

## Exploring Aggregate FDI Spillovers: Factors, Explanations, and Empirical Evidence

Asim Imam<sup>1</sup>, Sajjad Ahmad<sup>2</sup>

### Abstract

*This paper explores the aggregate spillover of FDI to domestic firms yielded positive results. We discuss the explanations for those theories and the empirical evidence already identified. Spillovers for FDI are dependent on many factors, often with undetermined impact. Absorptive capacity is a fundamental requirement of FDI spillover for domestic firms. The empirical studies finding that results show positive effects in respect of the remaining factors like as skilled labour, institutional quality, flexible labour market, and economic freedom. The result suggests that financial developed institutions, better quality infrastructure, and flexible labour markets attract foreign investors.*

**Keywords:** FDI, determinant factors, absorptive capacity, productivity, spillovers

### Introduction

In most developing and developed countries, foreign direct investment has got major significance factor of economic growth and development. The inflow of foreign direct investment brought the prosperity and increased the living standard of people in the economy and increasing the internationalization of around the world and amalgamation of economies simulated by trade technology, capital and financial flow. Foreign direct investment mutually contributing directly to the growth and with foreign enterprises logically ready to invest in speedily rising economies, this idea is supported by the fact that speedily developing economies tend to absorb more foreign direct investment, but the direction of causality is ambiguous.

Sometimes multinational corporations have firm relevant welfare systems that could be linked to their extensive legacy of fixed assets, like marketing strategies, intellectual property, product names, superior technologies, patents, management strategies and so on (Dunning, 1993). Several of these advantages may not be entirely internalized when an international company has formed a subsidiary. The spread of production spillover from reputable foreign producers to internal ones is also a matter

---

<sup>1</sup> School of Economics and Management, University Putra Malaysia.

<sup>2</sup> Assistant Professor School of Business and Management, Minhaj University, Lahore, Pakistan.

of externalities. The foreign direct investment provides a greater awareness transfer strength through spillovers when multinationals firms are more efficient than local businesses. Foreign direct investment acts as a technological transfer vehicle, provides management knowledge and technologies and increases product diversity and assists domestic companies to enter the world's markets.

For international production, the choice of location rest on quite a few sets of factors, partly external and partly internal to companies. These factors are the so-called O.L.I model. (Dunning & Lundan, 2008) foreign direct investment takes place only if three sets of factors exit instantaneously: (i) The existence of ownership (O) specific advantages in a multinational firm;(ii) The existence of locational (L) benefits in both home and host countries; (iii) The presence of superior commercial welfares in misusing both O-type and L- type benefits internally (I) and directly rather than in replacing them on the marketplace through certifying. They rest on, on the one side, on the host country characteristics that permit a firm to develop ownership compensations and become international. On the other side, they depend on the home state appearances that permit foreign companies at present having ownership benefits to discover economic actions there (Caves, 1996).

This study aims to provide a complete overview of the determinants of this concept, both given the arguments already made and in terms of the empirical evidence. Section 2 provides the channels of technological diffusion (FDI spillover); Section 3 Determination of FDI spillover factors; Section 4 focuses on empirical evidence of determinants of FDI spillover and Section 5 summary.

## **TECHNOLOGICAL DIFFUSION CHANNELS**

Foreign direct investment spill over effects will take place across five major channels: Imitation /demonstration, mobility of labour, exports, competition, and forward and backward relationships with national firms

### **Horizontal channel**

#### **Demonstration/Imitation**

Probably the most apparent spillover channel is a demonstration (by M.N.E.s)/ imitation (by national firms) (Nelson & Phelps, 1966; Wang & Blomström, 1992). The FDI spillover results are stated to be higher than the "technology" impact by "learning" or imitation phase(Yunus & Hamid, 2019). It also appears that spillover benefits are better internalized by imitating a channel when international and domestic firms are geographically close. (Demena & van Bergeijk, 2019). The implementation of new technological advancements to a given market may be too risky and expensive for regional firms to pursue due to the costs involved in the development of its expertise and the insecurity of the outcomes that may be obtained. Local firms get the

two types of spillover benefits with imitation one is related to the product, and other is a technological process. In the technological process, the local firm adopts the management and marketing technique which is important and other is the similarity of products may not be relevant (Barrios & Strobl, 2002).

### **Labour mobilization**

This channel is different from other channels because technology moves across companies through the physical movement of workers exposed to technology. Technological spillover effects arising from foreign direct investment occur when a local firm subsequently employs this worker (Fosfuri, Motta, & Rønde, 2001; Glass & Saggi, 2002). Labour mobility is an essential method for sharing information between firms. Participating firms improve their performance and produce useful competitive knowledge that spills over to employees who have invested explicitly in the system and are disseminated to other firms by labour mobility (Victoria, Lucas, Alessandro, Sofia, & Rodolfo, 2019). The effect of FDI on production growth is positive and essential only after the host countries have achieved a certain level of flexibility in the labour market that enables the transfer of new knowledge to local firms through labour mobility (Nordin, Nordin, Mawar, & Norzalina, 2019).

### **Export**

The output of domestic companies is positively influenced by the strength of foreign R&D investment, the relative importance of the development of Multinational Enterprises (MNE) and the export activities of MNEs in the hosting sector. MNEs and indigenous firms' export have a strong positive relationship (Aitkan, H. Hanson, & Harrison, 1997; Greenaway, Sousa, & Wakelin, 2004). Local companies can decrease the cost of entry to the international market through foreign firms' export processes (via demonstration, or through collaboration in specific situations).

