TRENDS AND PROSPECTS OF OUTWARD FOREIGN DIRECT INVESTMENT IN SELECT ASIAN ECONOMIES

A Thesis

Submitted in partial fulfillment of the requirements for the

award of the degree of

DOCTOR OF PHILOSOPHY

In

Economics

By

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LOVELY PROFESSIONAL UNIVERSITY

PUNJAB

2021

विद्या ददाति विनयं विनयाद् याति पात्रताम्।
पात्रत्वाद्धनमाप्नोति धनाद्धर्मं ततः सुखम्॥

Knowledge makes one humble, humility begets worthiness, worthiness creates wealth and enrichment, enrichment leads to right conduct, and right conduct brings contentment.

(विद्या से विनय (नम्रता) आती है, विनय से पात्रता (सजनता) आती है, पात्रता से धन की प्राप्ति होती है, धन से धर्म और धर्म से सुख की प्राप्ति होती है ।

DECLARATION

I declare that the thesis entitled **"Trends and Prospects of Outward Foreign Direct Investment in Select Asian Economies"** has been prepared by me under the guidance of Dr. Vishal Sarin, Professor, Mittal School of Business, Lovely Professional University. This thesis is a presentation of my original research work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions. No part of this thesis has formed the basis for the award of any degree or fellowship previously.

SURESH KUMAR

Date:

CERTIFICATE

I certify that Suresh Kumar has prepared his thesis entitled **"Trends and Prospects of Outward Foreign Direct Investment in Select Asian Economies"** for the award of Ph.D. degree of Lovely Professional University, under my guidance. He has carried out the work at the Mittal School of Business, Lovely Professional University.

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ABSTRACT

Globalization is a process in which borders of the countries do not matter as such for the movement of goods & services, capital flows, technology and people. Another important aspect that is related to the phenomenon of globalization is "Multilateralism". For the effectiveness of the later the former is an essential precondition. Even the economic reforms introduced through WTO agreement are also based on the same objectives. The aspect of multilateralism is based on the principle of 'allocative efficiency'. It means countries export to the best possible destinations and also import from the best possible source. In terms of foreign direct investment (FDI) flows, allocative efficiency means, receiving capital from the best possible source and investing capital to the best possible destination, rather than receiving and investing on bilateral basis. FDI facilitates 'comparative advantage type' specialization in a larger magnitude than that from international trade, as pure exporters have to bear differential cost related to export-marketing but MNCs are exempted from some of these costs (Hirsch 1976). In the process of globalization, international capital flows in the form of foreign direct investment have become more efficient alternative for the international reallocation of production than the trade and therefore in the international economic relations, international trade flows are gradually being replaced by international capital flows (Sinha, 2013).

The World economy has witnessed a significant increase in the volume and importance of foreign direct investment (FDI) in the last two decades. . In 1970 global FDI outflows were US $14 billion that increased to US$ 1.7 trillion in 2015 and 1.3 trillion in 2019 (World Investment Report, UNCTAD, various issues). Even the developing economies are increasingly participating in this process of outward FDI. For the developing economies of the world the phenomenon of 'Reverse FDI' has emerged. It means the developing economies which were initially considered as the net importers of FDI have now emerged as the net exporters of FDI. In the year 2000, share of developing economies in the world OFDI was just 7.90 percent that increased to 44.93 percent in the year 2018. On the other hand the share of developed economies in the world FDI outflows reduced from 92.10 percent in 2000 to 55.07 percent in 2018. Initially, the developing economies were internationalizing their

operations through the mode of exporting only but now the situation has changed and outward FDI has become an important mode of internationalizing the operations.

If FDI outflows from the world are studied region-wise then we will find that Asian economies are contributing a very significant share. During the initial years large part of FDI was coming from the European economies. In the year 2005, 73.6% contribution in world OFDI was coming from the economies of Europe like France, United Kingdom, Italy, Canada, Spain and Germany. But with the passage of time this share kept on falling and a time also came when in 2014, share of European economies fell down to just 19.3 percent and in 2019, the European economies contributed 36.1 percent share in world FDI outflows. On the other hand the share of Asian economies in world FDI outflows is continuously increasing. In 2005, Asian economies were contributing 16.5 percent share in world FDI outflows that increased to 42.1 percent in 2014, 54.3 percent in 2018 and in 2019, 43.3 percent FDI came from the economies of Asia. It means more than half of the FDI is contributed by the Asian economies. Not only in the field of outward FDI but in other fields also Asian region is making significant progress. Asia is the fastest growing economic region and this region is the largest continental economy in terms of GDP nominal and PPP in the world. China, Japan, India, South Korea and Indonesia are currently the top economies of Asia.

As, there is significant increase in the flow of global FDI, researchers and academicians started raising fears and hopes about the potential effects of these FDI flows. The rising importance of OFDI and its emerging role to augment economic development encourage researchers to write voluminous literature on various facets of OFDI from different countries and group of countries. FDI is a composite package. It includes not only physical capital but also goods and services, techniques of production, managerial and marketing expertise (Thirlwall, 1994).The FDI which is undertaken by Multinational Corporations(MNCs) has its effects not only on the host economies (recipients of FDI) but also on the home economies (source economies) in many ways. It implies that it is not only the inward foreign direct investment (IFDI) that has its economic implications but outward foreign direct investment (OFDI) has also its effects on the economies of the investing countries.

In this situation an important question that comes in the mind is that whether these economies are moving in the right direction or not. Therefore from the point of view of both managerial and policy interests, it is extremely important to know the impact of these cross border activities on the efficiency levels of economies of these countries so as to understand how the economies have been reacting to these emerging challenges and which type of economies are performing better than others in this period of transition. The study of this topic is important not only for the developed countries, (in which there are high OFDI stock), but also for the developing economies (in which levels of OFDI are high, but still OFDI potential is unexploited).

The extensive survey of the vast literature in this study, provide sufficient reasons to believe that there are many empirical and logical explanations for the impact of FDI outflows on the home economies, but they gave the mix results and could not succeed in establishing a universal application. The mix results in the empirical studies are not surprising because different studies have used different sample countries, different time periods and different methodologies to study the impact of OFDI on home economy. In the present context, it has also been seen that most of the studies have discussed the impact of FDI outflows with reference to advanced economies of Europe with very small number of studies providing evidences from the view point of economies of Asia. Therefore, in this study an attempt is made to explore the effects of these cross border activities of the MNCs of the select Asian economies on the different economic parameters of the Asian economies. Moreover, in the study, attempt is also made to find various 'push factors' (home country factors) that influence the decision of the firms of select Asian economies to invest abroad.

For this purpose, a detailed study was conducted by taking the panel data of twelve Asian economies. For the purpose of the study, the data relating to different country groups and the select Asian economies for the time period of 39 year (1981-2019) was obtained from various reports like World Investment Reports, World Development Indicators and also from the online sources of UNCTAD, World Bank, IMF, and RBI. The twelve economies of Asia are selected on the basis of a specific criterion. The selected twelve economies are the main investing economies of Asia

and in the year 2018, out of total outward FDI of the Asian region 96.47 percent was contributed by these twelve elect Asian economies. Out of these twelve select Asian economies, nine countries were also in the list of 'Top 20 investing economies' of the world (World Investment Report, 2019).

For the analysis of data various statistical and econometric techniques like averages, Compound Annual Growth Rate, growth Indices, Pattern of Rank dominace, panel unit root, panel VAR model, Fixed Effect model, Wald test, panel ARDL model, Granger Causality test, Impulse Response Function, Variance Decomposition Function etc. are applied on the panel data as well as the time series data of the select Asian economies using MS Excel (version 2010) and Eviews 9 softwares.

Regarding the trend and pattern of OFDI in select Asian economies the study found that economies of Asia have emerged as a major source of foreign direct investment. Compared to the investment scenario of two decades back, the current investment scenario has shown a sea change and the economies of Asia are displaying their increasing competitiveness. This rising trend of OFDI from Asian economies is a clear signal that the competitiveness of the firms of Asia is increasing. In the year 2005, contribution of Asian economies in the world FDI outflows was just 16.5 percent and that of European economies during the same year was 73.6 percent. But over the period of time the situation has not only changed rather reversed and the Asian economies are now contributing larger share in world OFDI than European economies. In the year 2018, out of the total world OFDI, share of Asian economies was 54.3 percent and that of European economies was 41.6 percent.

Regarding exploring the nature of relationship between outward foreign direct investment and domestic investment, the study did not find evidence of relationship between them. The robustness of the results was checked using different econometric techniques like VAR model, Wald test, Impulse response function, Variance Decomposition Function and Granger Causality test. The similar results obtained through different techniques gave robustness to the results. The results of the study suggest that the investing countries should not be suspicious about the impact of

outward foreign direct investments on their domestic investments. It means rising outward foreign direct investment may not be at the cost of domestic investment. In China, Hongkong, India, Korea, Malaysia, Singapore, Thailand and UAE, the study did not find the evidence that outward foreign direct investment is at the expense of domestic investment. In this way, the 'No causal relationship' between OFDI and DI was found not only on aggregate basis but also on individual country basis for most of the select economies.

For analyzing the relationship between outward foreign direct investment, economic growth and export the study applied panel cointegartion test, panel ARDL model and Granger Causality test and found the evidences that there exists significant long run relationship among these variables. The results of the study found a causal chain relationship between these variables in which higher economic growth leads to higher exports and higher export leads to higher outward FDI and higher OFDI leads to higher economic growth.

In the study an attempt was also made to analyze the Investment development Path in the select Asian economies. This IDP theory which is considered as the basic foundation in the subject of Outward Foreign Direct Investment hypothesizes a relationship between a country's level of economic development (for which GDP per capita is used as proxy) and its international investment position (Net FDI stock i.e. outward minus inward FDI stock). For analyzing the IDP in the select Asian economies the study employed quadratic form regression equation on the panel data as well as on the time series data of each of select Asian economy and found that the growth pattern of the Net outward FDI in these Asian economies is in accordance with the pattern proposed by Dunning in his IDP paradigm. On applying quadratic regression equation of NOIP on PGDP and $PGDP^2$, the study found that for China, Hongkong, Taiwan, India, Indonesia, Japan, Korea, Malaysia, Saudi Arabia and Thailand, their NOIP is following the IDP framework as the plot of their NOI is found to be 'U-shaped'. But for Singapore and UAE, the plot of regression equation of NOIP on PGDP and $PGDP^2$ was not found to be of 'U-shape'. It implies that only in these two countries, the growth of NOIP is not following the hypothesized IDP framework of Dunning.

Results of Fixed Effect Model used for exploring the determinants of outward FDI in the select Asian economies reveal that GDP, GDP per capita, GDS, Openness to trade, CPI and Exchange Rate significantly influence the outward FDI decisions. Out of these the effect of GDP per capita and exchange rate on outward FDI is negative and the effect of other factors on OFDI is positive. On the other hand inward FDI position and foreign exchange reserves were not found to be significantly influencing the Outward FDI decisions. Besides, the effect of dummy added to estimate the effect of worldwide financial crisis (2007-2009) also found to be insignificant.

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ACKNOWLEDGEMENT

Research work required a lot of hard work, patience, dedication and concentration which was not possible without the whole-hearted support. Thanks to the Almighty God for the blessings on me in reaching this stage and guiding through the thick and thin during this period.

I am extremely thankful to my supervisor Dr. Vishal Sarin for his consistent encouragement, admirable guidance, patience and accessibility during the entire journey of this Ph.D. Really, I feel privileged to be associated with a mentor like him. Despite his busy schedule, he has been always available all the time and devoted good time, energy and proper advice whenever required. That has undoubtedly helped me to articulate my ideas in my own language and style. His continuous support helped me in sailing through the tough time and completed this enormous task. He has given me untiring help, painstaking guidance and consistent encouragement from the very inception of the work, without which this thesis could never have been possible.

I have heartiest gratitude to Dr. Sanjay Modi, Professor and Executive Dean, Faculty of Business and Arts, Lovely Professional University for his kind support, advice and motivation. I am also thankful to Dr. Rajesh Verma, Professor and Head of School, Mittal School of Business for his constructive suggestions for improvement of the study. I am very much thankful to the panel members for their suggestions and comments during my progress report presentations that have significantly contributed in refining this thesis to its present shape. I am thankful to all the faculty members of the department of Economics, Mittal school of Business, LPU for their help to reach at this stage.

No research is possible without the library, the center of learning and I take this opportunity to express my gratitude to all the library staff of LPU for their services. I really appreciate the unparalleled assistance given by the staff of Centre for Research Degree Programme and Research Degree Cell, Lovely Professional University, especially Dr. Rekha, Dr. Naveen Chandra Talniya and Dr. Akash Bhardwaj during the entire span of my Ph.D. work.

The acknowledgement would however remain incomplete without mentioning the names of my family member, my father Mr. Surinder Mago, My mother Mrs. Sushil Mago, My better-half Mrs. Sumidhi Mago, my sixteen-year-old daughter Ms. Gunnidhi Mago, My ten-year-old son master Daivik Mago for their consistent care and sacrifices. I acknowledge their contribution in the completion of this research work and I feel sorry to them that due to my engagements in Ph.D. work I was not available, when I was most needed to them. I owe everything to them whose support and faith in me enthused me to maintain the tempo of research needed in a task of this nature.

Finally, I am thankful to each and every person who has directly or indirectly helped and motivated me in this task.

Suresh Kumar

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ABBREVIATIONS

CAGR	Compound Annual Growth rate
CPI	Consumer Price index
DI	Domestic Investment
ECT	Error Correction Term
EXRATE	Exchange Rate
FDI	Foreign Direct Investment
FOREX	Foreign Exchange Reserves
GCF	Gross Capital Formation
GDP	Gross Domestic Product
GDS	Gross Domestic Savings
GI_{OFDI}	Growth Index of Outward FDI
IDP	Investment Development Path
IFDI	Inward FDI
IMF	International Monetary fund
IRD	Index of Rank Dominance
MNC	Multi-National Corporation
OLI	Ownership, Location and Internalization
OPENESS	Openness to Trade
PGDP	Per Capita Gross Domestic Product
RIRD	Relative Index of Rank Dominance
TNC	Transnational Corporation
UNCTAD	United Nation Conference on Trade and Development
VIF	Variance Inflation Factor
WIR	World Investment Report

CHAPTER: 1

INTRODUCTION

The relationship between international investment and economic development has always been a favorite topic in international economics and therefore widely studied by growth researchers and scholars in the field on international investment. One of the initial steps in this direction was the Product Life Cycle Theory propounded by Vernon (1966). This theory concentrated on the relationship between outward FDI outflows and exports by relating the product nature and the level of development of the country. According to Vernon product development generally passes through three phases: (a) new product (b) maturing Product and (c) standardized Product. During the first phase the product is manufactured by the mother company and then in the second stage by the subsidiary of the mother company and thereafter the same product is produced by any other company at anywhere in the world where it can be produced at the lowest possible cost. This theory also explained how during the initial phase of the product development a country is the exporter of that product and in the last stage that country ends up as an importer of the same product. Further, Vernon associated these three product stages with the level of economy's development namely developing economies, developed economies and most developed economies. Hirsch (1976) borrowed the idea of Vernon and elaborated it further in the form of his famous International Trade and Development Theory, in which he focused on the firm specific factors of international production for producing revenue. The study maintained that in the FDI and trade related decisions of a firm, the firm specific activities via information, communication and transaction costs are very important. The study also highlighted that outward foreign direct investment (OFDI) facilitates 'comparative advantage type' specialization in a larger magnitude than that from international trade, as pure exporters have to bear differential cost related to export-marketing but MNCs are exempted from some of these costs. The MNCs also enhance the gains from international trade as they intend to transfer manufacturing units to least-costs locations and then supply products to all the markets including their own home markets (Hirsch, 1976).

During the last two decades the world economy has witnessed a significant increase in the volume and importance of foreign direct investment (FDI). In 1970 global FDI flows were US $14 billion that increased to US$ 1.7 trillion in 2015 and 1.3 trillion in 2019 (World Investment Report, UNCTAD, various issues).This vast expansion in international movement of capital and the continuous growth of transnational corporations during the past two decades has changed the structure of foreign trade also (Nayak & Choudhury, 2014). Moreover, nearly one-third of the foreign trade is happening between the intra-firms (UNCTAD, 2004). Helpman et al., (2004) also agree with the fact the tremendous increase in the sales of transnational corporations during the last two decades has even surpassed the growth of trade in goods. In the process of globalization, international capital flows have become more efficient alternative for the international reallocation of production than international trade and therefore in the international economic relations, international trade flows are gradually being replaced by international capital flows (Sinha, 2013). It is because of this reason that the trade literature has also changed and is incorporating different modes through which foreign markets can be accessed. New literature suggests that foreign markets can be served through different channels like exports to foreign countries, or by establishing subsidiaries in the host country (outward FDI) or through licenses granted to foreign firms to produce and sell the products of that firm. But, on many measures, the foreign direct investment has emerged as a more powerful way of internationalizing operations of a firm than foreign trade (Graham, E. M. 1996; Helpman et al., 2004). FDI, which is the primary vehicle through which MNCs operate their global activities, is sought eagerly even by the third world economies. The desirability of FDI over other type of international financial flows is proved even during Asian Financial Crisis of 1997, as after this crisis the FDI to the affected areas was more stable than other kind of international financial flows (Graham & Wada, 2001).

Since there is significant increase in the flow of global FDI, researchers and academicians started raising fears and hopes about the potential effects of these FDI flows. FDI is a composite package. It includes not only physical capital but also goods and services, techniques of production, managerial and marketing expertise

(Thirlwall, 1994).The FDI which is initiated by Multinational Corporations(MNCs) has its effects not only on the destination economies (recipients of FDI) but also on the home economies (source economies) in many ways. It implies that it is not only the inward foreign direct investment (IFDI) that has its economic implications but outward foreign direct investment (OFDI) has also its effects on the economies of the investing countries.

Outward FDI has become an important strategy for the firms that want to operate globally. No doubt, some degree of international exposure can be attained by companies by making indirect financial investments, foreign trade, technology transfers, but resources can be arranged and managed in a better way (both at home and abroad) if they transfer their production units in the host countries. Moreover, some countries impose trade barriers on imports because they think that importing alone will not help their economies in improving technological base and increasing production capacities rather importing alone may result in easier and higher consumption and it uses more foreign currency reserves. But if instead of importing goods, the way of inward FDI is adopted then there may be positive spillover effects for the economy of the host country. So host countries generally prefer FDI to imports. Due to all these reasons, companies that want to expand to foreign markets or internationalize their operations find it less effective, if they focus solely on trade. Thus outward FDI becomes an attractive alternative through which companies produce goods in the countries where they are to be sold.

Companies invest in other countries with the motive of reducing their production costs also. No doubt, imports also help to access low cost raw-materials but importing alone cannot reap the advantage of cheap labor markets of the host countries. Besides, directly investing in host economies (which have cheap sources of raw materials) saves additional transportation costs and companies can also save money by supplying back the finished (final) products to sell in their domestic markets. Along with the arguments of lower production costs and overcoming trade barriers, OFDI also enable the companies to have their finger on the pulse of host market trends. Companies that face saturations in their domestic markets, try to explore new markets in foreign countries. But if they fulfill demands of foreign

customers by producing in their own country (far away from customers) then they can't respond quickly to the changing demands of customers. In this case, OFDI will be an attractive alternative because by shifting production units abroad, the production department and marketing department are brought together that helps in producing proper products for the foreign market customers.

There is wide literature that supports the hypothesis that Outward FDI assists in achieving the development goals of the home economy. OFDI can enhance the investment competitiveness of a country, which is essential for long term sustainable development. Many countries are adopting OFDI as a new channel for their development through which they can acquire and catch-up to modern production processes, boost their competitiveness, expand knowledge and technology, improve managerial skills and access new distribution networks. Generally, firms go for OFDI to achieve following objectives:

- The need to update the outdated technology.
- To obtain access over scanty assets located in other countries.
- To avail greater economies of scale that arise because of huge foreign markets.
- To get knowledge of the most professional management applications.

Moreover in literature, there are clear evidences that OFDI promotes exports, innovations and growth in home economies. As regards to innovations, evidences suggest that OFDI is quite helpful to source knowledge and technology which is not available in the investing countries (Amann & Virmani, 2014). These type of knowledge and technological effects are helpful not only to the investing firm, but also to the other firms in the home country (Criscuolo 2009 & Mani, 2013). There are also empirical evidences that there is a complementary relationship between OFDI and exports. Studies conducted by Blomstrom et al. (1998), Grubert & Mutti (1991), Brainard (1993), Pfaffermayr (1994), Clausing (2000), Liu et al. (2001), Dritsaky et al (2004), Chen (2007) found that OFDI boosts exports from a country. Similarly, Desai et al. (2005), Herring & Willett (1973), Noorzoy (1980), Borensztein et al. (1998) have found that there are positive effect of OFDI on domestic investment. As regard

economic growth in home economy, studied conducted by Kimura & Kimura (2006), Barba & Castellani (2004), Chen & Zulkifli (2012), Li et al. (2017) etc. came with complementary relationship between OFDI and Economic growth. Outward FDI is the best way through which a country can integrate with world economy (Cai, K. G., 1999). OFDI resulted in increase in employment, output & Total Factor Productivity of the firms (Navaretti & Castellani, 2003). Greater Outward FDI is related with higher levels of domestic investment (Dessai, et al., 2005). OFDI is helpful for promoting employment in home countries (Masso, et al., 2008; Federico & Minerva, 2008). OFDI can help developing countries in technological catch-up (Almighini, et al., 2010). OFDI complements in getting development benefits that many countries are already getting through migration, trade &inward FDI (Knoerich, 2017).

1.1 Motives for enterprises to go for outward FDI:

There are a number of reasons that induce firms to invest in the overseas markets. These reasons are the same that are generally quoted in favor of a firm's expanding operations in its own country. Dunning has classified different motives of OFDI into four main categories

1.1.1 Market-seeking:

The first reason why firms go to invest abroad is to discover new customers for their products. Sometimes the owners and heads of a company realize that the goods and services produced by them are unique and have some superiority to their competitors in foreign markets, and then they try to get benefits of this opportunity by investing abroad. Besides, the markets of the developed countries saturate over a period of time. In such a saturated market, if the firm still wants to grow, then the only way to is expand in the markets which are not yet saturated. One other inducement for the market-seeking OFDI occurs when the companies believe that overseas investments can yield higher returns than that in case of more investment at home. It mainly happens for high-technology goods. In 1998, Sutherland has also noted that "The minimum size of market needed to support technological development in certain industries is now larger than the largest national market" Thus it proves that if a company wants to grow at a greater pace than the rate of growth of domestic market,

then it has to internationalize its operations. Because, when a firm moves its business in some other country then it gets access to the untapped markets outside its national boundaries. If a solid position is made by the company in the foreign market (before the entry of competitors) then it will be a big opportunity for that company to become a brand of trust in that country.

