska (2002) conclude

that local firms enjoy positive spillover through vertical linkages rather than the horizontal linkage. Likewise, Pinilla, (2003) and Crespo & Fontoura(2007) suggest that vertical externalities results a positive impact through vertical linkages. Vertical linkages include backward linkages and forward linkages. Backward linkage comes to existence if MNCs interact with domestic supplier (Blake, 2009). As per the literature, MNCs provide technical assistance and information to improve product quality of their suppliers, and to favor innovative production. On the other hand, forward linkage is a linkage between MNCs and the distributer. Pinilla(2003) stated that MNCs may also provide training and counseling for the organization and management of the company and help explore different ways of reaching new clients and new markets. But it is emphasized that such type of linkage in developing countries either does not exist or is very complex.

2-4-3. Demonstration and Imitation Effect

As discussed in literature, local firms with high absorptive capacity may just imitate the multinationals in terms of products, process, management or marketing techniques which is referred as *imitation and demonstration effects. Basically it is the effect associated with knowledge spillover and technology diffusion and transfer.* According to Blomström and Kokko(1998), there may be so-called "demonstration effects" if there are arm's-length-relationships between MNCs and domestic firms and domestic firms learn superior production technologies from multinationals. As suggested by Wang and Blomstrom(1992), Girma et al (2001) , Narula and Marin (2005), Phucharoen (2007), and Abereijo and Ilori(2012), demonstration and imitation effects can occur when domestic firms have the opportunity to train/observe to imitate/ copy the FSA possess by the MNCs. It is needless to mention that local firms benefit from subsidiaries' presence when subsidiaries demonstrate new technologies and new ways to use them.

2-4-4. Competition Effect: if foreign affiliates do not have monopoly power, the production and sales of product is subject to stiff competition with domestic firms. Because of superior FSAs, often MNCs have upper hand over local firms. The increased competition caused by the entry of MNCs, forces the local inefficient firms either to be more productive or to leave the industry. This effect in literature is termed as "competition effect". Early studies like Aitken and Harrison (1999), point out that MNCs might attract away demand from their domestic competitors, thus, competition effect may reduce productivity in domestic firms.

Not to lose the market, local firms will do all their best. As pinpoint by Glass and Saggi, (2002), despite losing market share, the presence of foreign invested firms would pressurize the domestic firms to improve their existing production technologies and process to become reliable supplier. Similarly, the study of Sinani and Meyer(2004), confirm that even if local firms are unable to imitate the MNE's FSA, competition induces domestic firms to use their resources and existing technologies more efficiently, or to search for new and better ones. Of course many studies agreed that competition increase the speed of adoption of new technology or the speed with which it is imitated.

1-5. What affect the spillover occurrences?

Early studies treated spillover from MNCs to local firms using pipeline model which emphasized that spillover is automatic and resulted with no role of the subsidiary. However, recent studies treat spillover as indirect and slow process demanding conscious action by all stakeholders to create conducive environment to facilitate spillover; and hence the mere operations of MNCs nearby local firms do not guarantee the positive spillover. Kathuria (2000), argued that spillovers generated are the result of local company's efforts to investigate, learn and innovate rather than a direct consequence of MNCs presence. As accentuated by Gorg (2008), Blake et al (2009) and Abereijo and Ilori (2012), spillover effect is subject to many factors and conditions that determine the rate and degree of spillover. The following points are cited by many researchers as the common determinant factors for occurrence of spillover from MNCs to Local firms.

2-5-1. Absorptive Capacity of the Recipient

As the old saying 'the business of business is business' still going right, MNCs bring FSA to host countries for the sake of running their own operations efficiently. The primary reasons for MNCs investment are to increase market share and maximize wealth; but not to help host country's' growth. They interact with local firms only if there are economic reasons for them to do so. For example, Narula and Marin (2005) emphasized the importance to acknowledge that MNEs are rarely interested in the explicit transfer of knowledge and they prefer to use technologies that are suited (first and foremost) to their own needs. Only those local firms with better absorptive capacity will reap the benefit from MNCs presence.

Researchers like Kokko(1994), Blomstrom and Kokko (1998), Blomström and Kokko (2003), Chen and Kokko(2010),Abereijo and Ilori(2012), Fracasso and Marzetti(2013), Wolfmayr et al (2013), Campos et al. (2014), Mayneris and Poncet (2015) and many others confirmed that spillovers are not automatic consequences resulted from the presence of MNCs rather it depend on the ability of the recipient country to identify, assimilate and exploit foreign knowledge and to imitate new technologies. In literature, it is stated that, beyond the internal efforts of the local firms, absorptive capacity can be boosted by separate technology transfer bodies, training programs, investment promotion councils, and smooth interactions among economic agents, the infrastructural and institutional supports. Hence it is imperative to note that, there are many bottlenecks that seriously affect the absorptive capacity of the recipients' firm.