The gains thus obtained have beneficial effects on domestic companies' competitiveness. Industrial-level MNE R&D operations have adverse spillover effects on domestic companies' export engagement and ratios, which shows that MNEs tend to act as rivals, exhibiting business-stealing effects, rather than enhancing domestic firms' export activities (Kim & Choi, 2019).

### **Competition**

Competition between MNEs and domestic companies in the domestic economy is, on the one hand, an opportunity for domestic companies to use established technology and resources more effectively or to adopt new techniques. On the other hand, it could restrict the market power of domestic firms. Besides, domestic companies' performance may be adversely affected by that kind of method. Because the existence of MNEs can contribute to significant losses in their market shares, they

can work on an inefficient basis, leading to average costs. Competition by both foreign and domestic companies stimulates sales growth for domestic businesses. The competition enables domestic companies to use their resources and existing technologies more effectively or to look for new and better ones (Sinani & Meyer, 2004).

## **Vertical channel**

### **Backward linkage with a domestic firm**

Backward linkage is the relationships which domestic companies establish as suppliers to MNEs in the local market. With rising sale returns, domestic providers may benefit from MNEs if demand for local inputs is increased. MNEs can also benefit domestic suppliers by offering technical support for enhancing product quality or implementing technologies (e.g. by training people), providing help in the establishment of production facilities, purchasing raw materials and support for organic species in several ways to ensure a quality model (Lall, 1980).

### **Forward linkage of with domestic firm**

The most notable connection in the transmission system is in obtaining higher quality MNE inputs and at lower prices for domestic consumers. Nonetheless, the possibility that improving production efficiency will result in price increases cannot be eliminated. If domestic companies cannot take advantage of this improvement in quality, they will suffer the adverse effects associated with higher costs. In terms of higher quality materials, improved technology but lower prices, domestic firms profit more from buying from foreign firms with higher levels of service and goods, from downstream industries. There is a robust positive spillover effect from forwarding linkages created by foreign firms (Luo, 2018).

A brief overview of spillover channels indicates the presence and overlap of a variety of impacts that make it harder to develop a reasonable global expectation. Besides, " because the FDI spillover development process is dynamic and often interrelated, it is difficult to distinguish between one and the other.

## **Determinant Factors of FDI Spillovers – The Primary Justifications**

In this portion, we describe the different factors that have been considered up to now. We classify them into five categories: absorption ability and technical difference, regional effect, characteristics of the local firm, features of the FDI and other reasons

### ***Technological Gap and Absorptive Capacity***

Foreign direct investment spillovers are more closely examined by the absorption potential of domestic companies following the impact of technical differences between foreign and domestic enterprises. Defining the ability to absorb is "Absorption capabilities include the ability of others to internalize and adjust information in conjunction with their specific applications, procedures and routines" (Yunus & Hamid, 2019). The idea of the absorptive ability of based on countries' development level primarily its stock of human capital. Advanced technological countries and industries have a higher percentage of skilled workers(Borensztein, Gregorio, Lee, De Gregorio, & Lee, 1998). The concept of absorption capacity has also included other elements that could be defined as ' Supported Infrastructure '. Economic freedom is an essential part of the nation's capacity to absorb, and those nations with economic freedom can more easily absorb and adopt new technologies and other benefits associated with Foreign direct investment inflows(Azman-Saini, Baharumshah, & Law, 2010) and development of the financial market. The developed financial market encourages the phenomenon of FDI spillovers as it reduces the risks associated with acquisitions by domestic companies trying to replicate MNEs technologies(Azman-Saini, Law, & Ahmad, 2010). The association between the host country's level of development and the degree of FDI spillovers was developed for two more reasons. First, the profit-maximizing organization would most definitely want to invest in countries with more flexible labour markets in the form of the workforce mobility system. Through -the total cost of production experienced by a business, labour market regulations and standards raise FDI inflows through the efficiency process(Parcon, 2008). Secondly, it is seen as less possible for developing countries to draw MNEs with a secure link to local providers and customers (with lower absorbing capacity) (Rodriguez-cla Andres, 1996). Foreign direct investment spillovers will expand with the technical gap, the domestic corporation opportunities to achieve higher output rates by adopting foreign technologies (Hypothesis of technology catch-ups). However, the distance cannot be too vast, since this prevents domestic companies from taking advantage of the MNEs' technologies(Wang & Blomström, 1992). It is established that domestic companies need to have a moderate technology gap vis-à-vis MNEs to benefit from higher technologies linked to MNEs.

### **Regional Effect**

Through demonstration and imitation, labour turnover and inter-firm linkages, positive externalities can be transmitted from FDI. Moreover, the geographic absorption of economic activity can stimulate positive externalities as it enhances the existence and functioning of these channels. Geographically concentrated enterprises benefit from positive externalities of FDI, whereas less agglomerated industries do not experience such spillover effects(Jordaan, 2005). The

spillovers of knowledge have a positive effect on the formation of new regional companies. Regional sectoral specialization is more favourable to the formation of new firms than to sectoral flexibility and variety initiatives (Kanellopoulos & Fotopoulos, 2019). Lack of absorptive capacity of domestic economy FDI hurts the industry in the nation (Moussa, Amadu, & Boubakari, 2018). All regions have a positive spillover effect through backward linkage, and horizontal channel and forward linkage hurt total factor productivity growth (Huynh, Nguyen, Trieu, & Tran, 2019). Vertical connections are mainly confined regional basis due to cost of transport; finally, the effect of the competition is stimulated on a more limited scale, both in terms of positively and negatively aspects.