1.1.2: Resource Seeking:

Sometimes resource-seeking can also be the motive for a firm's decision for entering in the foreign market. By making investments in foreign country, a firm tries to get access to the cheap resources of that market. Specially for the growing economies of the world, it is the need of the hour to get access over the primary inputs and scarce resources of the other countries. The main motive of Chinese OFDI in Africa, Australia, Latin America, Canada and Asia is to get access over their natural resources like Minerals, petroleum, fisheries and timber, which are not in abundance in China (Kamal et al., 2019). In this case a company finds it cheaper to establish its subsidiaries in host country and to produce goods in its foreign subsidiary than to produce it at home (both for domestic and foreign sale).

1.1.3: Strategic Asset seeking:

In the literature of foreign direct investment, there is a distinction between asset-seeking and asset-exploiting outward FDI. This difference originates from the discussion that MNCs go for outward FDI for exploiting existing assets or for exploring new assets. The initial theories of international business regard asset-exploitation as the primary objective of OFDI in which MNCs first develop assets at home country and then for optimally exploiting these assets MNCs go for OFDI (Vernon, 1966; Hymer, 1968). The Internalization theory (Buckley & Casson, 1976) has also reached to the same results. But the recent studies on international capital movements maintain that primary aim of OFDI strategies of MNCs is not to exploit the indigenously developed assets but to explore the strategic assets of the host economies (Fosfuri & Motta, 1999; Dunning, 1993 & 1995). Companies may make investments in foreign countries to build their strategic assets like new technology or distribution networks. For this type of strategic assets, companies generally establish

partnerships with those foreign firms which are supposed to be specialized in some production aspects. The phenomenon of strategic asset-seeking OFDI is mainly applicable for the Transnational Corporations (TNCs) of the emerging economies. The TNCs of emerging economies make their OFDI strategies with the motive to expand their capabilities rather than to exploit their existing capabilities.

Table No. 1.1: Various kinds of outward foreign direct investments and factors associated with them

FDI Category	Factors
Market-Seeking FDI	Resource abundance
	Infrastructure
	Low cost of labor
Resource-Seeking FDI	Size of domestic and foreign markets
	Growth rate of markets
	Overhead costs
	Production Costs
Efficiency-Seeking FDI	Technological readiness
	Development of financial markets
	Schooling and health of workers
	Functioning of labour markets
	Agglomerative Economies
	Investment Incentives
	Efficiency of Commodity market
Strategic-Asset seeking FDI	Innovations
	Ease of obtaining assets

Source: Willem Jan Lammers (2017)

1.1.4: Efficiency-Seeking:

Efficiency-seeking is another important motive of the OFDI strategy of TNCs. i.e. they desire to make improvements in their overall cost efficiency. The aim is to explore the location-specific advantages of the host countries for specific activities

and for achieving this objective, TNCs design their international production activities (Rugman & Verbeke, 2001).This type of efficiency-seeking OFDI either tries to exploit the factor-cost differences (if the home and host countries are heterogeneous) or tries to enhance their scale economies by expanding production activities abroad (Dunning & Lundan, 2008). Multinational corporations may also be willing to reorganize their foreign holdings because of certain economic changes in the home country and host country, for example, when there are free trade agreements among some countries, then the facilities available in one of these countries may suddenly become more competitive because of the lower tariff restrictions or other such new trade promoting features within that group. Similarly the exchange rate fluctuations may alter the profit calculations of firms and thereby firms may shift the allocation of their funds from home to foreign markets. Table no. 1.1 highlights different motives of OFDI and also the factors associated with these motives.

Along with the above mentioned motives of OFDI, the firms may go for OFDI due to the following reasons.

Benefits of global diversification: By investing overseas, companies get exposure to foreign markets. By doing this, they enjoy benefits of international diversification. For example, if there is recession in one country and in some other country there is boom, then the company that is operating in both of these countries, will not be much affected by these trade cycles.

Cost-efficiency: There are many examples that firms from different countries invest in other countries like India, China and Brazil to avail the benefits of lower costs in these countries. In these labour rich countries, labour is very cheap. The companies, whose production processes are labour intensive, have more incentives to make overseas investments and thereby enjoying cost-efficiencies.

Transportation costs: Multinational corporations from a number of countries invest their funds in developing economies. Companies find it easier, convenient and cheaper to produce in the countries where they sell their products. It is mainly applicable for the products whose transportation is either difficult or too costly. In such a situation, the best way is to produce in the countries where they are being sold.

Quotas and Tariffs: Sometimes a number of restrictions like quotas and tariffs are imposed by the countries on the imports. As a result of import quotas, only a limited quantity of goods can enter the foreign market. To overcome this restriction imposed by quotas, companies build their production units in host country and thereby bypass the quota restrictions. Similarly, in order to get escape from high tariff rates (taxes on imports), companies directly produce products in the countries, where their buyers are located.

Thus in the current scenario if firms wants to operate in the global markets then outward FDI is considered as an important way through which they can fulfill this desire. No doubt, firms can attain international exposure by the way of exports and imports or by making investment in financial markets of other countries or by transferring technology but if they transfer their production units in other countries then the chances of better arrangement of resources are higher (both at home and in foreign country). Moreover, countries generally prefer inward FDI than imports because they think that if they are just importing the goods from other countries then it will not help them in improving their technological base rather higher imports will lead to higher consumption at home and it will prove as a drain to foreign exchange reserves. However, if instead of imports, FDI is coming then there will be higher spillover effects of FDI on the economy of receiving country. Thus they prefer FDI to imports. Due to this reason, MNCs also prefer to go for outward FDI in place of depending upon trade alone. In this way, the investment abroad has now become an important alternative for the firms through which goods are produced directly in the country where they are to be sold.

1.2: Global Trends in FDI Flows

Due to above mentioned benefits of FDI; during the last two decades the world economy has witnessed a upsurge in global FDI flows with stock of FDI inflows increasing from US $ 341.5 billion in 1995 to US $ 36470.1 billion in 2019 and stock of FDI outflows increasing from US $ 3993.2 billion in 1995 to US $ 34571.1 billion in 2019, showing almost ten times increase in both the stock of FDI inflows and outflows during the last twenty four years. Table no. 1.2 explains in a

very clear manner how Foreign Direct Investment stock and flow (both inward and outward) has grown in the world as a whole during the period 1970 to 2019. The flow of Inward FDI was just US $ 13.25 billion in 1970 that went very high to US $ 2041.7 billion in 2015 and US $ 1539.8 billion in 2019.

Table No. 1.2: FDI flows (Inflows and outflows) in the world in US $ billion, 1970-2019

Year	FDI Inflows (US $ at current price) US $ Billion		FDI Outflows (US $ at current price) US $ Billion	
	Flow	Stock	Flow	Stock
1970	13.25	---	14.14	-----
1975	26.39	----	28.48	----
1980	54.39	701.10	52.05	558.97
1985	55.83	986.61	62.10	901.81
1990	204.88	2196.20	243.87	2254.90
1995	341.52	3564.44	356.72	3993.27
2000	1356.61	7377.27	1163.73	7408.78
2005	947.70	11431.25	833.17	11908.63
2010	1396.20	19922.42	1396.03	20465.35
2015	2041.77	26557.57	1708.08	26574.87
2019	1539.88	36470.16	1313.77	34571.12

Source: Author's own compilation from UNCTAD database

Same is the case with the stock of Inward FDI, which was just US $ 701.1 billion in 1980 and increased to US $ 36470.1 billion in 2019. In the same way, the flow of outward FDI has also increased remarkably. In 1970, the flow of outward FDI was only US $ 14.1 billion that went up to US $ 1708.0 billion in 2015 and to US $ 1313.7 billion in 2019. Besides, the stock of outward FDI also jumped up and became US $ 34571 billion in 2019 from US $ 558.9 billion in 1980. Thus the table elucidates that during the last two decades global FDI flows have witnessed an upsurge.

The rising levels of foreign direct investments (both inward and outward) in a country are a clear indication that the economy is increasingly integrating with the

world economy. The higher levels of FDI inflows depict that the country is now emerging as an attractive destination for the transnational corporations, while the higher levels of FDI outflows reflect the country's appetite and also proves its growing competitiveness in competing in the markets beyond its national boundaries. This thing applies very well for developing economies as in these economies the volume of FDI flows (both inward and outward) have grown to a significant level. The table no. 1.3 shows the evolution of FDI Inflows and outflows from the developed, developing and transition economies of the world. There was the time when FDI flows were totally under the control of developed economies. The FDI flows were coming from the developed economies and also going to the developed economies. In the year 1970, total inward FDI to the developed economies was US $ 9.41 billion which was 71.6 percent of the world FDI inflows. Whereas, developing economies received FDI of US $ 3.76 billion (28.4 percent of the world FDI inflows) in the same period. It shows transnational corporations were interested in investing their capital mainly in developed economies.

As far as outward FDI is concerned, initially almost entire FDI was coming from developed economies only. In the year 1970, the FDI outflows from the developed economies were US $ 14.1 billion and that from developing economies were US $ 0.041 billion. It means the share of the MNCs of developing economies in the world FDI outflows were almost zero. But with the passage of time the significance of developing and transition economies in the world FDI flows (both inward and outward) improved remarkably. In the year 2019, developed country's inward FDI was US $ 800.23 billion and that for the developing and transition economies was US $ 739.6 billion. It means developed economies received 50.9 percent of the world FDI flows, whereas the developing and transition economies received 49.1 percent share in the world FDI flows. This clearly proves that now developing economies have also emerged as important destination for foreign investors. Even in terms of FDI outflows contribution of developing and transition economies was significant. In the year 2018, total FDI outflows from developed economies were US $ 534.02 billion (54.1 percent of the world FDI outflows) and total FDI outflows from developing and transition economies were US $ 452.27

billion (45.8 percent of the world FDI outflows). Again this proves that outward FDI has no longer remained the domain of developed economies of the world.

Table No. 1.3: FDI flows (Inflows and Outflows) from developed and developing countries in US $ billion, 1970-2019

Year	FDI Inflows (in US $ bn.)			FDI outflows (in US $ bn.)		
	Developed Economies	Developing economies	Transition Economies	Developed Economies	Developing economies	Transition Economies
1970	9.49	3.76	----	14.1	0.041	---
	(71.6)	(28.4)		(99.7)	(0.29)	
1975	16.85	9.53	---	28.05	4.31	---
	(63.8)	(36.1)		(98.48)	(1.5)	
1980	46.97	7.39	0.024	49.35	2.72	---
	(86.3)	(13.6)	(0.004)	(94.7)	(5.2)	
1985	41.74	14.07	0.015	58.37	3.72	---
	(74.7)	(25.2)	(0.02)	(94.0)	(6.0)	
1990	170.17	34.64	0.75	230.74	13.10	---
	(83.0)	(16.9)	(0.03)	(94.61)	(5.30)	
1995	219.76	117.76	3.99	303.96	52.14	0.61
	(64.3)	(34.50	(1.17)	(85.21)	(14.6)	(0.17)
2000	1119.10	231.58	5.92	1071.78	88.77	3.16
	(82.5)	(17.0)	(0.4)	(92.1)	(7.6)	(0.27)
2005	585.74	331.29	30.66	704.64	110.48	18.04
	(61.8)	(34.9)	(3.2)	(84.5)	(13.26)	(2.17)
2010	710.39	622.01	63.79	988.5	357.03	50.50
	(50.9)	(44.5)	(4.5)	(70.8)	(25.57)	(3.6)
2015	1274.40	729.88	37.47	1275.5	400.4	32.1
	(62.4)	(35.7)	(1.8)	(74.6)	(23.4)	(1.8)
2018	761.39	699.3	34.5	534.02	414.7	37.57
	(50.9)	(46.8)	(2.3)	(54.1)	(42.0)	(3.8)
2019	800.23	684.72	54.91	916.8	373.1	23.78
	(51.9)	(44.4)	(3.56)	(69.8)	(28.4)	(1.8)

Source: Author's own compilation from UNCTAD database
Note: Values in parenthesis show percentage share in world

The developing and transition economies have shown their ability by crossing their national boundaries and are competing with the MNCs of developed economies. In the context of developing and transition economies, exports were the main determinant for their enterprises to operate in the global markets. But this situation

has significantly changed, particularly during the last two decades. Now the enterprises of developing and transition economies are increasingly using outward FDI as the main instrument to globalize their operations. The business community of the developing and transition economies has now realized that for the higher growth in future they must acquire higher share in the world markets. For that they are required not only to expand their exports but also to make their physical presence in other countries either organically or by the way of acquiring overseas companies and their assets including the assets which are intangible like brands and goodwill of overseas companies.

This expanding tendency of FDI inflows and outflows is highly prominent across the Asian economies. Even within the developing economies the developing economies of Asia are contributing the bulk share in both FDI inflows and outflows. Table no. 1.4 reveals that in the year 1970, the inward FDI flows to Asian economies were to the tune of US $ 0.99 billion (which was just 7.5 percent of the world inward FDI) but this volume and share of Asian economies increased significantly, especially during the last two decades. In the year 2019, Asian economies received Foreign Direct Investment of US $ 517.7 billion (33.6 percent of the world inward FDI). Similarly the stock of inward FDI to Asian economies also increased from US $ 218.6 billion (31.9 percent of the world IFDI stock) in 1980 to US $ 8289.8 billion (25.1 percent of world IFDI stock) in 2018 and then to US $ 8717.5 billion (23.9 percent of the world IFDI stock) in 2019. In the same way the FDI outflows from Asian economies were to the tune of US $ 0.365 billion (just 2.5 percent of world OFDI flows) in 1970, that increased significantly during the last two decades and reached the level of US $ 557.1 billion (56.4 percent of the world OFDI) in 2018 and to US $ 562.8 billion(42.8 percent) in 2019. In the same way, the stock of FDI outflows from Asia was US $ 36.2 billion in 1980 that went up to US $ 8823.5 billion in 2019.

Table No.1.4: FDI flows (Inflows and Outflows) from Asia in US $ billion, 1970-2019

Year	FDI Inflows in US $ bn.		FDI outflows in US $ bn.	
	Flow	Stock	Flow	Stock
1970	0.99	--	0.365	---
	(7.5)		(2.5)	
1975	5.53	---	1.90	----
	(20.9)		(6.6)	
1980	0.86	218.6	3.57	36.2
	(1.5)	(31.9)	(6.8)	(6.4)
1985	6.2	268.1	9.51	67.6
	(11.2)	(27.1)	(15.3)	(7.5)
1990	24.91	354.0	62.1	269.6
	(12.1)	(16.1)	(25.4)	(11.90
1995	84.7	615.1	68.6	453.02
	(24.8)	(17.2)	(19.2)	(11.3)
2000	159.1	1138.1	113.9	884.2
	(11.7)	(15.4)	(9.7)	(11.9)
2005	237.2	1809.4	139.2	1360.2
	(25.0)	(15.8)	(16.7)	(11.4)
2010	437.9	4282.4	364.1	3388.0
	(31.3)	(21.4)	(26.0)	(16.5)
2015	544.4	6514.7	523.9	6058.9
	(26.6)	(24.5)	(30.6)	(22.8)
2018	538. 9	8289.8	557.1	8278.2
	(36.0)	(25.1)	(56.4)	(26.2)
2019	517.6	8717.5	562.8	8823.5
	(33.6)	(23.9)	(42.8)	(25.5)

Source: Author's own compilation from UNCTAD database
Note: values in parenthesis show percentage share in world

This proves the growing competitiveness of the Asian transnational corporations. This surge in outward FDI has been fueled by the rising revenues from exports of manufactured products and natural resources, which have helped in building financial capabilities required for engaging in investment across national boundaries. With the growth of transnational corporations from the Asian economies, the concept of international competitiveness has been redefined.

The development of FDI flows (inward and outward) from Asia will prove to be an important factor in improving the competitive strength of the enterprises of these economies by providing access to overseas technology, natural resources, markets and strategic assets. The enterprises of the Asian economies are showing their

assertiveness in the world markets. The select Asian economies like China, Singapore, UAE, India etc. are changing the dynamics of the FDI flows in the world. The enterprises of the Asian economies have now prepared themselves to reap the fruits of FDI flows. The high levels of FDI flows from Asian region in both directions reflect the growing strength and prowess of these Asian economies.

Rich, and voluminous literature is available that has investigated the host country effects of FDI but there is lack of literature regarding the effect of FDI on the home economy. Therefore, more work is required to be done in the field of studying the effects of outward FDI on the economy of the investing country.

1.3: Theories of Foreign direct Investment

After the Second World War Foreign direct Investment has acquired a key position in the international economic relations. As a result the concept of FDI has been given much attention both at national and international levels. Many economists have worked on the issues of FDI, out of which the contribution of the researchers like Dunning, S. Hymer, R. Vernon is quite important. They have attempted to investigate various motives of Foreign Direct Investment. Due to the work done by various such researchers many theories have been developed to explore the international movement of capital.

1.3.1: International Trade related theories of FDI

According to some scholars the first attempt to explain the international movement of investment was in the form of classical theories of international trade. The Absolute Cost Advantage Theory (Adam Smith, 1776), The Comparative Cost Advantage Theory (David Ricardo, 1817) and after that the Theory of Factor Endowment, all explained that various advantages offered by specialization induce firms to think about their internationalization.

Adam Smith in his theory maintained that a firm will specialize and export that product in the production of which it has **absolute cost advantage** and import the product in the production of which it has absolute cost disadvantage. But this theory could not explain the possibility of specialization and internationalization in the case

when a firm is not having absolute cost advantage in any commodity. Solution to this problem was provided by Ricardo. Ricardo introduced the concept of **comparative cost advantage** and provided solution to this problem. He demonstrated that even in this situation the possibility of international specialization cannot be ruled out. The firm will tend to specialize in the production of the product in whose manufacturing the firm has comparative cost advantage and the product in whose manufacturing, it has comparative cost disadvantage will be imported. Thereafter, in the beginning of 20th century, Hecksher and Ohlin (1991), the two Swedish economists, introduced the Factor Endowment Theory' also known as **'Factor Proportion Theory'** and through this theory they explained that a country will specialize in the production of a commodity in the production of which enters the greater portion of the factor which is abundant in that country and the commodity which requires the greater proportion of the scarce factor will be imported. The price of abundant factor is lower and that of scarce factor is higher and these differences in the prices of factors generate competitive advantages to the country.

After that other researchers like Mundell, Hymer and Vernon also examined the issue of Transnational Corporations and Foreign Direct Investments. Robert Mundell (1957) used the theory of international trade (with two countries, producing two goods with the help of two factors of production) to explain the international movement of capital. Production of each commodity in this model requires factors in different proportions. But one drawback of Mundell's work on FDI was that it explained only the movement of Foreign Portfolio Investment and that too for the short period of time (Densia, 2010).

Hymer (1960) demonstrated the movement of foreign capital by introducing the concept of Market Imperfections and Tariff-Jumping. According to him some market imperfections always exist across all the countries and these imperfections induce transnational corporations to reallocate their production activities and this type of reallocation can be called as "Tariff-Jumping". According to Hymer the main reason behind the shifting of production units to other countries is to neutralize the effect of high transportation costs related with exports. Thereafter Vernon (1966) gave his "Product Life Cycle Theory" to explain the growth of Transnational Corporations

and FDI flows. This theory of Vernon came due to the inability of the Hecksher-Ohlin doctrine because that theory could not discuss the observed pattern of foreign trade. This theory of Vernon demonstrated in a very clear manner not only the pattern of foreign trade but also the pattern of FDI movements. The "Product Life Cycle Theory" explained that development of a product goes through three stages known as "New Product, Maturing Product and Standardized product. In the first stage the product is produced by the mother company and then in the second stage by the subsidiary of the mother company and thereafter the same product is produced by any other company at anywhere in the world where it can be produced at the lowest possible cost. This theory also explained how during the initial phases of the product development a country is the exporter of that product and in the last stage that country ends up as an importer of the same product. Further he also related these three stages of the product development with the level of development attained by a country. The first stage is related with the developing countries, the second stage is related with the developed countries and the third stage is related with the most developed countries. The main essence of this theory of FDI is the technological innovations and market expansions. The technological innovations lead to the formation of new product and market expansions lead to the growth in market size and structure of the market. The Product life Cycle theory was widely accepted by the researchers because of its practical applicability. Most of the highly mechanized goods that were manufactured in USA during 1960s and 1970s have also passed through the same stages. But today the globalization process and higher unification of the world has reduced the effectiveness of this theory. After this Porter (1985) proposed another theory known as "The Theory of Competitive advantage" In this theory Porter explained if a firm has six factors of competitive advantage namely: quality, price, location, selection, service and speed then that firm will attain competitive advantage over other firms in the international market. The firm having competitive advantages will be in a better position than other firms to make investment abroad.

Along with the above mentioned theories of international trade, many other theories were also developed to explain how a company expand within the national boundaries and also beyond national boundaries. But all these theories were basically

the theories of international trade and could not properly explain the reasons why firms opt a particular location and why firms prefer to establish their production units in host countries instead of exporting the same product to the same host country. Thus the theories of international trade fail to explain the complex structure of FDI and these theories could not explain different types of international production or international investments (Hosseini, 2005). This drawback of the theories of international trade has led to the growth of many theories that tried to extend the scope of international trade theories to explore the concept of "Producing Abroad". Thus there came the shift from the theories of international trade to the theories of Foreign Direct Investment.

1.3.2: FDI theories based on Market Imperfections

As per the views of some scholars (Hymer, 1976; Kindleberger, 1969; Caves, 1971) various market imperfections that exist in the host countries are the main pull factors that attract a firm to go for investing its funds in foreign countries. Whenever a Multinational Corporation plans to enter any foreign market, then at the onset it is attracted by various imperfections that exist in that foreign market. In this situation that MNCs feels that as it is having the advantage of better technology and knowledge, it can acquire share in that foreign market. But if there is perfect competition in any foreign market, then foreign investors will not be having any inducement to invest in that perfect market (Kindleberger, 1969). According to him, if the markets are working efficiently and also there is absence of barriers in terms of competition and in terms of Terms of Trade then, the only way to participate in international market is international trade. But if some forms of imperfections or distortions are present in foreign countries then FDI will be attracted there (Hymer, 1976). According to Hymer, following two conditions must be satisfied for foreign investment to take place

a. The MNC must have some unique advantages that allow them that the investment in foreign country is viable.
b. The markets in foreign countries must be imperfect (Kindleberger, 1969).