2-5-2. Restricted Movement of Trained Employees

To survive in an emerging market, MNCs have to recruit local employees who are familiar with the cultural and political environment, and the idiosyncratic business practices in host country. When these trained employees joined local firms, they act as a conduit of advanced knowledge which may be difficult to acquire in any other way. The primary means to facilitate spillover is ensuring free movement of capable employees so that they can observe and learn from MNCs daily operations. Narula and Marin (2005) argued employing trained workers by MNCs expand the knowledge base of firms which will hasten the spillover effect. But, as explained by Blake et al (2009), facilitating spillovers through employees' movement is bottlenecked by numerous reasons. For example, some MNCs hire home country employees especially for the key operation area who are less likely to join local firms. The finding of Asayehgn (2009) is the best indicators of this fact. He conducted a case study to investigate the nature of Chinese investment in Ethiopia and find that many of the MNCs come with their own manager, engineer and technical employees which is needless to mention the difficulty of expected spillover effect. What makes this channel more difficult is the fact that MNCs high pay structure than local firms. Research shows that, because of their financial capacity, MNCs paid more to skilled employees than the local firms. This restricts the employee's movements which in return slow down the expected spillover. Hippel (1988) noted that, beyond building in secrecy, complexity or lead time, MNCs minimize the mobility of personnel through paying higher wages or select an entry mode that minimizes spillovers. Similarly, as suggested by Gershenberg (1987), Girma et al (2001) and Fosfuri et al (2001) MNEs may pay a wage premium to retain skilled employees and in any way, restricted employees movement greatly hampered the expected positive spillover.

2-5-3. R &D emphasis by both MNCs and local firm

The degree of emphasis given to R&D is the other pillar that dictate the rate of spillover effect MNCs to local firms. According to Chrestina (2013), MNCs account for a substantial share of investments in R&D that enable them to generate and source knowledge on a global scale. Studies come up with mixed results whether R&D practices of MNCs improve spillover effect or not. In this regarded the best work to be cite is the Guo and Veugelers (2006). In the outcome, they did not find strong positive effect of foreign-owned R&D on improving local productivity. In contrast, they emphasize the domestic firms' own R&D effort. By the same token, the finding of Liang (2007) confirmed that, domestic firms' in-house R&D capital improves local firms' capacity and facilitates learning from foreign firms. Those local firms having strong R&D culture have better capacity than those who do not have. However, researchers like Abereijo and Llori (2012) stated that majority of local firms in developing countries lack resources to modernize their R&D program and this department has neither trained worker nor has sufficient budget.

2-5-4. Investment policy of host country

The common criticism against MNCs is that they tend to invest in a low priority and high profit area ignoring the national interest of the host country. In this regard, researchers underlined that FSA of MNCs are not always those which domestic firms necessarily seek to acquire- or even – are able to acquire. For example, as stated in literature, because of loose environmental policy, some MNCs supply outdated technologies and still others are not willing to share their rich experience and even some engage in strategies to prevent know-how from leaking out. According to the early 1976 declaration of OECD code of practices on MNCs operation, MNCs has to act fairly, ethically and morally to contribute for economic and social progress within the host country including permission of rapid technology diffusion. But it is

surprising to note that the demand by the host country to bring the code legally binding was rejected by the UN general assembly at the behest of economically advanced countries.

To cope the challenges and to reap the positive effect of MNCs presence, researchers find that governments in the host countries are constantly modifying their investment policy through adjusting tax and other fiscal incentives. For example, Kokko (1994) argued that the benefits of MNCs may be suboptimal in the absence of policy interventions because the spillover benefits are not internalized in the foreign firms' rates of return. Moreover, studies like Girma et al (2001) and Fan (2012) confirm that government in the host countries relaxed their trade policy in favor of MNCs expecting positive effect from their presence. In any case, one should not be optimistic and expect help from MNCs as the logic "the business of business is business" is still governing idea in the business sectors. Generally, MNCs can interact and share FSA with local firms only if there is a strong economic reason to do so.