### **Characteristics of the domestic firm**

The domestic export capacity of companies was another factor that can influence the occurrence of spillovers. It is claimed that domestic exporting firms always face significant competitive pressure in the international market. Foreign direct investment and competition in imports strain domestic enterprises on both goods and labour markets and discourage domestic entry, while foreign direct investment inflows reduce domestic entry and boost domestic escape. (De Backer & Sleuwaegen, 2003). The technology gap is too broad, as would be the case in the less developed countries; the influence of competition exceeds the technology effect. Because of foreign competition, inefficient firms lose market share (Konings, 2001). FDI companies that are technologically significantly more advanced than domestic companies are more likely to create positive spillover between local firms. (Jordaan, 2013).

FDI at the stage of the four-digit sector reduces short-term productivity but enhances the long-term productivity growth rate of domestic businesses in the same industry. Backward linkages appear statistically as being the most significant channel from which spillover effects occur (Liu, 2008). Foreign direct investment has a positive relationship with domestic industry productivity and this positive relationship becomes more robust when domestic companies are more substantial, and the technology gap between FDI and domestic companies is intermediate (Yan Zhang, Li, Li, & Zhou, 2010).

### **Characteristics of foreign direct investment**

Among other aspects, the various FDI sources can be associated with many factors, including culture, language, technology levels, technology transfer modes, distance, and FDI sector structures. (Banga, 2003; Njikam & Leudjou, 2019). Claims that nationality-based variations are predicted from multiple sources as FDI can arrive with different level of technology and different modes of transition. The author states that Japanese FDI is typically a transition of standardized product technologies, given

the situation of the Japanese and US FDI to Indian. In turn, the US FDI is usually carried out in more technologically advanced sectors with more capital-intensive unstandardized goods that indicate a large gap between the existing sectors. (Ng & Souare, 2010) argues that FDI originating in the US has a significant favourable influence on the growth of TFP in the industries in which it works, whereas FDIs from Europe and other areas have no significant impact in Canadian industries. The spillovers of US domestic R&D to Canada is more significant than those from major European states. Therefore, Foreign direct investment from the United States creates positive spillovers in growth for Canadian firms in the same sectors. (Rodriguez-cla Andres, 1996) claims that the linking impact of multinationals on the host country becomes higher when the contact costs between both the headquarters and the production plant are high, as this provides a better motivation to buy specialist products in the host country. With geographical distance and with economic, social and legal disparities between the regions where the headquarters and the production plant are situated, it is reasonable to expect contact costs to rise. Consequently, multinationals create more interconnections when they come from regions that are more distant and different in terms of their cultural, social and legal structures.

Domestic FDI spillovers are also affected by FDI's entry mode. The technological transition has been reported to take place slowly whenever the MNE is joined by a merger or acquisition that prevents or at least stops spillovers. In comparison, the implementation of the new technologies is instant as the FDI takes place by greenfield investment. The MNE typically adopts the host nation's technology and thus reduces the spillover area. If FDI takes place through a merger or an acquisition, the starting point is the receiving country technology, that is more extensive for FDI spillovers by demonstration. Indian MNEs favour acquisitions if they are part of the high-tech industry and if there is a small cultural and administrative gap between Indian MNEs and the host nation. Larger company size and host nation experience, Indian MNEs choose greenfield investments (Rienda, Claver-Cortes, Quer, & Andreu, 2019). FDI exerts a positive impact on economic growth in both developed and developing countries through greenfield investments. Besides M&A hurts developing countries' economic growth (Neto, 2008). The degree of foreign ownership of investment projects is another determining factor of FDI spillovers. (Song, Konwar, & Berger, 2019) argues that The presence of wholly foreign-owned firms from institutionally close countries is likely to have a positive impact on the technological upturn in domestic firms. The existence of minority foreign-owned companies, regardless of institutional disparity, may hurt domestic technical catch-up

### **Other Factors**

Another aspect that could influence the incidence of spillovers is linked to domestic human capital (Batten & Vo, 2009) claims that in those states with higher

educational levels, more access to international trade, better stock market development, and low population growth rates and country risk, the FDI will have more substantial positive impacts on economic growth. Educational skilled domestic employment attracted foreign investment in the host country. According to (Borensztein et al., 1998) The effect of the FDI on economic growth depends on the level of available human capital in the host economy. There is a significant positive relationship between FDI and educational achievement rates. Foreign companies are more willing to invest in such counties with a higher proportion of qualified personnel. (Lai & Sarkar, 2019) Domestic labour qualification attracted foreign investment to the host country. Employee higher education (such as graduate level) has a strong positive impact on foreign investment inflows to Taiwan.

The financially developed market is another essential factor of inflows of foreign direct investment. Financially developed nations attract more MNC companies. Financial development in the host country is a crucial institutional aspect that dampens FDI's horizontal motive and encourages global vertical and export channel types(Bilir, Chor, & Manova, 2019). (Azman-Saini, Law, et al., 2010)claims that the positive influence of the Foreign direct investment on growth "kicks in" after the development of the financial market exceeds the threshold. More sophisticated financial systems contribute positively to the cycle of FDI-related technological diffusion. (Hermes & Lensink, 2003).