According to Hymer there is no doubt about the fact that the firms investing abroad are at disadvantageous position than the domestic firms of the host country as they have to face competition with the firms that have more closeness to local culture, language and customer preferences. In addition to this, the firms investing abroad have to face the exchange rate fluctuations also. All these stumbling blocks to the MNCs must be neutralized by certain kind of market powers and the possession of market power will make international movement of capital profitable (Nayak & Choudhury, 2014). The firms may have various firm-specific advantages like superior technology, better marketing and management skills, abundance of finance, brand image and economies of scale. These advantages are the main source of market power. The possession of such market powers enable the firms to reap the benefits of outward FDI. Other researchers also supported this view point of Hymer. Graham & Krugman (1993) also maintained that European firms were also having the similar kind of market powers in the form of firm-specific technological advantages that led to the growth of European outward FDI in United Estates. However some critics are of their opinion that the possession of such firm-specific or monopolistic advantages do not guarantee outward FDI as such advantages can also be realized through exports or licensing (Robock et al., 1989). At the same time some researchers supported Hymer's views on the ground that these firm-specific advantages can be better exploited through outward FDI and not through exports. Absence of direct control of MNC will expand the possibility of leaking of technology to its contenders (Sodersten & Reed, 1994).

Using Hymer's idea of imperfect markets Kindleberger (1969) also propounded a new theory of FDI which was based on the monopolistic power. **The monopolistic powers** or firm-specific advantages are enjoyed by the MNCs only in case of market imperfections. MNCs are cautious about the fact that if they resort to exporting to host economies, then there will be risk of sharing these advantages with foreign competitors in the host market. To avoid such risks and to fully exploit these advantages, MNCs go for outward FDI instead of exports.

Another theory which is based on imperfect markets is **The Internalization theory** which was originally advanced by Buckley & Casson (1985) and later on

modified by Hennart (1986) and Casson (1987). This theory was an attempt to explain why transnational corporations go for producing in some other countries. Buckley & Casson were of their opinion that with the objective of developing some specific advantages the transnational corporations organize their internal activities. A firm may have developed a new technology but may find it hard to shift that technology or sell the inputs related to that technology to other dissimilar firms, because of high transaction costs. Under such circumstances, firms use the method of backward and forward integration to internalize that technology. It means the technology developed by one subsidiary will be used in some other subsidiary of the same firm or the final production of one subsidiary will be used as input in some other subsidiary. When this process of internalization is operating in two different countries then it implies outward foreign direct investment. Buckley & Casson (1985) have specified five different imperfections in market that lead to the internalization. These are (a) long time lag in resource coordination (b) requirement of discriminatory pricing for proper utilization of market powers (c) If there exist bilateral monopoly then unstable bargaining situations will be there (d) Inability of the buyers to accurately estimate the product prices (e) Government interventions.

Oligopolistic Theory of FDI

This is another theory that explained movement of FDI based on market imperfections. This theory was propounded by Knickerbocker (1973). In literature there is empirical support in favour of the fact that firms go for outward FDI in a particular location with two motives (a) To find access on the markets of host country and (b) To use the factors that are relatively abundant in that host country. Knickerbocker (1973) added one more motive that also affect the location choice of outward FDI by firms. According to him the location choice of firm's outward FDI decision is also influenced by rival's move (Head et al., 2004). In other words, in an oligopolistic market situation, MNCs follow the location decions of competitors. In other words MNCs exhibit imitative behavior and follow the internationalization move of their rivals. But one limitation of this oligopolistic theory is that it could not explain why MNCs go for outward FDI.

The Eclectic Paradigm Theory to Foreign Direct Investment

The Eclectic Paradigm theory of FDI is considered to be the most comprehensive theory that explained the FDI behavior of MNCs. This theory was developed by Dunning (1980). He amalgamated various theories of FDI like Imperfect Market theories, Oligopolistic market theories and internalization theories and added one additional aspect of "localization" to these theories and developed another theory which is called as "Eclectic Paradigm to FDI". In his theory Dunning suggested that a firm will go for outward FDI only if it has the three advantages of (a) ownership (b) Localization and (c) internalization.

The ownership advantages which are also known as comparative advantages are the firm specific advantages. Possession of these ownership advantages help the transnational corporations to exist and operate in the unfamiliar environment of the recipient country. Further these ownership advantages can be either due to unique intangible assets or due to the complementary assets that the firm possesses. The Second important factor that determines the FDI levels is the location specific advantages that prevail in the host economy. In the absence of location specific advantages in the host economies, no FDI will be there. Thirdly, the advantages of internalization in the form of externalities and transactional costs also influence the FDI decisions of transnational corporations. The Eclectic Paradigm Theory of Dunning has given stress on the fact that the firms will go for FDI only if it has all the three advantages of ownership, locational and internalization. If the firm is having only ownership advantages and no location advantages of setting its subsidiary abroad then, it will prefer to expand its domestic production and then exporting the product to host country. However, if firm has ownership and locational advantages then, foreign production will be more profitable than the domestic production. In the absence of internalization advantages, the firm will be in better position if it is licensing its ownership advantages to other firms located abroad. In this way the OLI advantages are similar to a three-legged stool. Each of three legs of that stool is supportive to each other and the stool will be functional only if all the three legs of the stool are evenly balanced.

In this way Dunning has made a significant contribution in the field of outward FDI through his "Eclectic Paradigm theory". He amalgamated existing complementary theories of FDI and identified various factors that determine the outward FDI behavior of MNCs. It is because of this reason that this theory attained wider acceptance than other pre-existing theories (Nayak & Choudhury, 2014). But this theory of Dunning is criticized on the ground that he incorporated so many factors in his theory that the operational practicability of the theory is compromised. This criticism of OLI theory was accepted by Dunning himself and he argued that this criticism was inevitable as through this paradigm, different motivations of FDI were brought into one general theory.

Due to this condemnation of OLI paradigm of Dunning, a new theory known as "Investment Development Path" was developed by dunning, which proposed an active assocation between a country's level of economic development (measured by GDP Per Capita) and its Net Outward FDI position (measured by the difference between Outward FDI stock and Inward FDI stock). Thus, a new version of dynamic or active approach was added to the Eclectic Theory by this IDP approach.

1.3.3: FDI theories based on Currency strength

Aliber (1970) tried to explain the movement of FDI on the basis of relative strength of currencies of different nations. The country that has more powerful currency will have stronger push factors for outward FDI than a country that has weaker currency. This explanation of FDI movement sounds good and seems appropriate for explaining the GDI movement from developed economies to developing economies. But this theory could not explain the movement of capital between two developed nations whose currencies have equal strength. Moreover, this theory failed to explain the reasons why the outward FDI is expanding from the developing countries (having weaker currency) to the developed nations (having stronger currency), as there is rapid expansion of Indian and Chinese outward to United States and United Kingdome.

Table No. 1.5: Selective Theoretical approaches that explained the development of FDI Theories

Theories	Theoretical Emphasis	Credited Authors
FDI theories related to international Trade		
Absolute Cost advantage theory	Countries will specialize in the production of commodities in which they have absolute cost advantage	Adam Smith, 1776
Comparative Cost Advantage Theory	Countries will specialize in the production of commodities in which they have comparative cost advantage	Ricardo, 1817
Factor Proportion Theory	Countries will specialize in the production of commodity whose production requires the abundant factor in greater proportion.	Hecksher & Ohlin Theory, 1933
International Trade & factor Mobility Theory	Different commodities require factors in different proportions.	Robert Mundell, 1957
Product Life Cycle Theory	Product growth passes through different stages: production for home, production for export, production abroad, foreign production for export and then import from abroad	Vernon, 1966
Competitive Advantage Theory	Various competitive advantages possessed by the firms are the main push factors of outward FDI	Porter, 1990
FDI Theories based on Imperfect Markets		
Industrial Organization approach to FDI	Market imperfections that exist if recipient economy are the main pull factors of outward FDI	Hymer, 1976
Monopolistic Power Approach to FDI	Possibilities of earning monopoly profits in foreign markets encourage firms to invest abroad	Kindleberger, 1969
Internalization theory of FDI	Vertical integration activities of a firm create several firm-specific advantages that in turn encourage firms for outward FDI.	Buckley & Casson, 1976 Hennart, 1983 Casson, 1983
Oligopolistic Theory of OFDI	Firm's decision of outward FDI is influenced by the moves of his rival.	Knickerbocker, 1973
Eclectic Paradigm Theory	Various advantages by means of ownership, location and internalization induce outward FDI	Dunning, 1977
FDI theories based on Currency Strength		
Relative Strength of currencies	Countries with stronger Currencies have more chance for going for outward FDI	Aliber, 1970
Exchange rate theory	Appreciation of home currency in comparison to foreign currency induce more outward FDI	Keneth A. Froot & Jeremy C. Stein, 1989

Source: Prepared by author after Morgan & Katsikeas (1997), Stela Crina Dima (2010) and Nayak, D. & Choudhury R.N. (2014)

The Exchange rate theory to FDI

Froot & Stein (1991) in their work found linkage between rate of exchange and foreign direct investment flows and this type of linkage arise because of the fact

that there are informational imperfections in the capital markets which are globally integrated. They found empirical evidences of systematic effect of exchange rate fluctuations on FDI movements. A depreciation of US dollar gives an edge to foreign MNCs to acquire physical assets in US and thus FDI move to US and on the other hand appreciation of US $ causes flight of capital from US. In other words, depreciation of home currency comprehensively lowers the comparative wealth of domestic agents and therefore can lead to foreign acquisition of some domestic assets. But one limitation of this theory is that it could not explain the situation in which there is simultaneous FDI flows between countries having different currencies.

Kojima & Ozawa (1984) tried to explain the movement of capital across countries by introducing the fact that some domestic firms are not having ability to domestically compete with large firms. The firms which are more efficient in their domestic markets, compel the weaker firms to move away from the local market. In such a situation infirm or weaker firms also try to look for investment opportunities outside their national boundaries and in this way the weaker firms opt for outward FDI. Moreover, if a firm has comparative cost disadvantage in the production of a commodity within its boundary then it will go for producing that commodity in the foreign country by establishing its production units abroad. But one criticism against this hypothesis is that it failed to explain the reasons why, even the domestically competent firms make outward FDI?

After making a brief review of various theories of foreign direct investment, it can be said that all the theories have explained the factors that motivate firms to go for making investment in foreign countries. Some theories have explained the growth of FDI through the international trade theories that are based on the assumption of perfect competition whereas some theories have maintained that FDI is possible only because of certain market imperfections that exist both in host and home economies. Despite these differences in various theories of FDI, there is unanimity on the view that the firms go for outward FDI to enjoy the benefits that they possess in the form of various advantages like location, internalization and other firm-specific advantages.

1.4 Summary:

The significant increase in the volume of FDI outflows across the world has proved that outward FDI has become an important strategy for the economies that want to operate and grow globally. The vast expansion of FDI outflows and growth of Transnational Corporations has altered the composition of foreign trade also. Now a days large part of foreign trade in happening between intra-firms in which MNC of a country is producing product in some other country (at lowest possible cost) and then supply the same product from that country all over the world and even to its own country. Even the host countries prefer inward FDI to imports as, inward FDI may have positive spillover effects for the economy of the host country. Therefore, the companies that want to internationalize their operations find it less effective, if they solely depend upon trade. Through outward FDI MNC can have direct access to the market, resources, strategic assets and technology of the host country. In this way, outward FDI has become an attractive alternative in which companies produce goods in the countries where they are to be sold. Moreover, the rising volume and significance of outward FDI has led to the growth of many theories that explains why TNCs go for outward FDI and why they shift their production base from their own country to some other country. These theories have also explained different motives that induce firms to go for investing in some country.

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CHAPTER: 2

REVIEW OF LITERATURE

Over a period of time the literature on the aspect of outward foreign direct investment have gained momentum. The rising importance of OFDI and its emerging role to augment economic development encourage researchers to write voluminous literature on various facets of OFDI from different countries and group of countries. In the present chapter an attempt has been made to present a brief review of the earlier available studies on various dimensions of FDI outflows. Keeping in view the objective of the present study, literature review has been divided into following categories:

2.1 Review of literature on the Investment Development Path (IDP) and determinants of Outward FDI.

2.2 Review of literature regarding impact of Outward FDI on Exports

2.3 Review of literature regarding impact of Outward FDI on Domestic Investment

2.4 Review of literature regarding impact of Outward FDI on productivity and growth

2.1: Review of literature on the Investment Development Path (IDP) and determinants of Outward FDI

The first systematic work on the theory of MNCs was initiated by Hymer in 1960. He explained that certain imperfections in markets across different countries prevail and therefore MNCs go for reallocation of their production activities, which is known as “tariff Jumping”. As a result, to overcome the high transaction costs involved in international trade, firms go for FDI. Rugman (1986) further developed the theory of MNCs and propounded the new internationalization theory and maintained that by internationalizing their operations MNCs, MNCs replace markets to various host countries. This type of FDI by MNCs is called as “Efficiency-Seeking” FDI. But, all these theories were not sufficient as they could not explain why FDI by MNCs exploit or utilize resources in some countries but not in others.

Thereafter the basic foundation in the subject of outward foreign direct investment has been developed by Dunning (1980 & 1986) in the form of the

Investment Development Path (IDP) theory. In his work Dunning holds that whenever MNCs invest abroad, they hold three advantages of ownership, location and internalization (OLI) and four motives account for their process of going abroad namely, market-seeking, resource-seeking, efficiency-seeking and strategic-asset seeking. Different studies have extensively used these motivations to explore the determinants of OFDI (Kolstad and Wiig, 2012). This paradigm hypothesizes a relationship between a country's level of economic development (for which GDP per capita is used as proxy) and its international investment position (Net FDI stock i.e. outward minus inward FDI stock). With the development of an economy, the conditions and regulations for home firms and foreign firms also change, which will affect FDI inflow and outflows. Changes in the pattern of IFDI and OFDI in turn affect the economic structure or economic growth and that explains dynamic interaction between Net FDI and economic growth. According to IDP, a country goes through five stages of investment development. In the first stage (pre-industrialization stage) FDI flows (both inward and outward are almost negligible), due to small size of market, poor infrastructure, uneducated and untrained labour force and undeveloped commercial framework. In the second stage, both inward and outward FDI is generated but inflows are much more than the outflows and consequently Net Outward FDI stock becoming increasingly negative. In this stage inward FDI stock rises faster than GDP. In the third stage, due to the occurrence of ownership advantages to domestic firms (more firm-specific and less country-specific), growth rate of outward FDI exceeds that of inward FDI. Despite net FDI stock remains negative for some time. MNEs start going for resource-seeking outward FDI in less developed countries and for strategic asset-seeking outward in more developed economies. In the fourth stage of IDP, the Net FDI stock of the country exceeds zero. In the final stage, country's net positive FDI stock falls and it approaches to zero. The fundamental hypothesis of this IDP theory is that with the development of a country, the advantages that its own firms investing abroad and that foreign owned firms that might invest in that country, undergo changes (Dunning, 2001)

But later on several criticism were raised against the Investment development Path suggested by Dunning. One important limitation was that the IDP theory alone is

not sufficient to describe OFDI activities of countries. It assumes that OFDI is dependent only on the level of economic development (which is measured by GDP per capita) achieved by the source country. Many studies have also proved that though GDP per capita is an important determinant of OFDI, other determinants also need to be incorporated in the IDP framework. Moreover, not all countries are likely to pass through the prescribed five stages of IDP (Erdilek, 2003; Hansen, 2010; Verma and Brennan, 2011). Thus this theory has its own limited scope and ignores all other factors and forces that determine outward FDI. Different studies criticized the IDP theory because of its limited scope (Liu, et al., 2005; Hanson, 2010; Verma & Brennan, 2011). Many studies have attempted to modify the IDP theory by incorporating the factors such as trade, institution, technology and other variables (Liu, et al., 2005; Wang, et al., 2012; Dunning, et al., 2001; Bellak, C., 2001).

Some studies have also given importance to the firm-specific factor that can determine the outward FDI decisions of a firm. In case of firm level determinants Age of the firm(Pradhan, 2008; Gill & Singh, 2012), Size of the firm (Pradhan, 2006), R&D intensity (Pradhan, 2006; Gill & Singh, 2012), Level of export intensity of the firm (Saad et al., 2014, Gill, & Singh, 2012),Cost effectiveness (Pradhan, 2004; Gill & Singh, 2012) skill intensity (Pradhan, 2004, 2006; Gill & Singh, 2012), Product differentiation, profit level of firm also play their roles in determining the level of outward FDI.

As per the institution based view, a firm's level of outward FDI is strongly influenced by the institutional forces that hinder and promote upgrading of existing resources and capabilities (Wang, et al., 2012). The institutional view suggest that inefficient institutional factors in the source (home) country such as regulatory uncertainty, governmental interference, level of human capital, degree of openness, tax rates, quota allocation, improper policies to protect Intellectual Property Rights at home may force the firms to invest abroad (Luo, et al. 2010; Herzer, 2011; Das, 2013; Kolstad & Wiig, 2012)

In addition to this many macro level determinants like GDP level in the home country (Das, 2013; Saad et al., 2014; Bano & Tabbada, 2015; Yamori, 1998), Trade

openness (Yamori, 1998; Das, 2013), political risk (Das, 2013; Kolstad & Wiig, 2012; Yamori,1998), location of hos t economy (Kamel et al., 2020), level of Inward FDI (Saad et al., 2014; Bano & Tabbada, 2015), Exchange rate (Das, 2013; Yamori, 1998; Kolstad & Wiig, 2012), Bilateral Investment agreements (Neumayer & Spress, 2005), Natural resource level (Saad et al., 2014; Kolstad & Wiig, 2012), Level of exports (Kolstad & Wiig, 2012; Bano & Tabbada, 2015), Saving rate (Bano & Tabbada, 2015) are also important factors that determine the level of outward FDI from a country.

Various "push and pull factors" have been identified as the determinants that affect the decision of firms to invest abroad (Calvo, et al., 1996). Push factors (home country factors) are related with cyclical and structural environment, whereas the factors that are related to political, social and economic conditions of the host country are known as pull factor. Sekkat and Varoudakis (2007) classified various determinants of FDI into three types, namely, exchange market regulations, investment climate and trade factors. Banga (2007) and Saad et al. (2014) divided the determinants of OFDI as trade related factors, capability related factors and domestic factors. Kyrkills & Pantelidis (2003) used regression analysis on the panel data of nine countries (5 European and 4 Non-European) and found the evidences of positive and significant impact of Real GDP, Openness, technology and Human capital on FDI outflows.

Gao, L. (2008) used the Generalized Method of Moments (GMM) on the data of Chinese economy and concluded that FDI outflows from a country are significantly and positively affected by the level of Inward FDI, Exports, Human capital mobility and expenditure on research and development. But the impact of GDP per capita on outward FDI is negative. Buckley et al. (2007) applied REM on the panel data of Chinese outward FDI to 49 countries for the time span of 1984-2001 and found that market size and geographical proximity to host country has positively affected Chinese OFDI but other variables as exchange rate, natural resource endowment, exchange rate, patent and total FDI as a percentage of GDP did not significantly affect Chinese OFDI. Banga (2007) studied the annual data of 13 developing Asian economies and concluded with the evidence that trade related factors like exports and

imports, domestic factors like market size, infrastructure, labour cost and technological level at home all put their impact of FDI outflows from a country.

Anwar et al. (2008) applied OLS regression and Tobit model on the data of Indian firms and found that real GDP and Real GDP deflator significantly and positively affect OFDI. But real GDP per capita, geographical distance negatively affects OFDI and exchange rate does not significantly affect OFDI. Kayam, S. S. (2009) took the data of 65 developing and transition economies for the period of 2000-2006 and used the Fixed Effect model on the data and found the empirical support that with the growth of Inward FDI the FDI outflows are positively affected. Stability of the government, better investment profile and bureaucracy quality at home reduce the FDI outflows. Thus he emphasized that economic factors are not the only factors that affect FDI outflows but non-economic environment in the form of political and business environment also significantly affect FDI outflows. Using Pooled OLS, Fixed Effect Estimation and Random Effect estimation models on Chinese OFDI to 37 countries Kamal et. al. (2020) found the evidence of positive impact of country's natural resource base, GDP, Inflation, Infrastructure and openness to trade.

Das (2013) applied Fixed Effect model on the panel data of 56 developing economies for the period 1996-2010 and found the empirical evidences that level of economic development of source country (proxy used GDP Per Capita), trade openness (measured by exports and imports as percentage of GDP), positively and significantly influence outward FDI. On the other hand factors like political risk, Real Effective Exchange rate negatively affect FDI outflows. Bhasin and Jain (2015) examined the source country determinants of outward FDI by taking the panel data of ten Asian economies. They applied Principal Component Analysis and Fixed Effect model. Their results suggest that openness to FDI and GDP level at home country significantly affect outward FDI. Countries with high levels of GDP and with liberal policy towards FDI also have larger flows of outward FDI. Bano & Tobbado (2015) used the data of six developing Asian economies for the period 1980-2011 and applied regression analysis and found the empirical support in favour of positive and

significant impact of GDP and foreign exchange reserves on FDI outflows. Whereas domestic savings and export orientation negatively affect outward FDI.

As per Dunning's IDP theory, different determinants of FDI outflows can be broadly studied as home-side factors and host-side factors. In home-side factors, the ownership advantages and internationalization advantages are included. These home-side advantages are related to the ability of an economy to go for outward FDI. On the other hand, the host-side factors are related to location al advantages. These host-side factors determine the ability of host country to attract FDI. A number of studies by different scholars have listed both sets of determinants. The studies which are based on Dunning's IDP theory have shown that home-side factors like GDP level at home, innovations and technology, openness to trade and institutional factors are more important factors that determine the OFDI levels of a country.

2.2: Review of literature regarding impact of Outward FDI on Exports

The impact of outward FDI on the home country exports is not evident. Outward FDI and exports are thought as two alternative modes of serving foreign markets. A firm may supply foreign demand either through exports or through producing the product in the foreign country, subject to the transportation costs, economies of scale, trade and investment policies of the two countries. There are theoretical arguments supporting both substitution and complementary relationship between exports and outward FDI (Blonigen, 2001). As regard to empirical evidences, different studies have drawn different results with regard to the relationship between outward FDI and exports. Some economists like Mundell (1957), Vernon(1966), Svesson (1996), Pain & Wakelin (1998), Fonseca et al.(2010), Helpman et al.(2004), Dasgupta (2009), Mitze, Alecke & Untiedt (2010) argue that outward FDI substitute exports. However other authors like Blomstrom et al.(1988), Grubert & Mutti (1991), Brainard (1993), Clausing (2000), Camereo & Tamarit (2004), Dsitsaki et al.(2004), Kimura & Kiyota (2006), Chiappini (2011), Chow (2012), Dritsaki & Dritsaki (2012), Liu et al. (2016) argue in favor of complementary relationship between these two variables. There are also some studies that did not find any relationship between

Outward FDI and exports like studies by Kim & Rang (1996), Egger (2001), Megalhas & Africano (2007), Mullen & Williams (2011) and Goh et al. (2017).