2-5-5. Ownership structure and culture

In literature, ownership structure is identified to be another dictating factor that determines the occurrence of spillover. But research findings reveal contradicting outcomes. For example, Blomstro and Sjokholm (1999), find that the degree of foreign ownership does neither affect the level of labor productivity in foreign establishments, nor the degree of spillovers and latter Nicolini and Resimini (2007) found the same results. But, on the other hand, Lane and Lubatkin (1998) pointed out that ownership structure matters to a domestic firm's ability to benefit from spillovers of technology transfer. This effect may also be related to the fact that outsider-owned firms are more export-oriented, than the other ownership types, and thus access knowledge from international markets. In the same way, authors like Kugler (2006) find no spillover effect on wholly domestic plants. According to Kugler, export oriented MNC subsidiaries yields spillover but restricted only to plants with foreign participation.

2-5-6. Size and age of local firms

Apparently, size of the firm will dictate the nature and magnitude of spillover. In this connection, it is stated that because of their ability to mobilize productive resources and other services that are either external or internal to them, spillover is easy to realize by large firms while majority of the small and medium firms have inadequate resources to improve their technological capabilities. Size is an important indicator to capture the potential positive spillovers due to technology diffusion from FDI by MNCs. Small and medium sized plants are unable to deploy new technologies, with unchanged production possibilities, and instead face the negative intra-industry effect from competition by MNCs oriented to the domestic market, resulting in gradually declining productivity.

The other closely related variable that dictate spillover occurrence is age of the firm. Generally, the older the age, the higher the accumulated stock of knowledge and experience will be and hence are in a better position to harness the positive spillover. As confirmed by Abereijo and Ilorin (2012), recipient's size and age to the occurrence of spillover should not be overlooked.

2-5-7. Technology gap

The relation between technology gap and spillover occurrence is found to be one of the debating issues in literature. Some researcher argued that, positive spillover will be occurred if the technology gap is high while other argued moderate gap and still others suggest small gap facilitate spillover occurrence. But all researchers agree that technology gap signals something to the MNE about the spillover occurrence. For example, researchers like Wang and Blömstrom (1992) argue that the larger the technology gap, the greater the scope for learning by the local economy and hence the greater the spillover will be. On the other hand, Perez(1997) find that the relationship between the technology gap between the host and home economy is not clear cut and is subject to arguments. Contrary to this finding, Cantwell (1994); Glass and Saggi (1998), Kathuria(2000), Görg and Greenaway(2004) and Isabel et al (2006) find that the lower the technology gap between domestic and foreign firms the higher the ability of the domestic firms to capture the benefits created by the MNE presence. According to the findings, countries lagging too far behind may not be able to internalize these spillovers efficiently and hence spillovers are positive only for the firms belonging to low-technology sectors i.e. where the technology-gap between domestic and foreign firms is not high. But, the government in developing country having poor technology base attract MNCs with the intention of modernizing their economy and hence according to literature, it is difficult for developing countries to realize spillover as the technology gap is high.

2-6. On what base the spillovers reflected?

As pointed out by Gorg (2008),in addition to the inflow of hard currency, MNCs come with different firm specific assets (FSA) that might affect local firms. MNCs are often able to afford the high fixed costs for the: acquisition of latest production technology and development of transport and communications facility which will ultimately affect the production and marketing practices of local firms. There is no one that explains spillover from MNCs to local firms than Blomstrom & Kokko (1998). They classified all the externalities resulted because of the presence of MNCs in a more comprehensive ways as productivity spillovers effect and market access spillover effects.

2-6-1. Productivity Spillover Effect

Productivity spillover is found if the increased presence of MNCs leads to an increase in the output of local firms. There is strong relationship between the presence of MNCs and the productivity of local firms. According to Blomstrom and Kokko (1998), productivity spillovers are said to take place when the entry or presence of MNC affiliates lead to productivity or efficiency benefits in the host Country's local firms and the MNCs are not able to internalize the full value of these benefits. As explained by Blomström, Kokko, & Zejan, (1994), spillovers are measured as the impact of MNEs on the productivity in local firms.