Better institutional environment is most important to attract foreign investors. The institutional quality, which offers low-risk volatility and a higher level of investment security, can create a better business environment and attract the inflows of foreign direct investment(Aziz, 2018). (Hsiao & Shen, 2003) argues that attracting FDI, economic growth, predictable behaviour, trust and commitment from governmental institutions, city infrastructure development, and reduce the tax rates are important factors. (Ayub, Azman-saini, Laila, Mongidd, & Ismaile, 2019) Argues that The FDI's growth-effect relies on the host nations ' degree of democracy. Countries that support democratic institutions will gain more from the spillovers of FDI, resulting in better growth output. FDI-Growth relation is determined by the level of flexibility of the labour market in the host nations. It indicates that the effect of FDI on production growth is positive and meaningful only after host nations have attained a certain degree of labour market flexibility that allows new expertise to be transmitted to local firms by labour mobility(Nordin et al., 2019).

In light of the contradictions in so many factors described in the preceding section, an empirical study is becoming more critical to explain the determinants of Foreign direct investment spillover. The empirical evidence in this area is considered.



### *Technological Gap and Absorptive Capacity*

In most studies on this subject, the value of absorptive capability emerges as a solid conclusion. (Azman-Saini, Baharumshah, et al., 2010) conclude based on generalized method-of-moment system estimator of 85 countries investigate a new facet (namely economic freedom) of absorptive capacity. The marginal effect of foreign direct investment on growth relies on the economic freedom activities in the host states. They give three main arguments; first foreign direct investment has no direct effect on the growth output. Second, economic freedom is an essential determinant of long-term growth and has a favourable direct relationship with development.

Moreover, finally, the impact of the FDI on development depends on the economic freedom level. According to (Huynh et al., 2019) in the six regions of Vietnam, Absorption capabilities — in financial development, human capital, and technological gaps still matter to FDI spillover effects. They can be a deterrent or facilitator to achieving positive externalities, and (Thuy, 2019) conclude for the case of Binh Dinh Province, Viet Nam, The economic rewards of FDI will be higher if the community has excellent infrastructure and human capital. So FDI facilitates economic growth in the region of Binh Dinh because Binh Dinh has enough human capital and infrastructure drivers. Improving infrastructure quality and labour quality impacts on local absorption capability. (Yunus & Hamid, 2019) claims in the case of Malaysia that Such spending in training and R&D has a positive effect on labour productivity, suggesting that both initiatives need to be further expanded to improve labour productivity development in the manufacturing sector, and FDI inflows should be further promoted to improve labour productivity by R&D activities. (Son & Hung, 2019) Used the 180 countries cross-section data and identified the absorption capacity directly and indirectly method. For the first strategy, factors are influencing the absorption capacity that includes productivity growth rate, savings-investment difference, and capital account accessibility. For the second approach, the financial development and degree of openness together develop the capacity to absorb. (Hanafy & Marktanner, 2019) conclude in the case of Egypt that, foreign direct investment service only encourages economic growth if the host governance has a minimum threshold level of domestic private investment requirement to absorb foreign technology and knowledge.

(Yuliani, Siregar, Widyastutik, & Rifin, 2019) Give the state in the case of Indonesia That the FDI spillover has a positive influence on domestic industry profitability which has the most substantial foreign investment with upstream and downstream ties. FDI's vertically and horizontally spillover on upstream links has a positive effect on big domestic firms with higher technology rates. (Farole & Winkler, 2012) use the 78 low and middle-income countries and result That the absorptive

capacities of a domestic company, especially a narrower technological difference, an advanced technology standard, a larger size, more agglomeration, and a higher export rate, have a more significant effect on FDI spillovers.

### ***Regional Effect***

Consideration of the national/regional aspect of spillover FDI is part of the spillover factor of foreign direct investment. (Ng & Souare, 2010) confirms that in the case of Canada that Foreign direct investment coming from the US has a strong positive effect on TFP growth in the markets in which it works, while FDIs from Europe and other areas have no significant impact. Regional R&D spillovers from the US to Canada are much higher than spillover effects from major European states. (Kanellopoulos & Fotopoulos, 2019) states the case of Greek that the spillovers of knowledge tend to have a positive impact on the development of new national companies. Regional sectoral specialization is more beneficial to the creation of new firms rather than to the complexity and variation of sectors. (Moussa et al., 2018) concluded in the case of Cameroon that Lack of domestic economy absorptive power FDI is hurting the nation's industry. (Huynh et al., 2019) explain in the study of Vietnam All regions have a strong positive spillover effect through backward linkage and horizontal channel and forward linkage hurt total factor productivity growth. (Jordaan, 2005) Foreign direct investment externalities are influenced by agglomeration, and Geographically concentrated companies gain from positive externalities to the FDI, while less agglomerated sectors do not encounter any spillover.

### **Characteristics of the Domestic Firm**

(Jordaan, 2013) investigate that FDI companies provide more technical assistance when there is a high level of technology gaps with domestic suppliers' firms. Inter-firm linkages serve as a significant medium for the transmission of technology transfers. FDI firms which are substantially more advanced technologically than domestic enterprises are more likely to generate beneficial externality. While (Yan Zhang et al., 2010) explain that the diversity of FDI country origins in the sector has a positive relationship with domestic industry productivity Domestic companies may profit from spillovers from the FDI depending on their ability to learn from foreign companies. Large companies and intermediate-tech firms with foreign companies seem to be better able to benefit from the FDI country's diversity (Shen, Wang, & Lin, 2019) conclude in the case of China that high productive domestic companies are close to the productivity frontier of the world, they will have a positive spillover effect from foreign firms entering. In comparison, lower-productivity domestic companies that are more isolated from the world production frontier would perform badly due to the arrival of foreign firms, adding to the negative spillover effect. (Li & Luo, 2019) in a study of West Midlands of England

observed that a strong and positive spillover effect occurs through forwarding linkages generated by foreign companies. (Kim & Choi, 2019) explain in the case of South Korea that industries with absorptive ability earn profit from intra-industry R&D activities, while those without absorptive capacity are adversely affected, which shows that MNEs' R&D activities at the industrial level tend to behave as rivals, displaying business-stealing results rather than enhancing domestic industries' export operations, And (Moussa et al., 2018) analyses in the case of Cameroon that FDI hurts manufacturing firms productivity. An improvement of 1 per cent in the output of foreign companies results in a decrease of 4.4 per cent in that of domestic companies.