In his Product Life Cycle (PLC) theory Vernon (1966) elucidates that, in the beginning a firm enters in the international market by the way of exporting, as a way to start its international operation (because this is less costlier and less riskier method of internationalization). Only when the demand for the product in the markets of host countries become sufficiently large to induce large investment in production, the firm starts considering going for Outward FDI as an alternative to exports. Blomstrom, Lipsey & Weiss (1981) used the data for 30 US industries and used ordinary least square (OLS) method and found the pre-dominance of complementary relationship between OFDI and exports for USA. Using cross-sectional data of individual firms in 14 US industries regarding OFDI & exports, Lipsey & Weiss (1984) applied regression analyses separately for the exports of finished products and the exports of raw material & intermediate goods and they found strong evidence of positive and significant impact of FDI outflows on the exports of raw material and intermediate goods. But for finished goods, they found no evidence of significant impact of OFDI on exports. Yamaowaki (1991) also found the evidence that outward foreign direct investment in distributional activities promote exports. These results are consistent with the results of earlier empirical studies conducted by Bergsten, Horst & Moran (1978), Lipsey & Weiss (1981 & 1984), Blomstrom, Lipsey & Kulchycky (1988), which support complementary relationship between OFDI and exports. Pfaffermayr (1994 & 1996) conducted study for the Austrian economy to know the nature of causal relationship between outward FDI and exports. Using the techniques of cointegration, Vector Autoregressive Model and Granger Causality, his study found significant causal relationship between the two variables under consideration. Besides, this causality runs in both directions. He also mentioned that the results are dependent on the factor endowments of both host country and home country. Alguacil and Orts (2002) used the quarterly data of Spain for the period 1970 to 1992. They employed Vector Auto Regressive (VAR) model, Granger Causality test, Dynamic Variance Decomposition and Impulse Response Technique and found a positive unidirectional long run relationship running from outward FDI to exports.

Blonigen (2001) examined the product-level data of Japanese automobile parts industry and found sufficient empirical evidences of both complementary as well as substitution relationship between investment abroad by firms and their export performance. However, Cantwell and Narula (2001), mentioned that in certain sectors firms may skip exporting altogether and directly go for outward FDI. Moreover, once this outward FDI is undertaken, it will definitely affect home country's exports. Engel & Procher (2013) also found empirical evidences of complementary relationship between investment abroad and exports of the investing firm. By applying propensity score matching (PSM) technique along with Difference-in Difference (DID) estimation technique to study the performance of firms of France that made investments abroad during 2000 to 2007, they found that in terms of exports, the performance of firms improves. These results vary as per the nature of industries. For the high-tech industries, there is substantial improvement but for the low-tech industries, there is only small improvement in the home performance in post-investment period. Nishitateno (2013) analyzed product level data for Japanese outward FDI and exports to 49 host countries in 37 different products for the time span of 1999 to 2008 and by applying the panel regression and Poisson Pseudo Maximum-likelihood (PPML) estimation by product, he found empirical evidences of complementary relationship between the two variables. Chiappinni (2011) applied the Granger causality between FDI outflows and exports in 11 European countries and collected the data of exports of goods and services for the period 1996-2008. He used both heterogeneous as well as homogeneous causality tests and found the evidence of unidirectional causal relationship between the two variables running from OFDI to export for the entire panel. But there is heterogeneity in the causal relationship from exports to OFDI. If the competitive advantages are offered in the production cycle by the home country firms, then it will be beneficial to the MNEs through backward & forward linkage effects. In such a situation FDI outflows and exports share a complementary relation (Bhasin and Paul, 2016).

However, there are also some studies that have concluded with competitive relationship between OFDI and export. Movement of capital from one country to another in the form of outward FDI would lead to relocation of goods between

countries and hence, outward FDI would replace exports (Mundell, 1975). Other approaches to FDI like OLI (ownership, location and internalization) paradigm also view FDI as an alternative way to serve foreign markets (Dunning 1980). In this sense, there is relationship of substitution or competitiveness between the two variables. When the internationalization costs are lower than the export costs, outward FDI will substitute exports (Forte 2004). Chang & Gayle (2009) in their empirical work found that FDI and exports are the two alternative modes to serve foreign markets used by MNCs. They maintained that whether a firm will choose OFDI or exports, it depends upon the volatility of demand and also on other determinants such as trade costs and market demand. They used the vast panel data regarding exports and OFDI by American firms to 56 host countries for the period 1999 to 2004, and found strong evidence in support of this view point. Besides, if a subsidiary is located in more-developed country compared to the investing company, the relationship between outward FDI and exports will be of substituting nature, due to the fact that the subsidiaries might obtain raw materials and other intermediate products from the local markets (Lee, 2010). Mullen & Williams (2011) examined how the exports of Canada to its trading partners (OECD) are affected by Outward FDI and Inward Foreign Direct Investment (IFDI). By applying panel regression, one way Fixed Effect model, differenced Generalized Method of Moments (GMM) and system GMM on the data for the period 1987-2007 found that OFDI does not significantly affect exports. Mitze, Alecke and Untiedt (2010) conducted the study for the economy of Germany to find the nature of relationship between OFDI and trade. They collected the data for the period 1993-2005 and used panel regression and simultaneous equations and found that there exist the relationship of competitiveness between OFDI and exports. If the host country has adopted restrictive trade policies, then the company will invest (instead of exporting) in that country to bypass these trade barriers, which will lead to a relationship of substitution (Kim and Rang 1997). Moreover, if the policies of the host countries are such that the inputs are to be obtained from the local markets only, then it will lead to a substitution relationship between outward FDI and exports. Hsieh, Huang and Wei (2014) empirically examined the effect of Japanese and Korean FDI outflows to China on the Japanese and Korean exports to China. They found the evidence that FDI outflows from Korea

and Japan to China adversely affect their exports to China. But, further they also found that due to the existence of trilateral free trade agreement between China, Japan and Korea, the negative substitution effect of OFDI on exports will be neutralized. But whether the relation between OFDI and export is competitive or complementary, also depend upon the type of the sector (Zhang & Huang, 2012). They used the time series data for the period 2004-2010, for the developing Chinese economy and investigated the relationship between OFDI and exports of manufacturing sector and service sector separately and found that for the service sector OFDI replaces exports but for manufacturing sector there is complementary relationship between the two. Goh & Wong (2014) applied panel regression Ordinary Least Square (OLS), Fixed Effect model and Random Effect model to the data of Malaysia for 1991-2009 and did not found any evidence of causal relationship. They attributed these findings to the fact that about 70% of Malaysian FDI outflows are from the service sector which is grossly non-tradable and expected to have a very limited trade effect. Besides, this pattern of OFDI from Malaysia is different from the experience of developed economies which are either in 4^{th} or 5^{th} stage of Investment development Path.

Whatever may be the nature of relationship between OFDI and exports, it will certainly have consequences for economic growth of home country. If OFDI acts as a substitute for exports, there may be two negative effects. It may divert domestic investment to other countries and secondly it will also put pressure on the balance of payment because of reduced foreign exchange earnings.

If outward FDI stimulate exports through backward and forward linkages in the production process, then it will be complementary to exports and this type of relationship between OFDI and exports will stimulate domestic investment and it will also help in promoting economic growth of the home country through increased foreign exchange reserves.

2.3: Review of literature regarding impact of Outward FDI on Domestic Investment

During the last two decades, there is substantial increase in FDI outflows (also from developing economies). These FDI outflows can affect domestic investment in a country, therefore there is need to study how domestic investment is affected by FDI outflows. Capital is an important factor affecting economic growth, but it is also a scarce factor (especially in developing countries), therefore it is required to know the nature of interaction between domestic and foreign investment. In empirical literature, there are mixed reviews regarding the impact of FDI outflows on domestic investment. To study the causal relationship between FDI outflows and domestic investment, we have reviewed different empirical studies which are broadly classified as macro level studies and firm level studies. The macro level or country level studies used time series estimation techniques. Feldstein (1995) for OECD countries, Sauramo (2008) for Finland, Herzer and Schrooten (2008) for Germany, Goh and Wong (2014) for Malaysia, Ali and Wang (2018) for China found substitutive relationship between OFDI & domestic investment. On the other hand, Desai et al. (2005) for USA, Arndt et al. (2010) for Germany, You & Solomon (2015) for China, Tan et al., (2016) for eight ASEAN countries, Ameer et al. (2017) for 13 industrialized economies highlighted the complementary relationship between these two variables.

In case of firm level studies, the risk of biasness of aggregation is minimized. Desai et al. (2005) used the data of US MNCs and found positive relationship between foreign investment and domestic investment. Girma et al. (2010) also used the firm level data of Indian firms and applied Propensity Score Matching and Difference in Difference techniques and found empirical evidences of negative relationship between these two variables. During 1970s, Herring et al. (1973) and Noorzoy (1980) made the first attempt to examine the impact of outward FDI on domestic Investment. They studied the industrial level time series data for the U.S. firms and found that there exists positive relationship between foreign and domestic investment. Borensztein et al. (1998) also concluded with the positive impact of outward FDI and domestic investment.

Studies conducted by Belderbos (1992), Stevens & Lipsey (1992), Feldstein (1995), Kim (2000), Desai et al. (2005), Sauramo (2008), Herzer et al. (2008), Girma et al. (2010), Al-Sadiq (2013), Goh andWong (2014) have found that outward FDI substitutes domestic investment. Belderbos (1992) conducted a study on a large number of Dutch industries and found evidence of substitution effect. A study conducted by Steven & Lipsey (1992) found adverse impact of outward FDI on domestic investment. They maintained that there are two main channels namely, domestic financial market and domestic product market via which foreign investment adversely affect domestic investment. When a firm invests abroad and its multinational activities are not financed from external sources then it makes overseas investment by reducing the amount of domestic investment, then foreign investment substitutes domestic investment. Secondly, when firm shifts its production abroad then it displaces exports, which in turn negatively affects domestic investment. In 1995, Feldstein used the industry level data to study the relationship between foreign and domestic investment and also found negative impact of outward FDI on domestic investment. Moreover, he concluded with one-to-one dollar inverse relationship. It means whenever a company invests one dollar abroad then domestic investment also falls by one dollar. Anderson & Hainaut (1998) also reach the same results as that by Feldstein. They used the data for United Kingdom, Japan, United States & Germany for the period from 1960s to 1990s and concluded with the same adverse impact of OFDI on domestic investment. Using the macro level data of Finland for the period 1965-2006, Sauramo (2008), concluded with negative impact of OFDI on domestic investment.

Al-Sadig (2013) conducted study with the objective to empirically test the interaction between FDI outflows and domestic investment. He used the data for 121 developing nations for the time spanning from 1990 to 2010. The results also support the substitution effect of OFDI on domestic investment and he found that if OFDI increases by one percent then domestic investment will fall by 0.29 percent. Further he maintained that this negative relationship could be caused by the existence of distortions and bottlenecks in the domestic economies such as imperfect capital market and scarcity of capital in the local economies. Using cointegration technique

and Auto Regressive Distributed Lag (ARDL) approach on the quarterly data of Malaysia for 1999 to 2010, Goh and Wong (2014) came with negative relationship between OFDI and domestic investment. Ali & Wang (2018) also used ARDL approach for the data of Chinese economy for the period 1982-2005 and found that there exists long run negative one way causality running from OFDI to domestic investment.

On the other hand there are some studies that advocate complementary relationship between OFDI and domestic investment. For instance, studies conducted by Noorzoy (1980), Stevens and Lipsey (1992), Braunerhjelon and Oxelheim (2000), Hejazi and Pauly (2003), Desai et al. (2005), Xu. and Wang (2007), Herzer and Schrooten (2008), Desai et al. (2009), Chen and Yang (2013), You and Solomen (2015), Goedegebuure (2006), Tan, Goh and Wong (2016) and Ameer & Mansour (2017). Kim (2000) used the industry level data of 9 Korean industries and did not find any detrimental effects of OFDI on domestic investment. Geodegebuure, R.V. (2006) also supported the hypothesis of complementary relationship between these two variables. Applying Pool Mean Group analysis on the data of 8 ASEAN (Association of South-East Nations) countries for 1986-2011, Tan et a al. (2016) concluded that outward FDI has a positive long term impact on domestic investment. Ameer, et al. (2017) examined the relationship between outward FDI and domestic investment in China using co-integration and Granger causality analyses (bivariate & multivariate). Their results suggested that there is positive or complementary long run unidirectional relationship running from outward FDI to domestic investment and in short run outward FDI and domestic investment do not show Granger causality. OFDI enables the MNCs to make improvements in their value chain system and sophistication of home operations which improves efficiency at home and ultimately positively affect domestic investment and growth (Pananond and Cazurra, 2018). Applying Fixed Effect regression model on the panel data of 25 Chinese regions for the period 2004 to 2007, Choy et al. (2009) did not find any evidence of any significant effect of outbound investment on domestic investment.

However, there are many studies that have come with the conclusion that the nature of relationship between outward FDI and domestic investment can be

complementary or competitive, depending upon many factors like economic structure and macroeconomic environment at home and host country, type of goods in which MNCs are dealing, nature of industry, location and motives of investment (Blomstrom & Kokko, 1998; Braunerhjelm et al., 2000 & 2005; Kokko, 2006; Hsu, Wang and Clegg, 2015; Al-Sadiq, 2013).

The relationship between FDI outflows and domestic investment is highly affected by the macroeconomic environment and structure of economy at home (Al-Sadiq, 2013). Moreover, if MNCs are dealing with intermediate goods then OFDI will stimulate domestic investment, but if MNCs are dealing with finished goods then there will be adverse effect on domestic investment (Blomstrom & Kokko, 1998). Using Ordinary Least Square (OLS) and iterative Seemingly Unrelated Regression (SUR) technique on the data of Swedish MNCs, Braunerhjelm and Oxelhem (2000) also found mix effects of OFDI on investment. The industries which are R&D intensive, the relationship is of substitutive nature but for the industries which are based on comparative cost advantages, the relationship is complementary. Besides, for the vertically integrated industries, OFDI stimulated domestic investment but for horizontally integrated industries, OFDI crowd out domestic investment (Braunerhjelm et al., 2005). Examining the case of Chinese outbound FDI, Hsu et al. (2015) found that the relationship between OFDI and domestic investment varies with the location and type of investment. Kokko (2006), while analyzing the effects of OFDI on the home economies of developed countries have concluded that these effects vary according to the characteristics of investment projects and the macro-economic environment of host and home economies. The level of savings, foreign exchange reserves at home, motives of OFDI and support by the domestic governments also influence the effect of OFDI on domestic investment (You and Soloman, 2015).

Hejazi and Pauly (2003) however maintained that it is not accurately possible to predict the direction of relationship between outward FDI and domestic investment, as it depends on the industry specific factors. Different firms and industries organize their production in different ways and these differences in their organizational structures, differently affect the nature of relationship between outward FDI and

domestic investment. As per the study conducted by them, in case of Canada and U.S. outward FDI is positively affecting domestic investment, but for the rest of the world this relationship is negative. In this analysis, they have asserted that while analyzing the impact of outward FDI on domestic investment, it is necessary to consider the industry-specific effects. The contradictory results in the previous studies are also due to these reflecting differences in their structure of different industries. In 2005, Desai et al. followed two different procedures to study interrelationship between these two variables. First, he followed the same specifications as used by Feldstein (but with larger sample size of OECD countries for the period from 1980s to 1990s) and in his second approach, he used the time-series data on capital expenditure for the multinationals of USA. Both of these approaches produced different findings. In his first analysis (for OECD counties) he found substitution effect of OFDI on domestic investment. But in the second analysis (for USA) he found complementary relationship between OFDI and domestic investment. Like Desai et al. (2005), Herzer and Schrooten (2008) also conducted their study for two industrialized countries (USA & Germany) for the period 1970-2004. They applied co-integration technique and ARDL approach and found that for USA the impact of outward FDI on domestic investment is positive (both in short run & long run), but for Germany this effect is positive in short run and negative in long run. The complementary relation for USA implies that US MNCs combine both domestic and foreign production to reduce their costs and to raise returns on domestic investment. But for Germany, the adverse effect of OFDI on domestic investment in long run is also due to the fact that in Germany labor cost is higher and therefore the firms in Germany reallocate scarce funds to foreign countries where investment is more profitable.

Chen & Yang (2013) also empirically investigated the impact of firm's foreign investment activity on domestic R&D spending of that firm. Their study found that there may exist both complementary as well as substitution effect of a firm's OFDI activity. They collected the data of Taiwanese manufacturing firms from 1992-2005 and used the method of Propensity Score Matching. Their empirical evidences reveal that Taiwanese firm's OFDI is positively affecting its domestic R&D spending, especially in R&D intensive industries.

2.4: Review of literature regarding impact of Outward FDI on productivity and growth:

One important point of debate in the last two decades is the impact of FDI outflows on the productivity and economic growth in the source economy. Outward FDI can be beneficial or pestilential to economic growth. In literature also there are evidences regarding both favorable and unfavorable impact of OFDI on economic growth in the source country. These different types of evidences for different countries are due to difference in the economic structures of different countries and also due to different types of outward FDI. Moreover there are different ways through which outward FDI can affect growth of the home economies viz. by affecting domestic productivity, innovations, reverse technology spillover, R&D expenditure etc. So, in this section all those studies have been reviewed which through any of the above ways can affect growth of the home economies.

Herzer (2008) conducted the panel data analysis to examine the long run effects of OFDI on domestic output in 14 industrialized countries for the time span of 1971 to 2005. His study came with the evidences of positive and bidirectional relationship between OFDI and domestic output. After that, using cross country regression and time series regression for 50 countries and USA for the time period of 1980 to 2000, Herzer (2010) investigated the relationship between OFDI and economic growth and found the same results that FDI positively affect economic growth and there is bidirectional causality between these two variables. Desai et al. (2005) also found the empirical evidences that OFDI promotes domestic production and hence economic growth. This positive relationship between the considered variables is supported by many firm level empirical studies (Chuang et al., 1999; Branstetter, 2006; Kimura and Kiyota, 2006; Navaretti et al., 2009; Hijzen et al., 2007; Pradhan et al., 2008; Chen & Zulkifli, 2012; Chen & Yang, 2014; Bertrand and Capron, 2015; Cozza et al., 2015; Li et al., 2017) and many country level studies (Blomstrom and Kokko, 1998; Herzer, 2008, 2010 & 2011; Lee, 2010; Wong, 2010; Chen and Zulkifli, 2012; Bitzenis and Vlachos, 2013; Li. et al., 2016; Ciesielske and Koltuniak, 2017; Knoerich, 2017). Chuang and Lin (1999) have found that if a firm's OFDI is increased by one percent then its domestic productivity is increased by 1.4

percent to 1.88 percent. Using the data of Japanese firms Kimura & Kiyota (2006) found that the firms that engage in cross border investments get higher productivity growth by 1.8 percent as compared to the firms that do not engage in cross border investments. Hizjen et al. (2007) also used the data of Japanese firms for the period 1995-2002 and after applying Propensity Score Matching and Difference-in-Difference estimate, they found the evidence of positive and significant impact of OFDI on productivity of firms. The same methodology was adopted by Navaretti and Castellani (2004 & 2009) on the firm level data of Italian and French firms to find the impact of OFDI in cheap labor countries and also in developed countries. They did not find any evidence of negative impact of FDI outflows on output and employment. But outward investment to developed countries creates larger scale effects, which stimulate domestic productivity and hence economic growth. Applying Tobit regression model on the data of 436 Indian automotive industries for the period 1988 to 2008, Pradhan and Singh (2008) advocated the hypothesis of positive impact of OFDI on domestic R&D intensity, which in turn promotes economic growth. Zhao et al. (2010) used the data of Chinese OFDI to 8 developed economies for the period 1991 to 2007 and applied Vector Auto-Regressive (VAR) decomposition model and found evidences of positive impact of OFDI on total factor productivity growth and it happens through the increased domestic R&D investments. Yang et al. (2013) also studied the impact of OFDI activities of Taiwan's manufacturing firms on their domestic technological efficiency. They used Propensity Score Matching technique and found evidences of positive impact of Outward FDI on the technological efficiency. Lee (2010) studied the country level data of Japan for the period 1977 to 2006 and found long run bidirectional relationship between outward FDI and GDP per capita. Herzer (2011) used the method of panel data analysis for 33 developing economies and confirmed the presence of complementary and bidirectional causal relationship between the considered economic variables. Chen and Zulkiflli (2012) examined the association between OFDI and economic growth of Malaysian economy. Their study concluded with absence of short run causation but presence of long run bidirectional causal relationship, means, there exist growth led internationalization and internationalization led growth in long run. Outward FDI via mergers and acquisitions also help the acquirer to have higher factor productivity at

home (Bertrand and Capron, 2015). Outward FDI is also an important source of technology spillover for the domestic firms, which result in higher economic growth (Branstetter, 2006). FDI outflows positively affect domestic activities specially the productivity and scale of operations at home (Cozza et al., 2015). Outward FDI generate the reverse spillover effects that stimulate domestic technological capabilities (Chen et al., 2012). Outward FDI helps the source country in improving scale economies, competitiveness and also in improving the cost effectiveness of the firms at home which in-turn leads to higher output and competitive advantage to other enterprises also that do not engage in overseas investments (Bitzenis and Viachos, 2013). One important contribution that outward FDI makes to home economy is higher R&D spending (Chen & Yang, 2013), that supports the hypothesis that OFDI by a firm and its domestic R&D activities are not substitutive rather they are complementary and thus outward FDI can be a useful tool for improving technological advancement. FDI outflows are also associated with better performance of firms, higher productivity, export and product innovations (Chen et al., 2014).

On the other hand, outward FDI can also be detrimental to economic growth (Wong, 2010; Lee et al., 2013; Ahmad, et al., 2016). Wong (2010) used the data of Malaysian economy for the period 1999 to 2008 and concluded that there exists only unidirectional causal relationship between OFDI and economic growth running from economic growth to OFDI and OFDI does not granger cause economic growth. Ahmad, et al. (2015) applied cross regression on the country level data of selected ASEAN economies and found that OFDI adversely affects economic growth. Lee et al. (2013) applied cross sectional econometric models on 578 manufacturing firms of Taiwan and did not find empirical evidences of relationship between outward FDI and total factor productivity.