Salomon (2006) ,Nicolini and Resimini (2007), Merlevede and Schoors(2008) and Gersl (2008) find that there are important positive productivity spillovers to local firms. But regardless of the evidence of productivity spillover, there is no consensus among authors about the productivity of spillover. For example, Patibandla& Sanyal (2005) find that in Indian post reform period's, entry of MNC has not lead to any notable exit of local firms. Narula and Guimón (2009) also conclude that "to what extent the local firms will be able to benefit from an increase in the quality of MNCs activity in the future?" is unclear. According to Mishra (2011) marginal and insignificant direct impact and mixed spill-over effects of MNCs inflow on the productivity of local firms. Researchers like Abereijo and Ilori (2012), pointed out that productivity of domestic firms depended on their accumulated technological capabilities as a result of continuous learning (knowledge) due to the influence of the spillover channels. According to findings, productivity improvement is the outcomes of other spillovers and mainly traced to knowledge, technology and innovation spillover.

2-6-2. Market access spillover

The facilities and networks established by export oriented MNCs may spillover and reduce the market access and production cost of local firms which enhance the local firms' propensity to export. Different literatures provide evidences about the correlation between presences of foreign export oriented firms and export trend of local companies. According to Aitken, Hanson, and Harrison, (1997) through export spillover; domestic firms can learn the related export information (for instance; foreign markets, exporting procedures, and choice of transportation) from multinationals firms, who already have the established exporting network; this learning could potentially benefit the indigenous firms as the penetrators to the foreign markets. They also find that the easy ways to join international market is interacting and learning the production and export activity of those nearby export oriented firms. This fact is strengthened by Blake et al (2009) conducted a study in China and confirm that the extraordinarily high export propensity of local firms is a result of export spillovers from MNCs. Dumont et al (2010), also find that MNCs will initiate non-exporting firm to export.

But as accentuated by researcher, this fact largely depends on the capacity of recipients. Exporting spillover amounts to: exporting exactly the same goods as market domestically, or modify the product and other marketing mix to suit foreign market condition, and/ or 100% domestic value addition".

2-6-3. Innovation Spillover Effect

It is well recognized that the presence of MNCs can have beneficial effects to innovation activity in the host country. For example, Cheung & Lin (2004) find that China's primary objective in the past two decades is to develop its domestic innovative capacity by bringing in foreign investment and technology. Likewise, as pointed out by Salomon (2006), the local firm may gain technological insights and use this knowledge to improve existing products or invent new ones. Moreover, Mayneris & Poncet (2015) confirms that most of the recent innovation and growth in Chinese exports is due to

foreign firms' spillover. Research finding confirms that firms that reach the foreign market directly rather than relying on export brokers should innovate more, as they maintain closer ties with their information conduits. In sum, exporters can access diverse knowledge inputs not available in the domestic market and this knowledge spills back to the local firm and results in increased innovation. On the other hand, those firms going in the international market can get exposure for new information, ideas and practices from which they take a lesson for innovation. As noted by Wolfmayr et al (2013), innovation related FDI inflows into the EU have a direct and significant effect on the innovativeness and the competitiveness of local firms. This holds for all types of investigated innovation outputs: product, process, organizational, marketing etc.

2-7. What are the outcome of MNCs spillover?

Since 1970s' many research has been conducted to explore the indirect effect of MNCs on local firms but find mixed and even contradicting outcomes. Some researchers conclude that there is positive spillover but weak while others find positive and strong spillover. Still others find negative spillover whilst others conclude that there is no relation at all. In the mean time others found relation but set precondition like absorptive capacity of recipient while others found positive spillover for horizontal but not for vertical linkage.

2-7-1. Positive spillover: Many findings confirm the proposition which says there is a positive spillover to local firms. For example, Caves (1974) applying econometric techniques to Australian industry level data on 22 industries at 2-digit level for 1962 and 1966, he finds that the coefficient for the foreign firms' presence is positive and significant. By the same token, many researchers likes Globerman (1979), Blomstrom & Persson (1983), Blomstrom (1986, 1989), Kokko (1992), Dunning (1993, 1994), Merlevede and Schoors(2011), Gersl (2008) and Aldaba & Aldaba (2012) find a positive spillover from MNCs to local firms.

2-7-2. Negative or weak spillover: as suggested by Aitken and Harrison (1999) and Konings (2001), MNCs are more efficient in production due to FSA and hence their production cost is lower. This enables MNCs to attract demand away from domestic firms, forcing local firms to reduce production i.e. results in negative spillover. Similarly, Taymaz and Lenger (2004) conclude that there is no evidence for positive spillovers from MNCs for domestic sector of Turkish manufacturing industry. Authos like Lall and Narula (2004) opined that while the potential for MNE-related spillovers is clear, the nature, level and extent of the benefits vary considerably, and the outcomes from MNCs are not always positive. Likewise, Kugler (2006) stated that technology diffusion from MNC subsidiaries to other plants is unlikely when those plants are direct competitors.