In comparison, a 1% rise in multinational companies decreases domestic sales growth by 0.10%. (Njikam & Leudjou, 2019) concluded In the case of Cameroon, the American and European MNEs hurt local firms due to lack of absorption capacity.

### **Characteristics of Foreign Direct Investment**

(Fosfuri et al., 2001) and (Victoria et al., 2019) use panel data in the case of Argentina confirms that labour mobility is a significant tool for the transfer of knowledge among firms. Labour mobility generates and diffuses productive knowledge, and highly qualified workers learn most of them related to research practices and profit more from it. (Lai & Sarkar, 2019) examines in the case of Taiwan manufacturing firms that foreign companies are more interested in investing in countries which have a higher proportion of skilled workers. Domestic labour qualification attracted foreign direct investment to the host nation. Employee higher education (such as graduate level) has a significant positive impact on foreign investment inflows. (Shen et al., 2019) in the case of Chinese firms demonstrates that the entry of foreign firms will increase the efficiency of high-productivity firms and decrease the efficiency of low-productivity firms as the productivity gap widens. (Huynh et al., 2019) investigate in the case of Vietnam firms that the technical gap is the most significant barrier causing negative externalities via horizontal and forward spillover, especially in a low-tech economy such as Vietnam.

(Borojo & Yushi, 2020) examine in the case of African countries that African countries with a favourable business environment draws more FDI from China and Chinese FDI flows to African countries is driven by market size because it has a lot of workers and future customers required to promote the output. (Aibai, Huang, Luo, & Peng, 2019) Using data from 50 states connection the Belt and Road Initiative, FDI also plays a significant role in trying to promote the performance of the financial sector of the host state, specifically the financial access, efficiency and stability of that country. FDI not only encourages financial development in a host country but also enhances its financial efficiency while at the same time promoting both the quantity and quality of its financial growth. (Yi Zhang, 2019) Using the data of Chinese manufacturing companies shows that Positive vertical spillovers are higher in regions

which have a more reliable rule of law and contract enforcement through backward and forward linkages. (Ng & Souare, 2010) conclude in the case of Canadian firms that US foreign investment provides positive spillovers of productivity for Canadian-owned firms in the same sectors. US domestic Research and development spillovers to Canada are also much higher than spillover effects from major European states.

(Rienda et al., 2019) examine in the case of India that Indian MNEs favour acquisitions when the administrative and cultural gap between India and the host country is minimal. In comparison, a larger firm scale and more fabulous experience in the host nation-leading Indian MNEs to favour greenfield investments. Moreover, (Song et al., 2019) Indian study that the existence of entirely foreign-owned companies from institutionally neighbouring countries is likely to have a positive effect on the technological upturn in domestic companies. While minority foreign-owned firms, regardless of institutional differences, may harm domestic technological catch-ups.

### **Other Factors**

(Bilir et al., 2019) investigates in the case of US that Financially advanced countries attract more MNC companies. Financial development in the host country is a critical institutional factor that dampens the horizontal motive of FDI and promotes foreign styles of vertical networks and exports. (Aibai et al., 2019) Using data from 50 states connection the Belt and Road Initiative, that FDI encourages financial development in a host nation and also enhances its financial efficiency and at the same time promoting both the quantity and quality of its financial growth. (Azman-Saini, Law, et al., 2010) use the 91 cross country data and conclude that positive impact of the Foreign direct investment on growth "boosts up" after the development of the financial market exceeds the threshold level. (Hermes & Lensink, 2003) used the 67 countries data and shows that more advanced financial systems make a positive contribution to the technology diffusion process associated with the FDI.

(Borensztein et al., 1998) use the 69 developing countries data and conclude that the effect of the FDI on economic growth depends on the level of the human capital available in the host economy. Foreign companies seem to be more willing to invest with a higher proportion of qualified staff in these countries. (Batten & Vo, 2009) used the panel data of 97 countries and result that FDI has a more significant positive effect on economic growth in states with higher educational attainment, those more open to international trade, better stock market development, and lower population growth rates and country risk levels. (Lai & Sarkar, 2019) shows that in the case of Taiwan that domestic worker qualification drew host country foreign investment. Higher education for workers (such as graduate level) has a strong positive effect on foreign investment inflows into Taiwan. (Nordin et al., 2019) use 80 selected developing countries panel data and explore that The influence of FDI on

output growth is positive and substantial only after a certain degree of labour market flexibility has been attained by the host nations, allowing the transfer of new skills to local firms through labour mobility.