Many studies that came up with positive relationship between OFDI and economic growth have added that the extent of this impact is not the same in all cases, rather it varies according to the type of OFDI and nature of host and home economies. Vahter et al. (2006) applied regression analysis for the data of 41,000 firms of Estonia for the time span of 1995 to 2002 and concluded with the evidence of positive impact of OFDI on domestic productivity but they also maintained that the extent of the

effects are different for different countries, different sectors, different time periods and for different types of OFDI. Activities of MNCs abroad can yield financial, capacity, capability and macroeconomic returns for the home economy and thus OFDI can play supplementary and complementary role in augmenting economic growth but the extent of this contribution to growth is not certain (Knoerich, 2017). Outward investment to developed countries creates larger scale effects (Navaretti et al., 2004 & 2009). Using Propensity Score Matching and Difference in Difference estimations on the manufacturing firms of China for the period 2002 to 2008, Li et al. (2017) found the empirical evidences of favorable impact of firm's OFDI on its domestic productivity but these effects vary according to the investment strategy of the investing firm. For the firms without government ownership, the productivity gains are higher than for the firms with state ownership. These views are also supported by Li. et al., (2016), who used the data of 30 Chinese regions for the time span of 2003-2010 and found positive and significant effect of OFDI on firm's domestic innovation performance. But these effects are moderated by three contingent factors namely: competition intensity, inward FDI and the absorption capacity of the local markets. Effects of outward FDI on home country depend upon the level of development achieved by the host economy (Hijzen et al., 2011). In case the overseas investment is made in developed economy then it will favorably affect domestic innovations, but if investment is made in emerging economies then domestic innovations will be adversely affected (Zhou et al., 2019). These views are also supported by Hong et al. (2019). Imbriani et al. (2011) also came with the mixed effects of outward FDI on the domestic performance of firm. Using the data of Italian firms for the period 2003-2006 and applying PSM and DID estimations, they found that if outward FDI is in manufacturing sector, then it supplements both employment and productivity at home but for service sector the effects on employment and productivity are negative.

After analyzing the existing literature on the impact of outward FDI on productivity and growth of home economy, it can be concluded that outward FDI can affect home economy's growth substantially. But the results are still ambiguous and need further empirical evaluation.

2.5 Summary and Research Gap

There is a vast empirical literature that examined the impact of outward FDI on home country investment, exports, productivity and growth. The extensive survey of this vast literature in the above sections of this study, provide sufficient reasons to believe that there are many empirical and logical explanations for the impact of FDI outflows on the home economies, but they could not succeed in establishing a universal application..

The theoretical and empirical review of the available literature on this topic has led to conclude that the impact of FDI outflows on home economy can be classified into four main categories: complementary, substitution, zero and mixed. Generality of the studies have highlighted complementary (positive) impact of outward FDI on the selected three variables (export, domestic investment and economic growth), although some exceptions are also seen. The mix results in the empirical studies are not surprising because different studies have used different sample countries, different time periods and different methodologies to explore the impact of FDI outflows on source economy. In the present context, it has also been seen that most of the studies have discussed the impact of FDI outflows with reference to advanced economies with very small number of studies providing evidences from the view point of developing economies. This was quite reasonable as developing economies were mainly the recipients of FDI and all FDI was coming from the developed economies. If the developing economies were internationalizing their operations then that internationalization was in the form of exports only (World Investment Report, 2018). But now, the situation has changed. A new phenomenon called 'Reverse FDI' i.e. flow of FDI from developing to developed economies is taking place (Bano and Tabbada, 2015). Transnational Corporations from many developing economies have started to invest in other developing economies and even in developed economies. The share of developing economies in the world outward FDI which was just 0.27 percent in 1970 increased to 45.8 percent in 2018 (UNCTAD 2019) Thus, there is a large scope for further research in studying the impact of outward FDI on the economies of developing economies. With less developed economies now emerging as important source of FDI, the research community

concerned with studying development implications of FDI is required to pay greater attention to the role of outward FDI in accelerating the pace of economic development of those developing economies from where the investment originates. Therefore, from the view point of both managerial and policy interests, it is extremely important to know the impact of these cross border activities on the efficiency levels of firms and economies of these developing economies, so as to understand how firms and the economies of developing countries have been reacting to these emerging challenges and which type of firms and economies are performing better than others in this period of transition.

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CHAPTER: 3
RESEARCH METHODOLOGY AND DATABASE

This chapter has been designed to present the methodological issues essential for guiding the study. In the first section of this chapter the research problem is stated. Then in the next section, the objectives of the study have been discussed. The next section discusses the research design used in the study along with the criterion used for the selection of sample, sources of data collection and also various statistical and econometric tools used for data analysis. Further, in the last section the structure of the thesis is discussed.

3.1 Statement of the Research Problem

Outward FDI from the Asian countries is not entirely a new happening. It started during 1970s with Japan, the first Asian economy that accomplished industrialization in its modern form and also experienced rapid economic growth. Now other rapidly industrializing economies of Asia like China, Malaysia, India, Thailand, and Indonesia have also going in this direction (Bano & Tabbada, 2015).

During the last two decades there is significant rise in the Outward Foreign Direct Investment from the developing and transition economies of Asia. The governments of Asian countries have moved gradually from restricting to supportive outward FDI. Many Asian economies like India are gradually liberalizing their economies. These developments created several opportunities for many firms in the Asian economies to participate in international markets. Over a period of time, the nature and type of their participation in international markets has significantly changed. In the early period of internationalization, the participation by these economies was mainly in the form of export in commodities. But with the passage of time, the firms from Asian countries have also started to internationalize by the way of Outward FDI. Regardless of their size and level of development, many Asian countries now engage in outward FDI. Firms from many of developing Asian economies have been establishing their production units and subsidiaries in other developing economies since the beginning of the present century but now they have

also started establishing their manufacturing units even in the developed countries. The need to update their outdated technologies and also to gain access over scanty assets of foreign countries may induce firms to go for outward FDI. Moreover, firms can also reap significant benefits by internationalizing their operations by the way of OFDI like they can get easier access to the superior global technologies and better market opportunities, larger scale economies due to huge foreign markets, more knowledge about the professional management applications, abundant avenues for interesting assignments and also higher earnings for its technical and managerial workforce. The FDI from these rapidly growing Asian economies has grown not only in absolute but also in relative terms. The share of Asian economies in the total outward FDI flow increased from 16.5 % in 2005 to 54.3% in 2018(World Investment Report, 2019).

If we talk about the FDI outflows from developing economies then, within the developing economies, the majority of Outward FDI comes from Asia (Bhasin & Paul, 2015). Out of total FDI outflow in the world, the share of developing economies was 41.2 % in 2018 and out of this, the share of developing economies of Asia was 39.6% during the same period (UNCTAD, 2019). Moreover, within Asia, the economies of East Asia and South-East Asia are contributing the largest share in Asian OFDI.

In the present circumstances, due to the increasing involvement of Asian economies in FDI outflows, the subject that needs extensive debate is that whether Outward investment of MNCs affects their performance at home or not? The general perception on this subject is mixed. One argument is that when companies invest abroad, they actually shift their production capabilities towards foreign country and that adversely affect their domestic performance of the company. Actually, when a company invests at different locations, the scarce funds are distributed in these locations, which imply that outward FDI substitutes foreign activities for domestic activities (Herzer, 2008). Against this, there is another optimistic view point that outward FDI brings opportunity for the investing firms to enter a new market and to import intermediate products and resources from foreign markets at a cheaper rate and to get access to foreign technology. It may help the firms to produce greater output at

a lower cost. In this sense, firms investing abroad can combine their domestic production with foreign production to reduce cost and to strengthen their competitive power both domestically and internationally, which will help to stimulate output and demand at home (Desai et al., 2005).

Considering the above two different viewpoints, it can be said that outward FDI may work in both directions in affecting domestic performance of the firms. The scale of domestic activities could expand or contract, technologies of foreign countries could be acquired or own domestic technology get exhausted to foreign contenders, domestic functioning of the firm could be strengthened or weakened by alterations in their factor usage (Navaretti et. al, 2004). But unfortunately, there are very few studies that examined the effects of Outward FDI on the home economies of Asian countries.

3.2 Need of the Study

The structure of many Asian economies has significantly changed due to the deregulation and liberalization, accompanied by the globalization process and there is rapid expansion of Outward Foreign Direct Investment from Asian economies. Some of these economies may be the economic superpowers of the future. Similar words are resounded everywhere. However, whether these economies are moving on the right path or not, becomes a very important question. Therefore from the point of view of both managerial and policy interests, it is extremely important to know the impact of these cross border activities on the efficiency levels of firms and the economies of these countries so as to understand how the firms and the economies have been reacting to these emerging challenges and which type of firms are performing better than others in this period of transition. But unfortunately, there are not many studies that examined the effects of Outward FDI on the home economies of Asian countries. The study of this topic is important not only for the developed countries, (in which there are high OFDI stock), but also for the developing economies (in which levels of OFDI are high, but still OFDI potential is unexploited).

3.3 Objectives of the study

After extensive review of the existing literature it was found that large numbers of researchers have explained different facets of OFDI. But some gaps were also identified, which this study tried to fill. Keeping in view the identified gaps, the study proposed the following objective:

a) To analyze the trend and pattern of outward foreign direct investment in select Asian economies.
b) To examine the relationship between outward foreign direct investment and domestic investment in select Asian economies.
c) To understand the causal relationship between outward foreign direct investments, economic growth and export in select Asian economies.
d) To analyze the Investment Development Path in select Asian economies.
e) To identify the determinants of outward foreign direct investment in select Asian economies.

3.4 Methodology

3.4.1 Criterion for selection of Countries:

Twelve economies of Asia have been selected for the present study. The main reason for selecting the economies of Asian region in this study is that Asian region is rapidly integrating with the world economy. Many countries of Asian region have shown miracles in the economic spheres and have emerged as the powerhouse of the world economy. This region has shown remarkable progress in reducing poverty. Even in the field of education and health, countries of Asia have set new examples. The technology developed in Asian region have reached almost everywhere and touched the life of everyone in the world. Because of the increasing significance of Asia in the world, the dynamism of this region is of special interest for the world community and researchers. The new developments and innovations that are taking place in Asian region are putting its impact all over the world and this region is also greatly influenced by the developments taking place all around the world. All these things reflect the increasing interconnectedness of Asian region with the world. As

stated earlier, out of the total FDI outflows in the world, share of the Asian region in the year 2018 was 54.3 percent (World Investment Report, 2020). Moreover in the year 2018, out of the top 20 investing economies in the world, nine countries were from Asia with Japan at number one position and China at the number two position (WIR, 2020). This shows the strength of Asian region in the world FDI flows.

The selection of twelve countries of Asia for the present study is made on the basis of a specific criterion, in which data relating to nine different variables about all the countries of Asia for 2018 (the year in which we selected countries for our study) was obtained from the World Development Indicators published by World Bank. These nine variables are: Level of outward FDI, Level of Inward FDI, growth rate of GDP, growth rate of GDP per capita, imports percentage of GDP, exports percentage of GDP, gross capital formation percentage of GDP, domestic savings as percentage of GDP and Ease of doing business index.

Table No. 3.1: Share of select Asian economies in the world OFDI, Asian OFDI, World IFDI, Asian IFDI, World GDP and Asian GDP (2018)

Country	Share in World OFDI (%)	Share in Asian OFDI (%)	Share in World IFDI (%)	Share in Asian IFDI (%)	Share in World GDP (%)	Share in Asian GDP (%)
China	12.8	23.6	10.7	25.6	18.7	39.8
HongKong	8.4	15.5	8.9	21.3	0.35	0.76
Taiwan	1.8	3.3	0.54	1.29	0.92	1.96
India	1.08	2.0	3.3	7.8	7.7	16.3
Indonesia	0.8	1.5	1.7	4.05	2.6	5.5
Japan	14.1	26.0	0.76	1.8	4.16	8.9
Korea	3.8	7.1	1.1	2.7	1.6	3.4
Malaysia	0.52	0.96	0.62	1.49	0.74	1.57
Saudi Arabia	2.09	3.85	0.25	0.59	1.37	2.92
Singapore	3.7	6.7	5.9	14.3	0.41	0.87
Thailand	1.75	3.2	0.81	1.93	0.98	2.08
UAE	1.5	2.7	0.8	1.9	0.54	1.2
Total	**52.3**	**96.43**	**35.48**	**84.73**	**40.02**	**85.11**

Source: Author's own compilation from world Development indicators and World Investment Report (2019)

On this basis of these nine variables, different countries were given ranks. Thereafter ranks of each country were totaled and averaged. Then going from lowest to highest, eleven counties of Asia were selected. Based on the average of all ranks, one country Japan obtained lower rank. But we deliberately included Japan in our study. Due to its very high outward FDI orientation, Japan, cannot be ignored. Japan is the leading investing county of the world. It has always remained in the UNCTAD's list of 'Top 20 Investing countries' of the World (For detail of the country selection criterion please see appendix).

In terms of outward FDI, in 2018 and 2019, Japan was the top most investing country of the World with 14.1 percent outward FDI in 2019 coming from Japan alone. So, keeping in view, its contribution in world FDI outflows, Japan was also added in the list of selected countries.

Table no. 3.1 shows that twelve countries namely China, Hongkong, Taiwan, India, Indonesia, Japan, Republic of Korea, Malaysia, Saudi Arabia, Singapore, Thailand and United Arab Emirates were selected for the study. The selected countries of Asia are having a dominant share in world FDI flows and also in world GDP.

Table no. 3.1 explains that in the year 2018, these twelve select Asian economies contributed 52.3 percent share in the world FDI outflows. These countries are so big and economically strong countries of Asia that almost entire (96.43 percent) outward FDI from Asian region came from these twelve Asian economies. In terms of FDI inflows 35.5 percent of FDI inflows of the world came to these twelve select economies and out of total inward FDI OF the world, 84.73 percent FDI came to these twelve select Asian economies. In terms of GDP, 40.02 percent share of world GDP is contributed by these twelve economies and in Asian GDP, share of these select economies is 85.11 percent. Keeping in view the size of these economies and also the level of interconnectedness with the world economy in terms of FDI flows (both inward and outward), these economies have been selected for the present study.

3.4.2 Sources of data:

For the purpose of the study the data has been obtained from various reports like World Investment Reports, World Development Indicators and also from the online sources of UNCTAD, World Bank, IMF, and RBI. For the analysis of data MS Excel and eviews 9 software have been used.

3.4.3 Choice of time period:

In the present study an attempt has been made to study various dimensions of outward foreign direct investment from the select Asian economies. Depending upon the availability of data the present study uses annual data of 39 years ranging from 1981 to 2019.

3.4.4 Techniques used for data analysis

To achieve different objectives of the study the data collected from the online sources of UNCTAD and World Bank has been analyzed using various statistical and econometric techniques like averages, descriptive statistics, Compound Annual Growth Rate, Index of Rank Dominance, Relative Index of Rank Dominance, Growth Index of OFDI, bivariate regression model, Panel Unit Root, Panel Vector Auto Regressive Model, Wald test, Granger Causality test, Impulse Response Function, Variance Decomposition test, correlation analysis, Panel Cointegartion tests (Johansen Fisher method and Pedroni Residual test), Panel ARDL model (short run and long run), Pair wise Granger Causality test, Hausman test and Fixed Effect model.

By making use of averages, Compound Annual Growth Rates, Index of Rank Dominance (IRD), Relative Index of Rank Dominance (RIRD), Growth Index of outward FDI (both in absolute terms and proportionate terms) and bi-variate regression model, it has been explained in a systematic manner how the outward FDI has evolved in the World, in Asia and also in the select Asian economies. These indices have explained in a very clear manner that the Asian economies which were initially the net receivers of FDI have started contributing a major share in world outward FDI. By presenting these averages and indices by tables and graphs, the study explained how the Asian economies through their FDI flows (both inward and

outward) have presented a picture of their strong economies. As in our study twelve Asian economies have been included, therefore we have also analyzed the growth of outward FDI in each of these economies separately.

3.4.4.1: Measuring Compound Annual Growth Rate:

The Compound annual growth rate is measured by the following formula:

$$CAGR = \left(\frac{Final\ Value}{Beginning\ Value}\right)^{1/t} - 1 \qquad \text{---------- } (i)$$

Where CAGR is the Compound Annual Growth Rate and 't' is time in years.

3.4.4.2: Measuring the Pattern of Rank Dominance:

The pattern of rank dominance of outward foreign direct investment is measured by using the Index of Rank Dominance (IRD) and Relative Index of Rank Dominance (RIRD). The IRD measures whether a country is continuously dominating the position or not. IRD is a novel measure with the help of which one can measure the degree of dominance on ordinary scale (e.g. ranks). Another improved version of IRD is the Relative Index of Rank Dominance (RIRD). RIRD is used to measure the degree of dominance on relative basis. The RIRD provides the proportionate weight of IRD. In the study relating to OFDI from select Asian economies, the IRD has been calculated for the period of seven years (2013-2019) by using the following formula:

$$IRD = \left(\frac{\sum_{i=2013}^{2019} (Rank\ Score).}{Total\ score}\right) \qquad \text{---------- } (ii)$$

Where IRD is the Index of Rank Dominance.

Rank Score = Sum of ranks (In descending order i.e. 20, 19, 18 .....) of a country in the OFDI list. It means the country at the top of OFDI list will get the highest score of 20 and the country at the second position in the list will get score of 19 and so on.

Total score = Maximum rank score multiplied by the number of years.

For calculating IRD in the study, the ranking of top 20 investing countries (as per World Investment Report, 2020) for the period of seven years (2013-2019) has been used. Therefore the total score will be equal to 20 multiplied by 7, i.e. 140.

This IRD has following four important properties (Sinha, 2016):

- IRD value is always positive and can not exceed one.

  i.e. $0<IRD\leq 1$

  Value of IRD is always greater than zero because for calculating IRD, only those investing countries are included, which have at least one time remained in the UNCTAD's list of top 20 investing countries during the period of 2013-2019. Moreover, if a county has remained at the top position for the entire period of study, then its IRD value will be the maximum at one.
- IRD is a measure of continuous dominance.
- The relative continuous dominance of a country is measured by using the Relative Index of Rank Dominance (RIRD).
- Index of Rank Dominance can only be applied on a panel data. i.e. data having more than one cross-section and more than one time period.

3.4.4.3: Measuring Bi-variate regression model:

Trend analysis of outward FDI on country-by-country basis is performed by using bi-variate regression model in the following form

$$OFDI_i = a + b*Time + \varepsilon_i \qquad \text{---------- } (iii)$$

Where $OFDI_i$ is the outward FDI of the i^{th} country and is the dependent variable. Time is the independent variable. 'a' is the intercept of the model and 'b' is the slope of this equation.

3.4.4.4: Measuring Growth Index of Outward FDI:

The growth index of outward FDI is measured by using the following formula:

$$GI_{OFDI} = \frac{\text{OFDI}t}{\text{OFDIb}} \times 100 \qquad \text{---------- } (iv)$$

Where GI_{OFDI} is the growth index of outward FDI, $OFDI_t$ is the level of OFDI at time period 't' and $OFDI_b$ is the level of OFDI in the base period.

3.4.4.5: Panel Unit Root:

Before starting the procedure of causality between the variables of interest, it is necessary to check whether the series are having unit root or not. A non-stationary data may create the problem of spurious regression and may lead to misleading results. A non-stationary data may result in high values of R^2 and t-statistics, that seem to be significant, but such result will not be having any economic implication (Enders, W. 2008). Thus, if a data is non-stationary, regression should not be used for analyses of data (Koop, 2006). In this situation, it becomes necessary to check the data for its stationarity. A data is said to be free from unit-root, if means and variances in the data remain constant over time. If unit-root is present in the data, then behavior of data can be studied only for the period under consideration but it cannot be generalized for other time periods (Dickey & Fuller, 1981).As per the recent literature, the results provided by panel-based unit root tests have higher power than the results provided by the unit root tests which are based on individual time series. There are many panel unit root tests like the tests provided by Levin, Lin & Chu (2002), Im, Pesaran & Shin (2003) and Fisher type tests that uses Phillips-Perron and Augmented-Dickey Fuller tests. The unit root test provided by Levin, Lin & Chu (LLC) assumes that homogeneity of the auto-regressive roots for all individuals of panel. The LLC test is based on the pooled data. The LLC test uses the following equation for estimating the stationary of the series:

$$Y_{it} = \alpha_i Y_{i,t-1} + X'_{it} \gamma + \mu_{it} \qquad \text{---------- } (v)$$

Where 'I' varies from 1 to 'N' and 't' varies from 1 to 'T'. X_{it} is the deterministic component and μ_{it} is the stationary process. The LLC test I based on the assumption that the distribution of the residuals is identical and independent with mean equal to zero and variance equal to sq*u*are $of\ \sigma$. and $\alpha_i = \alpha$ for all value of 'I'. The null hypothesis of LLC test is that all the series in the panel are non-stationary or they have unit root and the alternative hypothesis is that series are free from unit root or they are stationary.

Whereas the tests propounded by Im, Pesaran & shin (IPS) has provided a different framework for testing of unit root on panel data that allows for the heterogeneity on the lagged level firm. Unlike the LLC panel unit root test that permit the heterogeneity of intercept terms only , the IPS test also permits the heterogeneity of slope term for all the units of cross section. The IPS test is specified in the form of the following equation:

$$Y_{it} = \alpha_i Y_{i,t-1} + \sum_{j=1}^{n} \beta_{1,j} \Delta Y_{i,t-j} + X'_{it} + e_{it} \quad \text{---------- (vi)}$$

The null hypothesis of all the panel unit root tests are the same that all the series in the panel are non-stationary or are having unit-root and the alternative hypothesis in that the series are stationary or are free from unit-root. The main difference between LLC test and IPS test is that the LLC test depends upon the pooled data but the IPS test is obtained as the average of individual unit root test statistics.

Like IPS test, the Augmented-Dickey Fuller (ADF) and Phillips-Perron (PP) also allows for the heterogeneity on the lagged level firm. In the study, all these four types of unit root tests are applied on the panel data for testing the stationarity of the series.