2-7-3. There is no clear relation: after conducting empirical study, some researchers find that there is no relation between presence of MNCs and productivity of local firms. For example, Haddad and Harrison (1993) have not found any relationship between the presence of FDI and productivity improvement of local companies. Moreover, Patibandla& Sanyal (2005) find that in Indian post reform period's, entry of MNC has not lead to any notable exit of local firms. Similarly, Aitken and Harrison (1999) noted that the empirical literature on the likely impacts of MNCs has been largely inconclusive for developing countries and transition economies. Taymaz and Lenger(2004) also study the productivity spillover effects of MNCs on local firms by taking the Turkish manufacturing industry and conclude that there is no evidence for positive spillovers from MNCs to domestic sector. Likewise, Narula and Guimón (2009) pointed out that "To what extent the local firms will be able to benefit from MNCs activity in the future?" is unclear and the exact nature of spillover in developed country is different from developing country.

2-7-4. ***There is correlation if condition are meet:*** it is commonly accepted that correlation between MNCs presence and local firm's internationalization propensity is subject to different conditions. Blomström & Kokko (1998) survey revealed that spillover occurrence is subject to the level of local firms' capability and competition in the host country. They also stated that differences are observed across countries and industry sectors and the positive effects of foreign investment are likely to increase with the level of local capability competition. According to Marin (2008) only

subsidiaries that are oriented to technologically creative activities have significant and positive effects in India. Kugler (2006) also state that export-oriented MNC subsidiaries yields spillover but restricted only to plants with foreign participation.

2-7-5. ***Vertical spillover but not horizontal*****:** as stated by researchers, foreign firms can have positive "spillover" effects on local competitors (horizontal spillovers) plus on upstream and downstream domestic firms (vertical spillovers). But researchers conclude contradicting findings. For example, some authors find negative or weak spillover for vertical than horizontal relations and some finds the opposite. For example, Marin & Bell(2006) find no evidence of significant horizontal spillover effects but find negative vertical spillover effects, although it is not statistically significant. In contrast, Anwar (2010) find evidence of the positive backward technological spillovers for the manufacturing and positive horizontal spillovers for the service sector. As suggested by Aldaba & Aldaba(2012), Productivity spillovers take place horizontally from multinational corporations to domestic firms within the same industry

2-7-6. Spillover is weak for developing countries: i*n the literature it is underlined that the results of spillover studies in developed countries can't be inferred in the same manner to developing countries as the business environments vary greatly. According to Haddad and Harrison (1993), there is little conclusive evidence indicating that domestic firms in developing countries benefit from foreign presence in their sector.*

2-8. Why the findings of Spillover vary from studies to studies?

Dusanjh and Sidhu(2010) pointed out that different studies analyzed various aspects of the presence of multinational companies in the host countries. Hence the difference in the finding is because of a number of factors ranging from data type to modeling techniques used. Gorg & Strobl(2001) find that productivity spillover studies do not seem to be affected by whether the studies use sector or firm level data, but that it is important whether the data used are cross-sectional or panel data. According to them, cross-sectional studies may overstate the spillover effects of MNCs on domestic productivity because they do not allow for other time-invariant firm or sector specific effects. Moreover, Görg and Strobl (2001), find evidence that there may be publication bias in the literature on spillovers.

3. Conclusions

The presences of MNCs have both direct and indirect effect on local firms in the host country. As stated in the literature, the indirect effect is less in developing country than developed country; on the other hand, host country in developing nation mainly focus on direct effect. The indirect effect in literature is referred as spillover. Researchers unanimously state employees' movement, linkage, completion, and demonstration as common spillover channels. But, there are different factors that affect the spillover occurrence; commonly stated factors that hindered spillover occurrences are: Absorptive Capacity of the Recipient, Restricted Movement of Trained Employees, R &D emphasis by MNCs and local firm, Investment policy of host country, ownership structure and culture, size and age of local firms, Technology gap. The existence of positive spillover is reflected on productivity improvement, ease foreign market access and facilitate innovation. Some research finding shows that there is positive spillover effect while others find positive but weak and still others find positive only under certain conditions. On the other hand, some find negative spillover while others find no relation at all. These differences in spillover can be explained by differences in data type and data analysis techniques and even there is publication bias. Generally, based on the host country's situations, the presence of MNCs either enhances local firm performance or deters their operations and hence it is naïve to expect only positive spillover from the mere presence of MNCs.

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