Another factor which has been explored is the Better institutional environment is essential for attracting foreign investors. (Ayub et al., 2019) use the data of 67 developing countries that growth-effect of FDI depends on the degree of the host countries ' democracy. In particular, the study demonstrates that countries that promote democratic institutions will gain more from the spillovers of FDI leads to better growth output. (Borojo & Yushi, 2020) conclude in the case of African countries that improvement in African countries ' institutional quality and business environment has a strong positive impact on the flow of Chinese Foreign direct investment to African countries. China's FDI is more drawn to African countries where law enforcement, property rights protection, and an autonomous and impartial judiciary are encouraged.

Business regulation and sound money also have a significant positive effect on the influx of Chinese FDI to Africa. (Aziz, 2018) explore the result in case of 16 Arab countries that, The institutional quality which provides stability at low risk and a higher level of investment protection creates a better business environment and attracts foreign direct investment inflows. (Azman-Saini, Baharumshah, et al., 2010) used the panel data of 85 countries and investigated the characteristic of absorptive capacity, which is economic freedom. Countries which support economic freedom gain benefit significantly from the presence of MNCs. In these nations, companies can easily absorb and adopt innovations and other benefits that come with FDI inflows. (Yi Zhang, 2019) in the case of Chinese manufacturing companies that protection of intellectual property rights reduces FDI's beneficial demonstrative effect on

the local production, while these adverse effects are lower for local firms with higher technical competence. For firms with strong relationship-specificity, vertical spillover effects are more substantial in regions with the better rule of law through backward and forward linkages.

## **Conclusion**

In this study, we have demonstrated a multitude of factors that exhibit correlations with foreign investment characteristics, extending beyond the receiving countries, industries, and firms which influence the spillover effects of FDI on domestic companies. Of particular significance is the empirical finding that domestic firms display a heightened capacity for absorbing spillovers from foreign investment. Additionally, limited empirical evidence suggests that FDI spillovers are more pronounced in developed nations, potentially leading to increased regional disparities

within each country. It is essential to emphasize that research on FDI spillovers is advancing beyond the general assessment of overall phenomena, focusing on a comprehensive and detailed analysis of the determining factors behind these externalities.

Furthermore, the empirical evidence highlights that Multinational Enterprises (MNEs) have a positive impact on host countries, especially when there is a moderate technological gap between domestic firms and MNEs, geographic proximity, and a sizable market in the host country with well-developed infrastructure.

Moreover, the study identifies economic freedom, democratic institutions, and institutional quality as crucial elements that can reduce risk volatility and enhance investment security, thereby fostering a conducive business environment that attracts FDI inflows. Additionally, countries with flexible labor markets and skilled labor are more likely to attract foreign direct investment on a larger scale, as such attributes amplify the positive effects of FDI on economic growth. This underscores the preference of foreign companies to invest in nations with a higher proportion of skilled workers.

## References

- Aibai, A., Huang, X., Luo, Y., & Peng, Y. (2019). Foreign Direct Investment, Institutional Quality, and Financial Development along the Belt and Road: An Empirical Investigation. *Emerging Markets Finance and Trade*, 00(00), 1–20. <https://doi.org/10.1080/1540496X.2018.1559139>
- Aitkan, B., H.Hanson, G., & Harrison, A. E. (1997). Spillovers, foreign investment, and export behaviour. *Journal of International Economics*, 43(1–2), 103–132. [https://doi.org/https://doi.org/10.1016/S0022-1996\(96\)01464-X](https://doi.org/https://doi.org/10.1016/S0022-1996(96)01464-X)
- Ayub, M., Azman-saini, W. n. w., Laila, N., Mongidd, A., & Ismaile, wan zulqurnain wan. (2019). Foreign Direct Investment and Economic Growth: The Role of Democracy. *Int. Journal of Economics and Management* 13, 13(18), 1–47.
- Aziz, O. G. (2018). Institutional quality and FDI inflows in Arab economies. *Finance Research Letters*, 25, 111–123. <https://doi.org/10.1016/j.frl.2017.10.026>
- Azman-Saini, W. N. W., Baharumshah, A. Z., & Law, S. H. (2010). Foreign direct investment, economic freedom and economic growth: International evidence. *Economic Modelling*, 27(5), 1079–1089. <https://doi.org/10.1016/j.econmod.2010.04.001>
- Azman-Saini, W. N. W., Law, S. H., & Ahmad, A. H. (2010). FDI and economic growth: New evidence on the role of financial markets. *Economics Letters*, 107(2), 211–213. <https://doi.org/10.1016/j.econlet.2010.01.027>
- Banga, R. (2003). *Do productivity spillovers from Japanese and U.S FDI differ?* Rashmi Banga. Retrieved from <http://hdl.handle.net/1885/40325>
- Barrios, S., & Strobl, E. (2002). Foreign direct investment and productivity spillovers: Evidence from the Spanish experience. *Weltwirtschaftliches Archiv*, 138(3), 459–481. <https://doi.org/10.1007/BF02707949>
- Batten, J. A., & Vo, X. V. (2009). An analysis of the relationship between foreign direct investment and economic growth. *Applied Economics*, 41(13), 1621–1641. <https://doi.org/10.1080/00036840701493758>
- Bilir, L. K., Chor, D., & Manova, K. (2019). Host-country financial development and multinational activity. *European Economic Review*, 115, 192–220. <https://doi.org/10.1016/j.euroecorev.2019.02.008>
- Borensztein, E., Gregorio, J. De, Lee, J. W., De Gregorio, J., & Lee, J. W. (1998). How does foreign direct investment affect economic growth? *Journal of International Economics*, 45(1), 115–135. [https://doi.org/10.1016/S0022-1996\(97\)00033-0](https://doi.org/10.1016/S0022-1996(97)00033-0)