3.4.4.6: Lag Order Selection Criterion:

Before applying VAR model or ARDL model, it is essential to specify the optimum number of lags. The literature suggests that lag length should be selected after applying some Information Criterion. There are a number of criteria like AIC (Akaike Information Criterion), SIC (Schwartcz Information Criterion), HQ (Hannan-Quinn Criterion), RMSE (Root Mean Square Error) criterion etc. Different criteria give different optimum lag length. However, AIC or SIC criteria are generally used for selecting optimum lag length of a VAR model. Literature also supports that the criterion giving lowest value should be chosen.

3.4.4.7: Panel VAR Model:

To study the relationship between domestic investment and outward foreign direct investment for the select Asian economies, Panel VAR model of the following form has been applied.

$$OFDI_{i,t} = \alpha_0 + \sum_{j=1}^{n} \alpha_{1,j}\, OFDI_{i,t-j} + \sum_{j=1}^{n} \alpha_{2,j}\, DI_{i,t-j} + \nu_{i,t} \qquad \ldots\ldots\ldots\ldots (vii)$$

$$DI_{i,t} = \beta_0 + \sum_{j=1}^{n} \beta_{1,j}\, DI_{i,t-j} + \sum_{j=1}^{n} \beta_{2,j}\, OFDI_{i,t-j} + \mu_{i,t} \qquad \ldots\ldots\ldots\ldots (viii)$$

Where, 'i' refers to country and varies from 1 to N, 't' refers to time period and varies from 1 to T, and n refers to the number of lags. $\nu_{i,t}$ and $\mu_{i,t}$ are white noise errors. OFDI denotes outward foreign direct investment and DI shows domestic investment.

3.4.4.8: Wald Test:

The VAR model results show the effect of each variable and its lags on the dependent variable. It is quite possible that any of the independent variable or the lags of independent variables are insignificant individually but jointly they may be significant and vice-versa. But if we want to test the joint effect of all the lags of independent variable on dependent variable, then Wald test of joint significance will be used. Accordingly, to test the joint effect of all the lags of outward FDI on domestic investment and also to test the joint effect of all the lags of domestic investment on outward FDI, the Wald test of joint significance is applied.

3.4.4.9: Impulse Response Function:

The test of Granger causality is limited only to the study of in-sample test and it does not provide information about dynamic interaction of the variables beyond the period of sample. Going with this purpose, Impulse response Function has been employed. IRF is an important step in econometric analysis, which employ VAR model (Franz X. Mohr, 2019). They are used for obtaining more information about the dynamic behavior of VAR model. Through IRF more clarity and light can be

thrown to the information provided by Granger Causality test. IRF helps in explaining the sign of relationship between the two variables and they also help in explaining how long these effects will be operational. The IRF are applied with the purpose of explaining the evolution of a model's variable, when a shock is given to one or more variable. In the present study, period of response is taken to be ten years. So, here IRF will explain how long and in what manner OFDI will affect domestic investment and domestic investment will affect OFDI during the next ten years, when one standard deviation shock is given to the residuals of each variable.

3.4.5.0: Forecast Error Variance Decomposition (FEVD) or Variance Decomposition Model

The variance Decomposition Analysis gives information regarding the relative strength of random shock in the model. If a variable is purely exogenous, then its forecast error variance shall be explained only by its own shock (Sins, 1980). Like IRF, the Variance Decomposition model is applied to study dynamic interaction of the variables beyond the period of sample. These tests are helpful in explaining how long the impact of independent variables on dependent variables will be operational. Moreover, the causal relationship between OFDI and DI is also examined on country-by-country basis.

3.4.5.1: Panel Cointegartion Test:

For testing the existence or non-existence of long run relationship between OFDI, export and GDP, the study employs panel-cointegartion tests. In the study Johansen-Fisher panel cointegartion test and Pedroni residual cointegartion (Pedroni, 1999 & 2000) tests are applied. Fisher test uses Johansen Methodology (Maddala & Wu, 1999), whereas Pedroni test uses Engle-Granger framework. Using some specific parameters, Pedroni allows for the heterogeneity in the series and permits them to vary across individual units of the sample. In other world, Pedroni allows the interdependence of cross-sections with unique individual effects and it is generalized in the following form:

$$\Delta Y_{it} = \alpha_i + \beta_{it} + \Delta Y_{i,t-j} + \varepsilon \qquad \text{---------- } (ix)$$

The Pedroni residual cointegration test consists of seven components: panel variance-statistic, panel Rho-statistic, panel t-statistic (non-parametric PP), panel t-statistic (parametric ADF), group Rho-statistic, group t-statistic (non-parametric PP) and group t-statistic (parametric ADF). Among these seven tests, the firs four are based on pooling and are referred to as within dimensions tests, whereas the last four tests are based on between dimensions. In both types of tests the null hypothesis is that cointegration among the series does not exist. If the calculated value of the test statistic is more than the tabulated value then we can reject the null hypothesis of no cointegartion otherwise the null hypothesis is accepted. The cointegartion test only estimates the long run relationship and does not tell about the direction of causality between the variables. For testing cointegartion between OFDI, export and GDP in the study, the cointegartion model has been applied in three parts (i) When OFDI is the dependent variable (ii) When Export is the dependent variable (iii) When GDP is the dependent variable.

3.4.5.2: Panel ARDL Model:

After having ensured from the unit root test results that our variables are the mixture of I (0) and I (1), and none of the variable is I(2), we went for applying Panel ARDL model. The panel ARDL model is the OLS based model which is used to explore long run and short run cointegration correlation between the variables and also to identify the short run dynamics. The ARDL model uses two types of lags namely, Autoregressive lags and Distributed lags. 'Autoregressive lags' are the lags of dependent variable and 'Distributive lags are the lags of independent variable. The term 'autoregressive' in the ARDL model means the dependent variable is explained by its own lagged values. The term 'distributed' in the ARDL model means the dependent variable is also explained by the lagged values of independent variables and the current values of the independent variables can also be included in the model. Unlike VAR model, that includes only the endogenous variable, the ARDL model uses both endogenous and exogenous variables.

ARDL Model Specification

The generalized ARDL (p,q,q … q) model is specified as:

$$Y_{it} = \delta_i + \sum_{j=1}^{p} aij\ Y_{i,t-j} + \sum_{j=0}^{q} bij\ X_{i,t-j} + e_{it} \quad \text{---------(x)}$$

Where Y_{it} is the response variable or dependent variable, (X_{it}) is a K_{x1} vector that are permitted only to be purely I(0) or I(1) or cointegrated, aij is the coefficient of the lagged response variable called scalars, b_{ij} are K_{x1} coefficient vectors, δ_i is the unit specific fixed effects; I = 1,2,….N, t= 1,2 ----T; p, q are the optimal lag orders, p is the no. of lags of response variable and q is the no. of lags of independent or predictor variables, e_{it} is the error term.

The re-parameterized ARDL (p,q,q---q) Error Correction Model can be defined as:

$$\Delta Y_{it} = \theta[Y_{i,t-1} - \beta_i X_{i,t}] + \sum_{j=1}^{p-1} \xi ij\ \Delta Y_{i,t-j} + \sum_{j=0}^{q-1} bij\ \Delta X_{i,t-j} + \delta_i + e_{it} \quad \text{------(xi)}$$

Where $\delta_i = -(1- a_i)$ group-specific speed of adjustment coefficients (expected that $\delta_i < 0$)

β_I = Vector of long run relationship, ECT = $[Y_{i,t-1} - \beta_i X_{i,t}]$ the Error Correction Term and ξ_{ij}, b_{ij} are the short run dynamic coefficients.

In the study the ARDL model is employed to explore relationship between OFDI, Export and GDP, so the ARDL model can be specified in three parts namely, (i) when OFDI is the dependent variable, (ii) when export is the dependent variable and (iii) when GDP is the dependent variable.

<u>ARDL model when OFDI is the dependent variable:</u>

$$OFDI_{it} = \alpha_i + \sum_{m=1}^{p} \lambda_{im}\, OFDI_{i,t-m} + \sum_{m=0}^{q} \delta_{1,im}\, EXPORT_{i,t-m} + \sum_{m=0}^{q} \delta_{2im}\, GDP_{i,t-m} + \varepsilon_{it}$$

--------- (xii)

Where OFDI is the dependent variable, EXPORT and GDP are two dynamic regressors. α_i is constant, ε_{it} is the disturbance term for i= 1,2,3 ---12 cross sectional Asian economies observed for period t= 1981, 1982 ---- 2019, p = no. of lags of

dependent variable OFDI, q = no. of lags of independent variables export and GDP. λ_{im}, $\delta_{1,im}$ and $\delta_{2,im}$ are the coefficients of lagged values of $OFDI_{i,t-m}$, $EXPORTI_{i,t-m}$ and $GDP_{i,t-m}$ respectively.

The above equation can be re-parameterized as:

$$\Delta OFDI_{it} = \alpha_i + \varphi_i ECT_{it} + \sum_{m=1}^{p-1} \lambda^*_{im}\, \Delta OFDI_{i,t-m} + \sum_{m=0}^{q-1} \delta^*_{1im}\, \Delta EXPORT_{i,t-m} + \sum_{m=0}^{q-1} \delta^*_{2im}\, \Delta GDP_{i,t-m} + \varepsilon_{it}$$

---------- *(xiii)*

Where $ECT_{it} = OFDI_{i,t-1} - \beta'_{1i} EXPORT_{it} - \beta'_{2i} GDP_{it}$ is the Error Correction Term (ECT)

ARDL Model when EXPORT is the dependent variable:

$$EXPORT_{it} = \alpha_i + \sum_{m=1}^{p} \lambda_{im}\, EXPORT_{i,t-m} + \sum_{m=0}^{q} \delta_{1,im}\, OFDI_{i,t-m} + \sum_{m=0}^{q} \delta_{2im}\, GDP_{i,t-m} + \varepsilon_{it}$$

---------- *(xiv)*

Where EXPORT is the dependent variable, OFDI and GDP are two dynamic regressors. α_i is constant, ε_{it} is the disturbance term for i= 1,2,3 ---12 cross sectional Asian economies observed for period t= 1981, 1982 ---- 2019, p = no. of lags of dependent variable OFDI, q = no. of lags of independent variables OFDI and GDP. λ_{im}, $\delta_{1,im}$ and $\delta_{2,im}$ are the coefficients of lagged values of $EXPORT_{i,t-m}$, $OFDI_{i,t-m}$ and $GDP_{i,t-m}$ respectively.

The above equation can be re-parameterized as:

$$\Delta EXPORT_{it} = \alpha_i + \varphi_i ECT_{it} + \sum_{m=1}^{p-1} \lambda^*_{im}\, \Delta EXPORT_{i,t-m} + \sum_{m=0}^{q-1} \delta^*_{1,im}\, \Delta OFDI_{i,t-m} + \sum_{m=0}^{q-1} \delta^*_{2im}\, \Delta GDP_{i,t-m} + \varepsilon_{it}$$

---------- *(xv)*

Where $ECT_{it} = EXPORT_{i,t-m} - \beta'_{1i} OFDI_{it} - \beta'_{2i} GDP_{it}$ is the Error Correction Term (ECT)

ARDL model when GDP is the dependent variable:

$$GDP_{it} = \alpha_i + \sum_{m=1}^{p} \lambda_{im}\, GDP_{i,t-m} + \sum_{m=0}^{q} \delta_{1,im}\, EXPORT_{i,t-m} + \sum_{m=0}^{q} \delta_{2im}\, OFDI_{i,t-m} + \varepsilon_{it}$$

------- *(xvi)*

Where GDP is the dependent variable, EXPORT and OFDI are two dynamic regressors. α_i is constant, ε_{it} is the disturbance term for i= 1,2,3 ---12 cross sectional Asian economies observed for period t= 1981, 1982 ---- 2019, p = no. of lags of dependent variable OFDI, q = no. of lags of independent variables export and GDP. λ_{im}, $\delta_{1,im}$ and $\delta_{2,im}$ are the coefficients of lagged values of $GDP_{i,t-m}$, $EXPORTI_{i,t-m}$ and $OFDI_{i,t-m}$ respectively.

The above equation can be re-parameterized as:

$$\Delta GDP_{it} = \alpha_i + \varphi_i ECT_{it} + \sum_{m=1}^{p-1} \lambda^*_{im}\, \Delta GDP_{i,t-m} + \sum_{m=0}^{q-1} \delta^*_{1,im}\, \Delta EXPORT_{i,t-m} + \sum_{m=0}^{q-1} \delta^*_{2im}\, \Delta OFDI_{i,t-m} + \varepsilon_{it} \quad \text{----- (xvii)}$$

Where $ECT_{it} = GDP_{i,t-m} - \beta'_{1i} EXPORT_{it} - \beta'_{2i} OFDI_{it}$ is the Error Correction Term (ECT)

3.4.5.3: Granger Causality Test:

The VAR model and ARDL model tell about the existence or absence of long run relationship between the variables. But it does not give any idea about the direction of causal relationship between the variables. For knowing the nature of causal relationship, we have to apply the causality tests. The causality tests provide that there can be three types of causal relationship between them (neutral, uni-directional or bi-directional causal relationship). The Granger causality is basically based on the assumption that a variable Y Granger causes variable X, if X can be predicted in a better way using the histories of both Y and X than it can be predicted using the histories of X alone. The Granger-Causality relationship between the variables can be bidirectional (feedback) or unidirectional. If the relationship is bidirectional, then it means that both the variables are causing each other or there is a feedback effect between the variables. On the other hand if the causality is unidirectional then it means that feedback between them is absent or only one variable (say variable Y) is causing the other variable (say variable X) and not vice-versa. But if none of the variable is causing the other then, both the variables are said to be

independent. In a panel data, the Granger causality is tested by running bivariate regressions, which takes the following forms

$$Y_{it} = a_{oi} + a_{1i} Y_{it-1} + \text{-----} a_{ki} Y_{it-k} + b_{1i} X_{it-1} + \text{-------} b_{ki} X_{it-k} + \mu_{it} \quad \text{----------} \ (xviii)$$

$$X_{it} = a_{oi} + a_{1i} X_{it-1} + \text{-----} a_{ki} X_{it-k} + b_{1i} Y_{it-1} + \text{-------} b_{ki} Y_{it-k} + \mu_{it} \quad \text{----------} \ (xix)$$

Where 't' is the time period and in the study it ranges from 1981 to 2019. 'i' is the no. of cross sections i.e. the twelve Asian economies observed in the study. Equation (xviii) provides that Y_{it} is the dependent variable and it depends upon its own past values and also on the past values of X_{it}. Similarly, equation (xix) provides that X_{it} is the dependent variable and it depends upon its own past values and also on the past values of Y_{it}. The unidirectional causality from X_{it} to Y_{it} exists if the estimated coefficients of X_{it} are statistically different from zero as a group but the estimated coefficients of the lagged values of Y_{it} are not statistically different from zero. In the same way the unidirectional causality from Y_{it} to X_{it} exists if the estimated coefficients of Y_{it} are statistically different from zero as a group but the estimated coefficients of the lagged values of X_{it} are not statistically different from zero. The causality between X_{it} and Y_{it} is said to be bi-directional or feedback, if the set of the estimated coefficients of X_{it} and Y_{it} are statically different from zero in both the above equations. There will be no causal relation between X_{it} and Y_{it} , if the set of the estimated coefficients of X_{it} and Y_{it} are statically not different from zero in both the equations.

In the study, the granger causality test is applied to explore the causal relationship between domestic investment and outward foreign direct investment on the panel data of select twelve economies and also on the time series data of each of the economy selected economy. Besides, pair-wise granger causal relationship is studied between export, GDP and OFDI.

For analyzing the Investment Development Path in select Asian economies, the study first explained how various growth researchers and scholars have explored the relationship between country's level of economic development and its Net Outward Investment Position (NOIP). In this chapter, using the IDP theory of

Dunning it is explained that when country develops and its level of GDP and GDP per capita improves, changes in its net outward investment will also take place. A country is a net receiver of FDI in the initially stages of Investment Development path and then in the later stages, it becomes net investor country. Along with the five stages of IDP, there are several changes in the advantages that a country has in the form of ownership, location and internalization and these changes in OLI advantages improve the NOIP of the country from negative NOIP to positive NOIP. Moreover as a country develops, its motives of outward FDI also changes from resource-seeking and market-seeking to efficiency-seeking and strategic-asset seeking. To know whether the growth path of NOIP of the selected Asian economies is following or not following the stylized path of IDP as suggested by Dunning in his theory, we have applied the quadratic form of regression equation of NOIP on Real GDP per capita and square of Real GDP per capita. The quadratic form equation uses the following model for IDP:

$$NOIP = \alpha_0 + \beta_1 PGDP + \beta_2 PGDP^2 + e \qquad \text{-------- } (xx)$$

Where NOIP is the dependent variable and is defined as the difference between stock of outward FDI and stock of inward FDI. PGDP and $PGDP^2$ are the independent variables. PGDP is the Per capita Real GDP (2010=100).

To identify the determinants of outward foreign direct investment in select Asian economies' the annual data of outward FDI and other variables for select

Asian economies is used and then panel econometric techniques are applied on it. The dependent variable of the study is Outward FDI at current prices. The various independent variables (home country determinants) for the model includes level of economic development, Marker demand, Openness to trade, Inward FDI at current prices, foreign exchange reserves, Real effective Exchange rate, Inflation level. First of all the panel data of all the selected variables is tested for the statioanrity using various panel unit root tests. After that depending upon the results of Hausman test, the Fixed Effect regression model was applied to find the determinants of outward FDI. In accordance with the variables selected for the study, the following model is used to find the determinants of OFDI:

$$LOFDI_{it} = \alpha_{it} + \beta_1 LGDP_{it} + \beta_2 LGDPpc_{it} + \beta_3 LGDS_{it} + \beta_4 LIFDI_{it} + \beta_5 LOPENNESS_{it} + \beta_6 LRESERVES_{it} + \beta_7 LINFLATION_{it} + \beta_8 LEXRATE_{it} + \beta_9 LGCF_{it} + \beta_{10} dummy_{it}$$

------- *(xxi)*

Where OFDI is the outward foreign direct investment and is the dependent variable. GDP is the Gross domestic product at home and it measures the level of economic development, GDPpc is the Per capita GDP and it measures the level of market demand, GDS is the Gross domestic Savings at home, IFDI is the inward foreign direct investment, OPENNESS is the degree of trade openness and is measured as export plus import as a percentage of GDP, RESERVES is foreign exchange reserves, INFLATION is the inflation rate at home and it is measured by Consumer Price Index(CPI), EXRATE is the foreign exchange rate, GCF is the gross capital formation. Dummy has also been added to encompass the effect of worldwide financial crisis of 2007, 2008 & 2009. The dummy assumes the value of 0 for the time period preceding 2007 and succeeding 2009 and 1 for the periods of 2007, 2008 and 2009.

3.5 Structure of the thesis

The first chapter of the present research work gives brief introduction of the research topic. This chapter tries to explain what are the motives and potential advantages that induce firms to go for outward investments. Then in this chapter various theories of FDI have also been discussed.

In the second chapter, the available research work related to various dimensions of outward Foreign Direct Investment is reviewed. For convenience in analysis the available literature is classified into four categories: (a) Review of literature on the Investment Development Path (IDP) and determinants of outward FDI. (b) Review of literature regarding impact of outward FDI on Exports (c) Review of literature regarding impact of outward FDI on Domestic Investment (d) Review of literature regarding impact of outward FDI on productivity and growth.

In the third chapter of Research Methodology and Database, first of all research problem is stated. Then need for the study, methodology of the study,

criterion used for selection of countries, data sources, choice of time period and various techniques applied for analysis of data are explained.

In the fourth chapter, the trends of outward FDI in world and also in the select Asian economies are explained with the help of various statistical tools like averages, tables, charts and graphs.

In the fifth chapter of the thesis, the relationship between outward foreign direct investment and domestic investment is analyzed by using various econometric techniques like panel VAR model, Wald test, Granger causality, Impulse Response Function and Variance Decomposition Tests.

In chapter six, the causal relationship between outward FDI, Exports and Economic Growth is examined using the econometric techniques like panel ARDL approach and Pair-Wise Granger Causality Test.

In chapter seven of the thesis, it is examined whether the growth of FDI flows in the select Asian economies is following or not following the Investment Development Path of Dunning. This thing was examined using quadratic regression equation and also by plotting the regression equation on graph.

In chapter eight, using the Fixed Effect Model various determinants of outward Foreign Direct Investment in the select Asian economies are analyzed.

The last chapter gives brief summary and major findings of the research work. This chapter also gives policy recommendations for promoting outward FDI.

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CHAPTER: 4

TREND AND PATTERN OF OUTWARD FOREIGN DIRECT INVESTMENT IN SELECT ASIAN ECONOMIES

4.1 Global Trends of outward Foreign direct investment

There was the time when it was assumed that FDI flows only from the capital rich countries to relatively capital scarce countries or from more industrialized countries to less industrialized countries. But in the recent times, a new phenomenon called 'Reverse FDI' i.e. reverse flow of FDI from the developing economies to developed or other developing economies has appeared (Bano & Tabbada, 2015). If the trends in outward FDI during the last two decades are analyzed, then we will find that the phenomenon of reverse flow of FDI or Outward FDI from developing economies has grown significantly and captured the rising attention of the researchers.

The governments of developing countries have moved gradually from restricting to supportive outward FDI. Many emerging economies like India are gradually liberalizing their economies. These developments created several opportunities for many firms in developing economies to participate in international markets. Over a period of time, the nature and type of participation of developing countries in international markets has significantly changed. In the early period of internationalization, the participation by developing economies was mainly in the form of exports. But with the passage of time, the firms from many developing economies have started to internationalize by the way of Outward FDI. Regardless of their size and level of development, many developing countries now engage in outward FDI. Firms from many developing economies have been setting up their production units and subsidiaries in other developing economies since the beginning of the present century but now they have also started establishing their production units and subsidiaries even in the developed countries. In this way, the world economy is experiencing a dramatic shift in the pattern and structure of Foreign Direct Investment as developing economies are becoming an important source of FDI.

Transnational corporations from developing and transition economies are showing their assertiveness in global markets by making investments in other countries. With this increasing trend of FDI flows from the developing and transition economies, a new dimension has been attached to the idea of globalization and the concept of global competitiveness has also been redefined. This surge in FDI flows is also fueled by the volatile export revenues from natural resources and manufactured goods. Even the hope of global economy to come out of recessionary trends lies in the growth of emerging developing economies (Gill & Singh, 2012).

The need to update outdated technologies and the desire to get access to the scanty foreign assets may induce outward FDI. Moreover, firms can also reap significant benefits by internationalizing their operations by the way of OFDI like they can get easier access to the superior global technologies and better market opportunities, larger scale economies due to huge foreign markets, more knowledge about the professional management applications, abundant avenues for interesting assignments and also higher earnings for its technical and managerial workforce. The FDI from these rapidly growing Asian economies has grown not only in absolute terms but also in relative terms.