- Borojo, D. G., & Yushi, J. (2020). The impacts of institutional quality and business environment on Chinese foreign direct investment flow to African countries. *Economic Research-Ekonomska Istrazivanja*, 33(1), 26–45. <https://doi.org/10.1080/1331677X.2019.1696691>
- Caves, R. E. (1996). *Multinational enterprise and economic analysis*. Cambridge University Press.
- De Backer, K., & Sleuwaegen, L. (2003). Does foreign direct investment crowd out domestic entrepreneurship? *Review of Industrial Organization*, 22(1), 67–84. <https://doi.org/10.1023/A:1022180317898>
- Demena, B. A., & van Bergeijk, P. A. G. (2019). Observing FDI spillover transmission channels: evidence from firms in Uganda. *Third World Quarterly*, 40(9), 1708–1729. <https://doi.org/10.1080/01436597.2019.1596022>
- Dunning, J. H., & Lundan, S. M. (2008). Institutions and the OLI paradigm of the multinational enterprise. *Asia Pacific Journal of Management*, 25(4), 573–593. <https://doi.org/10.1007/s10490-007-9074-z>
- Farole, T., & Winkler, D. (2012). *Foreign Firm Characteristics, Absorptive Capacity and the Institutional Framework: The Role of Mediating Factors for FDI Spillovers in Low- and Middle-Income Countries*. (November), 58 pages.
- Fosfuri, A., Motta, M., & Rønne, T. (2001). Foreign direct investment and spillovers through workers' mobility. *Journal of International Economics*, 53(1), 205–222. [https://doi.org/10.1016/S0022-1996\(00\)00069-6](https://doi.org/10.1016/S0022-1996(00)00069-6)
- Glass, A. J., & Saggi, K. (2002). Multinational firms and technology transfer. *Scandinavian Journal of Economics*, 104(4), 495–513. <https://doi.org/10.1111/1467-9442.00298>
- Greenaway, D., Sousa, N., & Wakelin, K. (2004). Do domestic firms learn to export from multinationals? *European Journal of Political Economy*, 20(4), 1027–1043. <https://doi.org/10.1016/j.ejpoleco.2003.12.006>
- Hanafy, S., & Marktanner, M. (2019). Sectoral FDI, absorptive capacity and economic growth—empirical evidence from Egyptian governorates. *Journal of International Trade and Economic Development*, 28(1), 57–81. <https://doi.org/10.1080/09638199.2018.1489881>
- Hermes, N., & Lensink, R. (2003). Foreign direct investment, financial development and economic growth. *Journal of Development Studies*, 40(1), 142–163. <https://doi.org/10.1080/00220380412331293707>
- Hsiao, C., & Shen, Y. (2003). Foreign direct investment and economic growth: The



- importance of institutions and urbanization. *Economic Development and Cultural Change*, 51(4), 883–896. <https://doi.org/10.1086/375711>
- Huynh, H. T. N., Nguyen, P. V., Trieu, H. D. X., & Tran, K. T. (2019). Productivity Spillover from FDI to Domestic Firms across Six Regions in Vietnam. *Emerging Markets Finance and Trade*, 00(00), 1–17. <https://doi.org/10.1080/1540496X.2018.1562892>
- Jordaan, J. A. (2005). Determinants of FDI-induced externalities: New empirical evidence for Mexican manufacturing industries. *World Development*, 33(12), 2103–2118. <https://doi.org/10.1016/j.worlddev.2005.07.007>
- Jordaan, J. A. (2013). Firm heterogeneity and technology transfers to local suppliers: Disentangling the effects of foreign ownership, technology gap and absorptive capacity. *Journal of International Trade and Economic Development*, 22(1), 71–93. <https://doi.org/10.1080/09638199.2013.745282>
- Kanellopoulos, V., & Fotopoulos, G. (2019). The effect of knowledge spillovers on regional new firm formation: The Greek manufacturing case. *Environment and Planning A*, 51(4), 1005–1030. <https://doi.org/10.1177/0308518X18820078>
- Kim, M., & Choi, M. J. (2019). R&D spillover effects on firms' export behavior: evidence from South Korea. *Applied Economics*, 51(28), 3066–3080. <https://doi.org/10.1080/00036846.2018.1564120>
- Konings, J. (2001). The effect of FDI on domestic firms ,Evidence from firm-level panel data in emerging economies1. *Economics of Transition*, 9(3), 619–633. <https://doi.org/10.1111/1468-0351.00091>
- Lai, Y., & Sarkar, S. (2019). Labor Legislation , Educated Labor & Foreign Direct Investment in Manufacturing in Taiwan. *Indian Journal of Industrial Relations*, 55(1).
- Lall, S. (1980). Vertical inter-firm linkages in IDCs: An empirical study. *Oxford Bulletin of Economics and Statistics*, 42(3), 203–226. <https://doi.org/10.1111/j.1468-0084.1980.mp42003002.x>
- Li, C., & Luo, Y. (2019). Spillover Effects of Foreign Direct Investment: Evidence from the West Midlands of England. *Economic Issues*, 24(Part 1), (In-Press).
- Liu, Z. (2008). Foreign direct investment and technology spillovers: Theory and evidence. *Journal of Development Economics*, 85(1–2), 176–193. <https://doi.org/10.1016/j.jdeveco.2006.07.001>
- Luo, C. L. and Y. (2018). Spillover Effects of Foreign Direct Investment: Evidence from the West Midlands of England. *Economic Issues*, 24(Part 1), (In-Press).

- Moussa, B., Amadu, I., & Boubakari, O. A. I. (2018). The Impact of Foreign Direct Investment on the Productivity of Manufacturing Firms in Cameroon. *Journal of Economics and Development Studies*, 25(2), 37–54. <https://doi.org/10.15640>
- Nelson, R. R., & Phelps, E. S. (1966). investment in Humans, Technological Diffusion. *The American Economic Review*, Vol. 56, pp. 69–75. Retrieved from <http://www.jstor.org/stable/1821269>
- Neto, P. (2008). *The Impact of FDI , Cross Border Mergers and Acquisitions and Greenfield Investments on Economic Growth*. (October).
- Ng, E. C. Y., & Souare, M. (2010). Inward FDI and Productivity Performance in Canadian Industries: Does the Country of Origin Matter? *Transnational Corporations Review*, 2(3), 72–90. <https://doi.org/10.1080/19186444.2010.11658251>
- Njikam, O., & Leudjou, R. R. N. (2019). Productivity spillovers through backward linkages: The role of the origin of investors and absorptive capacity of domestic firms. *Review of Development Economics*, 23(2), 677–701. <https://doi.org/10.1111/rode.12579>
- Nordin, N., Nordin, N., Mawar, M. Y., & Norzalina, N. (2019). Growth effect of foreign direct investment: The role of labor market flexibility. *Economic Journal of Emerging Markets*, 11(1), 19–31. <https://doi.org/10.20885/ejem.vol11.iss1.art3>
- Parcon, H. (2008). Labor Market Flexibility as a Determinant of FDI Inflows. *Working Paper No. 08-07*, (08–07), 1–50. Retrieved from [http://www.economics.hawaii.edu/research/workingpapers/WP\\_08-7.pdf](http://www.economics.hawaii.edu/research/workingpapers/WP_08-7.pdf)
- Rienda, L., Claver-Cortes, E., Quer, D., & Andreu, R. (2019). Greenfield investments or acquisitions? The influence of distance on emerging-market multinationals. *Management Decision*, 57(5), 1223–1236. <https://doi.org/10.1108/MD-02-2017-0154>
- Rodriguez-cla Andres. (1996). Multinationals , Linkages , and Economic Development. *American Economic Association Stable*, 86(4), 852–873. Retrieved from <http://www.jstor.org/stable/2118308> Accessed:
- Shen, J. H., Wang, H., & Lin, S. C. C. (2019). Productivity Gap and Inward FDI Spillovers: Theory and Evidence from China. *SSRN Electronic Journal*, 1–22. <https://doi.org/10.2139/ssrn.3353793>
- Sinani, E., & Meyer, K. E. (2004). Spillovers of technology transfer from FDI: The case of Estonia. *Journal of Comparative Economics*, 32(3), 445–466.

<https://doi.org/10.1016/j.jce.2004.03.002>

- Son, N. H., & Hung, L. D. (2019). Foreign Direct Investment Absorption Capacity. *Journal of International Commerce, Economics and Policy*, 10(1), 1–16. <https://doi.org/10.1142/S1793993319500042>
- Song, Y., Konwar, Z., & Berger, R. (2019). Institutional Differences, Foreign Ownership Modes, Marketing Capabilities and Domestic Technological Catch-up: Evidence from India. *Science, Technology and Society*, 24(2), 338–364. <https://doi.org/10.1177/0971721819842010>
- Thuy, N. T. T. (2019). The Role of Absorptive Capacity in the Relationship Fdi and Economic Growth: A Case Study of Binh Dinh Province, Viet Nam. *Journal of Business Management and Economic Research*, 6(3), 25–38. <https://doi.org/10.29226/tr1001.2019.131>
- Victoria, C., Lucas, F. G., Alessandro, M., Sofia, R., & Rodolfo, S. (2019). Knowledge Spillovers through Labour Mobility: An Employer–Employee Analysis. *Journal of Development Studies*, 0(0), 1–20. <https://doi.org/10.1080/00220388.2019.1605057>
- Wang, J. Y., & Blomström, M. (1992). Foreign investment and technology transfer. A simple model. *European Economic Review*, 36(1), 137–155. [https://doi.org/10.1016/0014-2921\(92\)90021-N](https://doi.org/10.1016/0014-2921(92)90021-N)
- Yuliani, F., Siregar, H., Widyastutik, W., & Rifin, A. (2019). the Impact of Foreign Direct Investment Spillover, Technology and Firm Size on the Productivity of Domestic Firm in Food Industry. *International Journal of Economics and Financial Issues*, 9(3), 287–296. <https://doi.org/10.32479/ijefi.7905>
- Yunus, N. M., & Hamid, F. S. (2019). Training, research and development, and spillover effects of foreign direct investment: A study on labour productivity in malaysian manufacturing industry. *International Journal of Supply Chain Management*, 8(3), 966–972.
- Zhang, Yan, Li, H., Li, Y., & Zhou, L. (2010). FDI spillovers in an emerging market: The role of foreign firms' country origin diversity and domestic firms' absorptive capacity. *Strategic Management Journal*, 989(October 2008), 1–43. <https://doi.org/10.1002/smj.856>
- Zhang, Yi. (2019). Institutions, Firm Characteristics, and FDI Spillovers. *Emerging Markets Finance and Trade*, 55(5), 1109–1136. <https://doi.org/10.1080/1540496X.2018.1523057>