Table No. 4.1: Global Trends of Outward Foreign Direct Investment (1970-2019)

Year	FDI Outflows (in US$ bn.)		Percentage share in World OFDI	
	Developing & Transition Economies	Developed Economies	Developing & Transition Economies	Developed Economies
1970	0.041	14.10	0.28	99.71
1975	0.43	28.05	1.51	98.49
1980	2.72	49.3	5.24	94.76
1985	3.72	58.378	6.00	94.00
1990	13.10	230.76	5.38	94.62
1995	52.14	303.96	14.62	85.28
2000	91.94	1071.78	7.90	92.10
2005	128..50	704.48	15.43	84.57
2010	407.34	965.84	29.67	70.34
2015	439.08	1243.50	26.10	73.90
2017	500.10	925.33	34.00	64.91
2018	455.72	558.44	44.93	55.06
2019	396.89	916.87	30.30	69.70

Source: Author's Compilation based onm UNCTAD database

Total FDI outflows in the world during the year 1970 were to the tune of US $ 14.14 billion, out of which FDI outflows from developing economies were US $ 41 million, which accounted for only 0.28 percent share in the world OFDI. On the other hand FDI flows from developed economies were US $ 14.10 billion (99.71 percent of the world OFDI) during the same period. Thus almost all FDI flows were coming from developed economies only. If the developing economies were participating in international markets then that participation was in the form of exports only. But the Table No. 4.1 elucidates that the situation has dramatically changed during the last two decades. In the year 2018, the FDI outflows from developing and transition economies were US $ 455.72 billion (44.93 percent of the world OFDI) and FDI flows from developed economies during the same period were US $ 558.44 billion (55.06 percent of the world OFDI). Although in 2019, the share of developing and transition economies slightly reduced to 30.3 percent and that of developed economies increased to 69.7 percent. This is due to the fact that the repatriations of accumulated foreign exchange earnings by the MNCs of USA reduced and therefore the FDI outflows from USA, which was negative in 2018, became positive in 2019. But one thing about the general trend is that the gap between the shares of developing economies and developed economies in the world outwards FDI is narrowing down. This trend is contributing significantly in expanding the competitive strength of the firms from developing economies that are trying to have access over the strategic assets, natural resources, skill and the markets of other countries.

The increase in FDI outflows from developing countries has passed in three waves (Gammeltoft, 2008). During the first phase (1970s and 1980s) developing countries adopted the import-substitution type of industrialization, in which they restricted the entry of inward FDI and aimed at promoting their domestic industries (Gammeltoft, Branard and Madhok, 2010). Various protectionist measures adopted by the governments of developing countries restricted their ability to become internationally competitive. But at the same time there were also some (very few) developing countries, which were making outward FDI and that OFDI was in the other developing countries of the same region. That OFDI was mainly market-seeking (as they wanted to expand their sales in the neighboring countries which were

geographically and culturally very close) and resource-seeking (as these developing countries wanted to have access to primary inputs that they did not have) (Ramamurti, 2008).

The second wave of FDI outflows was between 1980s and 1990s. During this period, there was remarkable shift in the investment pattern. Developing countries started to follow structural reforms and also started industrialization with the objective of promoting exports. They also started to make policies for attracting FDI in their countries as inward FDI brings foreign technology, skill and capability that can make their exports more competitive. They started to liberalize their investment and trade policies, due to which their OFDI also started to grow. They started making investments not only in other developing economies but also in developed economies (Aykut and Ratha, 2004). The main objective of their outward FDI policies became efficiency- seeking, as they started to connect themselves with Global Value Chains (GVCs) by establishing some of their productive units in lower-cost locations and also integrating into international production networks (UNCTAD, 2013).

Then 2000 onwards (third wave) there is a fresh increase in FDI outflows from developing and transition economies. During this wave, the share of developing and transition economies in the world outward FDI flows increased from 5.38 percent in 1990 to 44.93 percent in 2018 (table no. 4.1) equivalent to $ 455.7 billion.

This dramatic improvement in OFDI from developing economies was the result of various domestic policy measures adopted in these countries and also the global economic conditions. As far as the domestic policy measures are concerned, developing countries, during the second wave, implemented various liberalization and deregulation reforms. These reforms improved the competitive strength of the developing countries and eventually “pushing” firms to go beyond their domestic markets (Sauvant, 2005). During this period, the firms from high-growth economies (like Singapore) adopted OFDI as a strategy for their economic development, to have better resource allocation and also to diversify the risk caused by economic shocks in any one region (Lee et al., 2013). This trend was also followed by the firms from other developing economies as they started to look upon OFDI as a mean to access

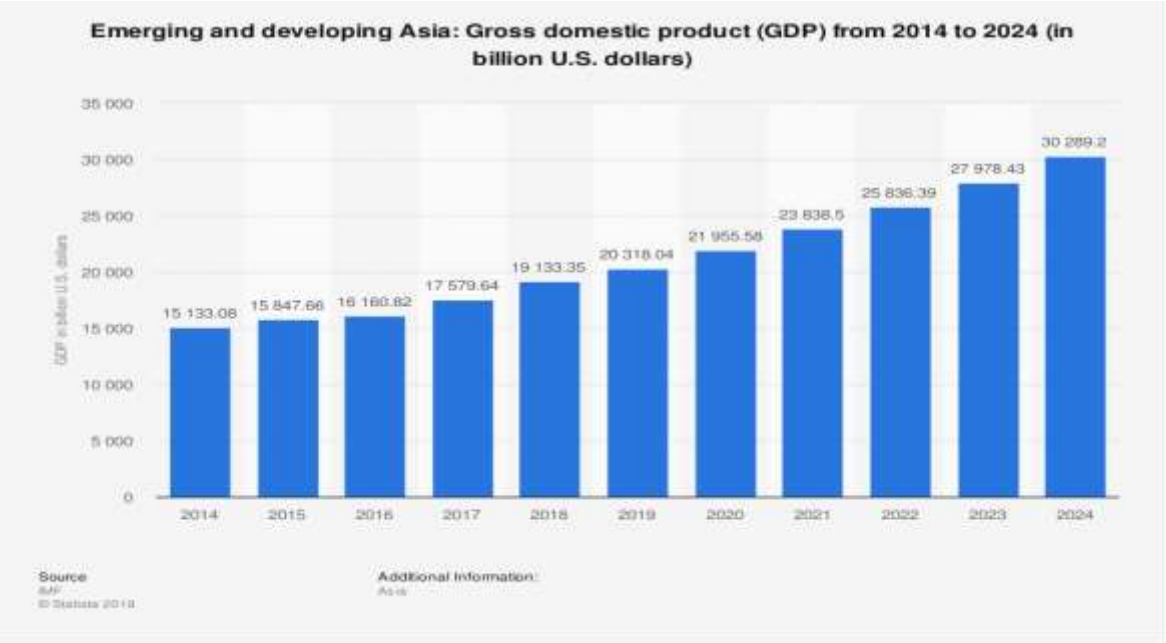
foreign markets, resources, technology and capital, which may improve their international competitiveness (Luo et al., 2010). Moreover, the liberal financing and incentives also played a supportive role.

Various economic conditions prevailing globally also played a role of "pull factor" and attracted FDI flows from developing countries. Firstly, this decade witnessed a substantial and continous growth in many of the developing countries, due to which firms in these developing countries became more competitive. Secondly, during this period there was boom in the commodity prices and the exporters from developing countries earned large windfall gains and got sufficient amount of liquid assets that they used to finance their OFDI efforts (Perea and Stephenson, 2017).

4.2: Rising significance of Asia in world economy

Christine Lagarde, Managing Director of IMF, in her speech in the "Conference on Advancing Asia" held at New Delhi in the year 2016, said that one of the striking development in the world is the rapid integration of Asian countries in the world economy. During the last two decades, a number of countries from this region have achieved economic miracles and many countries of Asian region namely, China, Taiwan, Japan, Saudi Arabia, India and Singapore have become powerhouses of the global economy. This transformation in the economic field has caused many social developments. This region has become leader in the world in reducing poverty. A lot has been done in the field of education and health. Standard of living of the people has also improved significantly. This region has also become a byword of innovations. Asian technology has touched almost everyone in the world. Asia is the most dynamic region in the world and it accounts for more than 40 percent of the world economy. Due to its rising importance, the Asian dynamism is of great interest for the entire world. All these things show that there is increased interconnectedness of Asia with the world. Therefore, Asian region is affecting the world more than ever before and it is also affected more deeply than before by the developments taking place in the global economy.

As per the forecast made by IMF in The World Economic Forum Annual Meeting held at Davos-Klosters, Switzerland in the year 2020, GDP of Asia will be larger than the combined GDP of the world. Moreover, if the Asian countries continue to grow at the same speed then by the year 2030, around 60 percent of global growth shall be contributed by the Asian region. Out of the total, bulk of the Asian growth is expected to come from the developing markets of China, India and throughout South-East Asia.



Source: https://www.weforum.org/agenda/2019/12/asia-economic-growth/

Graph No. 4.1: GDP of Developing and emerging economies of Asia (2014-2024)

The graph no. 4.1 clearly explains how Asia's GDP has grown since 2014 and its growth forecast made by world Economic Forum. If we analyze the World investment report of UNCTAD (2019) then we will find that out of the top 20 home economies in terms of FDI outflows, nine economies are from Asia only.

Table no. 4.2 clearly shows that in the year 2018, the top two investing economies of the world are from Asia. One important feature of this world FDI outflows is that up to the year 2017, USA was the top most investing economy in terms of outward FDI. But in the year 2018, USA is not even the list of top 20 economies. This fall in outward FDI from USA in 2018 was due to the fact that

MNCs of USA are repatriating their accumulated foreign earnings in large scale, which leads to negative outflows from USA. In the first half of 2018, the reinvested earnings of USA MNCs fell by a net US$ 367 billion and turned sharply negative, at US $ -200 billion in comparison to a positive US$ 168 billion in the same period in 2017 (World Investment Report, 2019). In the same report, it was also mentioned that although the reinvested earnings in the second half of 2018, came back to a positive level but total FDI outflow from USA for the full year of 2018 still declined sharply, to US$ -91 billion, compared to $ 300 billion in 2017 (WIR, 2019). Because of this, USA which was at the top until 2017 in terms of FDI outflows came down and two Asian countries (namely Japan and China) which were respectively at second and third position in 2017, came up to first and second position respectively in the year 2018.

Table No. 4.2: Top 20 countries in terms of Outward FDI (2017, 2018 & 2019)

Country	Ranking (2019)	Ranking (2018)	Ranking (2017)	OFDI (US$ Billions) 2019	OFDI (US$ Billions) 2018
Japan	1.	1	2	227	143
USA	2.	162	1	125	-91
Netharland	3.	161	14	125	59
China	4.	2	3	117	130
Germany	5.	5	5	99	77
Canada	6.	7	7	77	50
Hongkong	7.	4	6	59	85
France	8.	3	8	39	102
Korea	9.	9	13	36	39
Singapore	10.	12	8	33	37
UK	11.	8	4	31	50
Italy	12.	11	15	25	21
Spain	13.	13	10	24	32
Sweden	14.	18	17	23	20
Russia	15.	10	12	23	36
Belgium	16.	14	16	20	27
Ireland	17.	12	157	18	13
Denmark	18.	157		16	-1
UAE	19.	19	20	16	15
Brazil	20.	160		16	-16

Source: Author's compilation based on World Investment Reports, UNCTAD, 2018, 2019 and 2020

Moreover in the above list of top 20 investing countries, in the year 2018 nine countries are from Asian region out of which eight are developing and transition

economies (China, Hongkong, Korea, Singapore, Saudi Arabia, Taiwan, Thailand & UAE) and one (Japan) is developed economy. But this picture changed in 2019. USA, which came down at 162th position in 2018, due to its negative FDI outflows, again came to the second position in 2019. In the same manner Denmark, Brazil and Netherlands also came up and made their place in the list of top 20 investor countries of the world. Another important point to note here is that USA, Denmark and Brazil were having negative outward FDI in 2018, but in 2018 all of them came in the list. But the first position is still maintained by an Asian country, Japan.

4.3: Rising share of Asia in world outward FDI flow

If FDI outflows from the world are studied region-wise then we will find that Asian economies are contributing a very significant share. In the year 2005, only 16.5 percent FDI was coming from Asian region but in 2018, Asian economies contributed 54.3 percent to the world FDI flows.

Table No. 4.3: Rising share of Asian Economies in world outward FDI (values in percentage)

Year	African Economies	American Economies	Asian Economies	European Economies	Transition Economies
2005	0.3	7.5	16.5	73.6	2.1
2006	0.6	25.1	16.0	56.5	2.0
2007	0.5	23.0	14.8	59.4	2.3
2008	0.6	25.0	21.2	49.6	3.5
2009	0.5	31.2	27.2	37.6	3.5
2010	0.7	26.7	25.9	42.9	3.7
2011	0.3	32.0	27.9	36.1	3.6
2012	0.8	32.4	33.7	30.4	2.6
2013	0.8	28.7	36.8	28.2	5.5
2014	0.8	32.1	42.1	19.3	5.6
2015	0.4	21.2	30.8	46.5	1.4
2016	0.6	23.9	36.4	37.4	1.6
2017	0.9	29.3	40.6	26.5	2.7
2018	1.0	-0.7	54.3	41.6	3.9
2019	0.4	18.5	43.3	36.1	1.8

Source: Author's Compilation from UNCTAD database

If we analyze the trend and pattern of outward FDI on regional basis then from the above table no. 4.3, we find that during the initial years large part of FDI was coming from the European economies. In the year 2005, 73.6% contribution in world OFDI was coming from the economies of Europe like France, United Kingdom, Italy, Canada, Spain and Germany. But with the passage of time this share kept on falling and a time also came when in 2014, share of European economies fell down to just 19.3 percent and in 2019, the European economies contributed 36.1 percent share in world FDI outflows. Whereas, the share of Asian economies in world FDI outflows is continuously increasing. In 2005, Asian economies were contributing 16.5 percent share in world FDI outflows that increased to 42.1 percent in 2014, 54.3 percent in 2018 and in 2019, 43.3 percent FDI came from the economies of Asia. It means more than half of the FDI is contributed by the Asian economies. Even otherwise also, Asia is the fastest growing economic region and this region is the largest continental economy in terms of GDP nominal and PPP in the world. China, Japan, India, South Korea and Indonesia are currently the top economies of Asia.

Not only in the field of outward FDI but in other fields also Asian region is making significant progress. As per the views of Anoop Singh (2010) (Head, Asia and Pacific Department, IMF) in the past, Asia has also helped the world to come out of recession and this region is going to become an engine of growth in the coming future. In his address at National Council of Applied Economic Research (NCAER) at New Delhi, Mr. Singh said that share of Asian region in world growth will increase and it will become the economic powerhouse over the next few decades. Asian economy will be larger than the combined economies of European Union and USA. Moreover, as a whole Asian economies (if continue to grow at the same speed) will become larger than the economy of G-7 (Group of seven leading economies) and will be half of the size of the G-20 (Group of twenty advanced and emerging economies) by 2030 (Singh, Anoop, 2010).

Another significant point to note about Asian region in this discussion is that this region accounts for the largest share of OFDI from developing economies. Total share of developing economies in the world OFDI was 41.19% in 2018. Out of this 39.58% OFDI was coming from the developing economies of Asia (UNCTAD,

2019).It means about 96% of outward FDI of the developing economies is contributed by the developing economies of Asia.

Thus the contribution of Asian region in world outward FDI flow is continuously increasing. The World Investment Reports published by UNCTAD also support this argument. As per World Investment Report (2015), in the year 2014, only three Asian countries (namely Japan, China and Hongkong) were in the list of top home economies in terms of FDI outflows. But in the year 2018, nine countries of Asia got place in that list. In 2019, three countries namely Saudi Arabia, Taiwan and Thailand came out of that list as the place was occupied the countries from outside Asia but six countries from Asia are still in the list of top 20 investor countries in the world.

Table No. 4.4: Economies of Asia in the list of top 20 economies in terms of FDI Outflows (2014-2019)

Year	No. of Asian Countries in the list	Countries
2014	3	Hongkong(2), China(3), Japan (4)
2015	3	Japan (2), China (3), Hongkong(9)
2016	6	China(2), Japan(4), Hongkong(8), Korea(12), Singapore(14), Taiwan (18)
2017	8	Japan(2), China (3), Hongkong(5), Korea(12), Singapore(13),Thailand(17), Taiwan (18), UAE(19)
2018	9	Japan(1), China(2), Hongkong(4), Korea(9), Singapore(10), Saudi Arabia(14), Taiwan(17), Thailand(18), UAE(19)
2019	6	Japan (1), China(4), Hongkong(7), Korea (9), Singapore(10), UAE(19)

Source: Author's compilation based on World Investment Reports, UNCTAD, 2015,2016,2017,2018, 2019 & 2020
Note: Values in parenthesis show ranking in world outward FDI in respective year

This table no. 4.4 clearly elucidates the rising contribution of Asian economies in world outward FDI.

Table No. 4.5: Region-Wise Share of Developed, Developing & Transition Economies in World OFDI

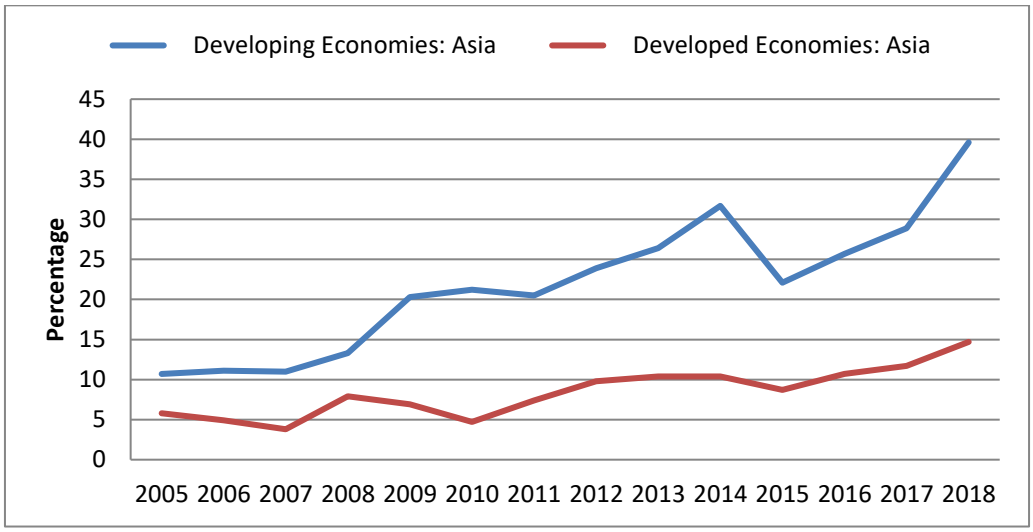
Year	Developing Economies				Developed Economies				Transition Economies
	Africa	America	Asia	Total	America	Asia	Europe	Total	
2005	0.3	2.3	10.7	13.3	5.2	5.8	73.6	84.6	2.1
2006	0.6	3.1	11.1	14.8	22.0	4.9	56.5	83.4	2.0
2007	0.5	1.2	11.0	12.7	21.8	3.8	59.4	85.0	2.3
2008	0.6	2.2	13.3	15.5	22.8	7.9	49.6	80.3	3.5
2009	0.5	1.4	20.3	21.7	29.8	6.9	37.6	74.3	3.5
2010	0.7	4.0	21.2	25.9	22.7	4.7	42.9	70.3	3.7
2011	0.3	3.4	20.5	24.2	28.6	7.4	36.1	72.1	3.6
2012	0.8	3.1	23.9	27.8	29.3	9.8	30.4	69.5	2.6
2013	0.8	2.5	26.4	29.7	26.2	10.4	28.2	64.8	5.5
2014	0.9	1.8	31.7	34.4	30.3	10.4	19.3	60.0	5.6
2015	0.4	1.5	22.1	24.0	19.7	8.7	46.5	74.9	1.4
2016	0.7	0.7	25.7	27.1	23.2	10.7	37.4	71.3	1.6
2017	0.9	2.6	28.9	32.4	26.7	11.7	26.5	64.9	2.7
2018	1.0	0.6	39.6	41.2	-1.3	14.7	41.6	55.0	3.7
2019	0.4	3.16	24.93	28.4	15.33	18.3	36.1	69.7	1.8

Source: Author's compilation from UNCTAD database

If the trends in the world outward FDI are analyzed both from the angle of region and nature of economy then we will find that developing economies of Asia are the largest contributing economies in terms of the contribution of developing economies in world OFDI and their share is continuously increasing. In the year 2005, total share of developing economies in the world OFDI was 13.3 percent and out of which developing economies of Asia were contributing 10.7 percent share (i.e. about 80 percent share of OFDI from developing economies was contributed by the developing economies of Asia). But the volume and share of developing economies of

Asia in world OFDI have a tendency of continuous increase. In the year 2018, out of 41.2 percent share of developing economies in the world OFDI, 39.6 percent share was coming from the economies of developing Asia (more than 96 percent OFDI from developing economies). In the year 2019, share of developing economies in the world outward FDI decreased to 28.4 percent, out of which around 25 percent was contributed by the developing economies of Asia (around 88 percent of the OFDI from developing economies).

On the other hand, in case of developed economies, the economies of Europe are the most significant contributors. In the year 2005, they were contributing 73.6 percent to the world OFDI (87 percent of the share of the entire developed region) and in the year 2018, the economies of developed Europe contributed 41.6 percent to the world OFDI (75 percent of the share of developing economies in the world OFDI). In 2019, developed European economies contributed 36.1 percent to world OFDI (around 51.2 percent of the share of developed economies).



Source: Compiled from UNCTAD database

Graph No. 4.2: Percentage Share of Developed and Developing Economies of Asia in world Outward FDI

The graph no. 4.2 reveals that whatever may be the nature of economy (developed or developing) the role of Asian economies in the world FDI outflows is continuously increasing. Moreover, an important feature of FDI outflows from Asian

economies is that the share of developing economies of Asia has always remained more than the share of developed economies of Asia and in the year 2018, 39.6 percent of the world OFDI was contributed by the economies of developing Asia whereas the share of developed economies of Asia was just 14.7 percent in the year 2018.

In Asia there are a total of 39 economies. Out of which Japan and Israel are two developed economies and the rest are developing economies. As we have seen in the table no. 4.5 that much of the OFDI from Asia is coming from developing economies and the share of developed economies of Asia is just 14.7 percent against the 39.6 percent share of developing economies of Asia. It means out of the total OFDI from Asia, 73 percent is coming from developing economies of Asia and 23 percent is contributed by the developed economies of Asia. Therefore, in our study relating to OFDI from select Asian economies, 11 developing economies of Asia and one developed economy of Asia (Japan) is taken. These twelve economies together contributed 52.3 percent to world OFDI and more than 96 percent to the Asian OFDI in the year 2018.

Table No. 4.6: Percentage share of developing economies of Asia in the world outward FDI since 1980

Year	Percentage share of developing economies of Asia in world FDI outflows				
	East Asia	South Asia	South-East Asia	Western Asia	Total
1980	-------	-----	----	-----	**2.28**
1985	3.66	------	0.86	0.21	**4.79**
1990	3.95	0.02	0.95	-0.39	**4.54**
1995	9.48	0.03	3.40	-0.17	**12.75**
2000	5.71	0.04	0.77	0.25	**6.79**
2005	6.44	0.41	2.40	1.48	**10.75**
2010	14.16	1.18	4.60	1.29	**21.24**
2015	15.74	0.48	3.38	2.50	**22.11**
2017	17.49	0.81	3.84	2.32	**24.48**
2018	26.76	1.104	6.864	4.84	**39.58**
2019	17.03	0.94	4.26	2.7	**24.93**

Source: Author's Compilation from UNCTAD database

In Asian region, the countries of East Asia (which include China, Japan, Hongkong, Korea, Taiwan etc.) are the dominating economies in terms of FDI outflows and inflows. In 2018, Japan and China respectively were at first and second position even in world in terms of OFDI (World Investment Report, 2019). Even traditionally, East Asian economies (which were economically dominated by Japan, China and Korea) used to trade an abundance of raw material and high-quality manufactured goods, exchange cultural ideas and practices. After East Asian continent, the economies of South-East Asia, are the second largest contributors in outward FDI from Asia. The major economies in this region are Vietnam, Indonesia, Philippines, Thailand, Malaysia, Singapore, Cambodia, Myanmar etc. In our study four countries have been taken from this continent. As far as South Asia is concerned, it includes the countries like India, Pakistan, Bangladesh, Sri Lanka, Maldives and Afghanistan. In this region India is the leading country and is the only country from South Asian region that is included in our study. In Western Asia, countries like Saudi Arabia, United Arab Emirates, Iran, Iraq, Israel, Turkey, Kuwait and Qatar are there. But much of the OFDI is coming from the economies of Saudi Arabia and UAE.

Table No. 4.7: FDI Outflow from top 12 Asian economies (2018)

S. No.	Country	Outward FDI (in US$ bn.)	Percentage share in World	Percentage share in Asia
1	Japan	143.16	14.11	26.0
2	China	129.83	12.80	23.6
3	Hongkong	85.16	8.39	15.5
4	Singapore	37.14	3.66	6.7
5	Korea	38.91	3.83	7.1
6	Saudi Arabia	21.21	2.09	3.85
7	Taiwan	18.02	1.78	3.3
8	Thailand	17.71	1.74	3.2
9	UAE	15.08	1.49	2.7
10	India	11.03	1.09	2.0
11	Indonesia	81.38	0.80	1.5
12	Malaysia	52.80	0.52	0.96
	Total	**530.70**	**52.29**	**96.43**

Source: Author's Compilation from UNCTAD database

Table no. 4.7 clearly elucidates the position of top 12 economies of Asia in the world outward FDI. In the year 2018, these 12 economies of Asia contributed 52.3

percent share in world outward FDI (and 96.43 percent share in Asian OFDI). Moreover, out of the total Inward FDI, 35.48 percent came to these 12 economies and it accounts for 84.73 percent of the Asian Inward FDI (see table no. 3.1). As far as the world GDP is concerned, 40 percent is contributed by these 12 economies (it accounts for 85 percent of the Asian GDP). It clearly proves the rising importance of these 12 big Asian economies in the global economy. Out of these twelve select Asian economies, eleven economies are developing economies and Japan is the developed economy. Out of the total contribution of these twelve economies in world OFDI, Japan is contributing the highest with 14.11 percent share in world OFDI. Total contribution of the eleven developing economies in world OFDI was 38.18 percent. As far as contribution in Asian OFDI is concerned, these twelve economies are contributing 96.43 percent share, in which the contribution of Japan is the highest with 26 percent share in Asian OFDI, followed by China with 23.6 percent and Hongkong with 15.5 percent share in Asian OFDI. Collectively Japan, China and Hongkong contributed 65.5 percent share in Asian OFDI and 35.3 percent share in world OFDI in 2018.

Increasing flow of FDI in a country, either inward or outward, shows that the country is integrating with the world. If the inward FDI in a country is increasing, it means that the country is an attractive destination for the overseas investors. On the other hand if FDI outflows from a country are rising then it shows appetite of that country and its capability to invest beyond its national boundaries is expanding. In both of these cases, it argue well for the economies of Asia, where not only the inward FDI is expanding but the rising FDI outflows have also become an important feature of many of the Asian economies. In order to have an idea about whether the Inward FDI or Outward FDI are expanding from countries we have computed the ratio of OFDI to IFDI of different countries by taking the data from the online database of UNCTAD, which is shown in the following tables.

. **Table No. 4.8: FDI Outflow, Inflow (in US $ bn.) and ratio**

Year		1985	1990	1995	2000	2005	2010	2015	2018	2019
	OFDI	0.62	0.83	2.00	9.15	12.26	68.81	145.66	129.83	117.12
China	**IFDI**	1.95	3.48	37.52	40.71	72.40	114.73	135.61	139.04	141.22
	OFDI/IFDI	0.32	0.24	0.05	0.02	0.17	0.6	1.07	0.94	0.82
HongKong	**OFDI**	0.96	2.44	25.00	54.08	27.00	86.24	71.82	85.16	59.27
	IFDI	-0.26	3.27	6.21	54.58	34.05	70.54	174.35	115.66	68.37
	OFDI/IFDI	-3.59	0.74	4.02	0.99	0.79	1.23	0.42	0.73	0.87
Taiwan	**OFDI**	0.08	5.24	2.98	6.70	6.02	11.57	14.71	18.02	11.86
	IFDI	0.34	1.33	1.56	4.92	1.62	2.49	2.39	6.99	8.21
	OFDI/IFDI	0.24	3.94	1.91	1.36	3.71	4.64	6.15	2.57	1.45
India	**OFDI**	0.003	0.006	0.12	0.51	2.98	15.94	7.57	11.03	12.10
	IFDI	0.10	0.237	2.15	3.58	7.62	27.41	44.06	42.28	50.55
	OFDI/IFDI	0.028	0.025	0.055	0.143	0.391	0.581	0.171	0.261	0.24
Indonesia	**OFDI**	0.03	-0.01	1.31	--	3.06	2.66	5.93	8.13	3.38
	IFDI	0.31	1.09	4.42	4.55	8.33	13.77	16.64	21.98	23.43
	OFDI/IFDI	0.107	-0.01	0.298	--	0.367	0.193	0.356	0.37	0.14
Japan	**OFDI**	64.40	50.77	22.63	31.55	45.78	56.26	136.25	143.16	226.64
	IFDI	0.61	1.80	4.14	8.32	2.77	-1.25	2.97	9.85	14.55
	OFDI/IFDI	10.58	28.11	5.45	3.79	16.49	-44.94	45.79	14.52	15.57
Korea	**OFDI**	0.61	1.13	3.83	4.84	8.33	28.22	23.68	38.91	35.53
	IFDI	0.35	1.04	2.48	11.51	13.64	9.49	4.10	14.48	10.56
	OFDI/IFDI	1.71	1.08	1.55	0.42	0.61	2.97	5.77	2.68	3.36
Malaysia	**OFDI**	0.21	0.13	2.48	2.02	3.07	13.40	10.54	5.28	63.04
	IFDI	0.69	2.61	5.81	3.78	4.06	9.06	10.08	8.09	7.65
	OFDI/IFDI	0.3	0.05	0.42	0.53	0.75	1.48	1.04	0.65	0.82

Saudi Arabia	**OFDI**	0.04	0.63	0.11	1.55	0.35	3.90	5.39	21.21	13.18
	IFDI	0.49	0.31	0.57	0.18	12.09	29.23	8.14	3.20	4.58
	OFDI/IFDI	0.09	2.04	0.2	8.47	0.02	0.14	0.66	6.61	2.88
Singapore	**OFDI**	0.23	2.03	7.28	6.84	12.55	35.40	45.22	37.14	33.28
	IFDI	1.04	5.57	11.94	14.75	17.74	57.46	59.70	77.64	92.08
	OFDI/IFDI	0.22	0.36	0.61	0.46	0.7	0.61	0.75	0.47	0.36
Thailand	**OFDI**	0.001	0.15	0.88	0.019	0.31	7.94	1.68	17.71	11.84
	IFDI	0.16	2.57	2.07	3.41	7.97	14.55	5.62	10.49	4.14
	OFDI/IFDI	0.016	0.06	0.42	0.01	0.04	0.54	0.3	1.69	2.86
UAE	**OFDI**	0.011	-0.05	0.062	0.42	3.75	2.01	16.69	15.07	15.90
	IFDI	0.22	-0.11	0.40	0.50	10.90	8.79	8.55	10.38	13.78
	OFDI/IFDI	0.05	0.49	0.15	0.83	0.34	0.23	1.95	1.45	1.15
Developing Economies	**OFDI**	3.72	13.10	52.14	88.77	110.45	356.86	407.00	417.55	373.10
	IFDI	14.07	34.64	117.76	231.58	331.42	622.30	728.81	706.04	684.72
	OFDI/IFDI	0.26	0.38	0.44	0.38	0.33	0.57	0.55	0.59	0.54
Developed Economies	**OFDI**	58.3	230.7	303.96	1071.7	714.4	965.8	1243.5	558.4	916.8
	IFDI	417.4	170.1	219.7	1119.1	586.5	679.0	1268.5	556.8	800.2
	OFDI/IFDI	1.4	1.3	1.3	0.9	1.2	1.4	0.9	1.0	1.2
Developing Asia	**OFDI**	2.9	11.0	4.5	78.9	89.5	291.7	372.5	401.4	327.5
	IFDI	5.5	22.9	81.7	142.0	224.5	412.8	514.4	511.7	473.9
	OFDI/IFDI	0.5	0.5	0.5	0.55	0.39	0.7	0.72	0.78	0.69
Developed Asia	**OFDI**	6.53	51.03	23.20	34.89	48.72	64.20	147.21	149.16	234.21
	IFDI	0.72	1.94	1.61	15.28	7.59	5.733	14.31	31.66	32.77
	OFDI/IFDI	9.06	26.26	14.34	2.28	6.41	11.19	10.28	4.71	7.15
Total Asia	**OFDI**	9.51	62.11	68.63	113.89	138.23	355.90	519.77	550.63	561.80
	IFDI	6.25	24.91	83.32	157.31	232.17	418.55	528.73	543.36	506.67
	OFDI/IFDI	1.52	2.49	0.82	0.72	0.6	0.85	0.98	1.01	1.11

Source: Author's Compilation from UNCTAD database

From table no. 4.8 the following inferences can be drawn.

- For the developed economies, the ratio of OFDI to IFDI, which was 1.4 in the year 1985, has gradually reduced and in the year 2018, the inward and outward FDI from developed countries were almost equal and the ration of OFDI to IFDI was nearly equal to one and in 2019, it was 1.15. But for the developing economies, the same ratio has improved. It was just 0.26 in 1985 and increased to 0.54 in 2019. This shows that for developing countries outward FDI has increased in greater extent than the inward FDI.
- If the ratio of OFDI to IFDI is studied for the developing and developed economies of Asia then we will find that for the developed economies of Asia, this ratio was as high as 9.06 in 1985 but with the passage of time this ratio continue to decrease and in the year 2018 it was 4.71 and in 2019, it became 7.15. But for the developing economies of Asia, the ratio of OFDI to IFDI has increased from 0.53 in 1985 to 0.78 in 2018 and 0.69 in 2019.
- If this aspect is examined for the whole Asia, then table no. 4.8 shows that for the total Asia this ratio has decreased from 1.52 in 1985 to 1.11 in 2019. This is similar to the trend in the developed economies of world. But for all the twelve that we have selected in our sample, the ratio of OFDI to IFDI has improved. One important conclusion that can be drawn from the above data is that for the other countries of Asia (not selected in our sample) the IFDI has increased in greater extent than OFDI. But in the countries that have been selected in our study, OFDI has increased in greater extent than the IFDI.

In our study relating to FDI outflows from Asian economies, the above mentioned twelve economies have been taken. Collectively, in 2018, these economies contributed 52.29 percent in the world outward FDI and 96.3 percent in the Asian outward FDI. In these twelve economies eleven are the developing economies and Japan is the only developed economy, whose share in world OFDI was highest in the world at the level of US $ 143161 (14.11 percent in world). So in 2018, Japan is at the

top in terms of FDI outflows (UNCTAD, 2019). Out of these twelve economies, nine economies of Asia are also in the list of top 20 economies in world in terms of OFDI (World Investment Report, 2019).

Table No. 4.9: Growth rate of OFDI (flow) in selected countries (1981-2019)

Region/Country	Annual Average Flow (US $ bn.)				Compound Annual Growth Rate (percentage)			
	1981-90	1991-2000	2001-10	2011-19	1981-90	1991-2000	2001-10	2011-19
World	112.53	505.75	1114.13	1389.27	18.6	21.7	8.0	-2
Developed Economies	106.13	456.8	915.14	937.50	18.3	21.3	-1	-2.5
Developing Economies	6.39	47.43	171.25	410.57	29	26	22	0.5
Developing Asia	4.88	40.36	114.28	368.35	181.4	28.7	20.1	0.2
Developed Asia	19.38	24.06	61.11	153.09	29.2	1.0	5.6	9.2
Japan	19.24	23.14	55.89	146.06	29	0	4	9.7
China	0.44	2.33	25.54	126.72	152	03	29	5.7
Hong Kong	1.41	21.90	41.63	83.03	62	39	19	-6.0
Singapore	0.41	5.58	18.88	38.80	1440	33	6	0.5
Korea	0.54	3.32	12.62	30.96	38	13	30	2.3
Saudi Arabia	0.21	0.29	1.16	8.24	-245	31	64	18.33
Taiwan	1.73	3.63	7.54	14.11	64	14	9	-1
Thailand	0.026	0.409	1.081	9.414	55	9	85	5.1
UAE	0.014	0.192	5.362	14.413	39	51	28	28
India	0.0041	0.12	9.47	9.04	13	53	31	-3
Indonesia	0.01	0.67	2.47	6.51	30	21	49	-0.98
Malaysia	0.23	1.69	6.21	10.96	-9	31	55	-10.4

Source: Author's own calculations using UNCTAD database

Table no. 4.9 depicts Average decadal OFDI and Compound Annual Growth Rate (CAGR) of OFDI in world and also in the selected countries of Asia. During the two decades of 1981-90 and 1991-2000, the CAGR of OFDI in the world, developed economies, developing economies, developed Asian economies and developing Asian

economies has remained positive. But in the subsequent two decades of 2001-10 and 2011-2019, the CAGR of OFDI for developed economies has become negative and it was -1 percent and -2.5 percent respectively. On the other side, in developing economies, developing Asian economies and developed Asian economies this growth rate has remained positive during all the decades. It clearly shows rising volume and importance of outward FDI in developing economies and more particularly in the Asian economies. If the CAGR of OFDI in selected economies of Asia is examined then we find that there are some countries like Japan, China, Singapore, Korea, Thailand and UAE, where the CAGR of OFDI has remained positive in all the four decades starting from 1981. In Saudi Arabia, the CAGR remained negative only in the decade of 1981-90, but in all the subsequent decades, Saudi Arabia was able to achieve positive CAGR. Hongkong, Malaysia and India obtained negative growth rate of OFDI in the decades of 2001-10 and 2011-19. In Taiwan and Indonesia, only during the current decade, the CAGR was negative.

4.4: Pattern of Dominance of Outward Foreign direct Investment

Every year United Nations Conference on Trade and Development (UNCTAD) publishes its World Investment report (WIR) in which all the countries of the world are ranked on the basis of their outward FDI position and in that report UNCTAD also publishes a list of top 20 investing home economies of the world. An important and obvious point of that list is that every year ranking of countries in this list changes. The changes in the ranks of the countries is a clear signal that dynamic changes are taking place in the pattern of world outward FDI flows and that thing also shows the competitive strength of different countries in the OFDI field. In this competitive environment it is not possible for any single country to permanently retain the dominant position in the pattern of OFDI. It is quite possible that any particular country has not remained at the top position for some time period and yet it attains the position of a dominant country in the OFDI pattern (Sinha, 2013). Therefore it is quite interesting to investigate whether any particular country has obtained the dominant position in world OFDI or is there a constant unpredictability in the ranking of investing countries. For exploring this, the Index of Rank Dominance (IRD) has been estimated in the study.

4.4.1: Index of Rank Dominance

The IRD is a relative dominance measure by ranks (Murthy, 2011). The IRD measures whether a country is continuously dominating the position or not. IRD is a novel measure with the help of which one can measure the degree of dominance on ordinary scale (e.g. ranks). Another improved version of IRD is the Relative Index of Rank Dominance (RIRD). RIRD is used to measure the degree of dominance on relative basis. The RIRD provides the proportionate weight of IRD.

Among the top twenty investing countries of the world, which country has the highest degree of dominance or which country has retained the highest rank for a longer time span can be known through this IRD (Bhanumurthy, 2011). In our study relating to OFDI from select Asian economies, the IRD has been calculated for the period of seven years (2013-2019) by using the following formula:

$$IRD = \left(\frac{\sum_{i=2013}^{2019} (Rank\ Score).}{Total\ score} \right)$$

Where IRD is the Index of Rank Dominance.

Table no. 4.10 provides the pattern of dominance of the top 20 investing countries (World Investment Report, UNCTAD, 2020) during the period of 2013-2019. In terms of outward FDI, Japan is the top dominant country in the world with IRD of 0.9357 and RIRD of 0.0903 during the period of 2013-2019. The second dominant position in terms of OFDI ranking is obtained by China with IRD value of 0.9071 and RIRD value of 0.0875. Both of these two top countries are from the Asian region. The third and fourth positions in Index of Rank Dominance are obtained by USA and Hongkong respectively with IRD values of 0.8571 and 0.7714 respectively. The table also shows that the top five dominant countries namely Japan, China, USA, Hongkong and Germany together are contributing 40 percent share in world FDI outflows. Out of these five top dominating countries, three countries namely Japan, China and Hongkong are from the Asian region. 25 percent of OFDI during this period of 2013-2019 is controlled by these three Asian economies.

Table No. 4.10: Index of Rank Dominance of Outward FDI for top 20 investing countries (2013-2019)

S. No.	Country	Sum of Rank Score	IRD	RIRD
1.	Japan	131	0.9357	0.0903
2.	China	127	0.9071	0.0875
3.	USA	120	0.8571	0.0827
4.	Hongkong	108	0.7714	0.0744
5.	Germany	100	0.7142	0.0689
6.	Canada	100	0.7142	0.0689
7.	Netherland	87	0.6214	0.0599
8.	Singapore	75	0.5357	0.0517
9.	France	72	0.5142	0.0496
10.	Korea	72	0.5142	0.0496
11.	Russian Federation	71	0.5071	0.0489
12.	Spain	67	0.4785	0.0461
13.	Ireland	59	0.4214	0.0406
14.	United Kingdome	56	0.4000	0.0386
15.	Italy	48	0.3428	0.0330
16.	Sweden	46	0.3285	0.0317
17.	Belgium	41	0.2928	0.0281
18.	Brazil	29	0.2071	0.0199
19.	United Arab Emirates	23	0.1642	0.0158
20.	Denmark	18	0.1285	0.0124

Source: Author's calculations based on World Investment Reports, 2014, 2015, 2016, 2017, 2018, 2019 & 2020

The top 10 dominating countries (out of which five are Asian countries) dominate the international flow of capital in such a way that together they represent more than 68 percent of the world capital outflows. The bottom 10 countries in the above list control only 32 percent of the world OFDI.

4.5: Trends in FDI outflows in the World

In this part of the study an attempt is made to analyze the trends in FDI outflows by calculating the growth index of OFDI. The growth index of OFDI means growth of OFDI with respect to base year OFDI

$$GI_{OFDI} = \frac{\mathbf{OFDI}t}{\mathbf{OFDIb}} \times \mathbf{100}$$

Where GI_{OFDI} is the growth index of outward FDI

$OFDI_t$ is the level of OFDI at time period 't'

$OFDI_b$ is the level of OFDI in the base period

Base year = 2000

't' varies from the year 2000 to 2019.

The growth index of OFDI is calculated both in absolute as well as in percentage terms for different groups of countries and also for each of the selected Asian economy.

4.5.1: Growth Index of outward FDI (In absolute terms)

During the last two decades there is substantial increase in the volume and importance of outward FDI in the world. This thing is particularly applicable on the OFDI from developing and transition economies. Table no. 4.11 depicts the growth of outward FDI from developing economies, transition economies, developed economies and also from the world economy as a whole:

Table no. 4.11 elucidates that in comparison to the base year of 2000, there is every year increase in the OFDI from developing economies and transition economies. But the same trend is not seen in case of OFDI from developed economies. In the year 2000, the FDI outflows from developed economies were to the tune of US $ 1071.79 billion and that from developing and transition economies were US $ 88.78 billion and US $ 3.17 billion respectively.

Table No. 4.11: FDI Outflows (In Absolute terms) in Developing, Transition and Developed Economies and World: Indices & Trends (2010=100)

	FDI outflows in US $ Billion				Base year = 2000			
Year	**World**	**Developing economies**	**Transition Economies**	**Developed Economies**	**World**	**Developing economies**	**Transition Economies**	**Developed Economies**
2000	1163.73	88.78	3.17	1071.79	100.00	100.00	100.00	100.00
2001	683.51	57.70	2.52	623.29	58.73	64.99	79.60	58.15
2002	497.07	39.05	4.05	453.98	42.71	43.98	127.74	42.36
2003	529.98	39.91	10.51	479.56	45.54	44.96	331.42	44.74
2004	905.98	114.60	13.66	777.71	77.85	129.08	430.97	72.56
2005	833.18	110.49	18.05	704.65	71.60	124.45	569.30	65.74
2006	1351.65	200.52	30.15	1120.98	116.15	225.86	951.25	104.59
2007	2170.46	275.34	49.18	1845.94	186.51	310.14	1551.41	172.23
2008	1712.74	274.30	60.30	1378.14	147.18	308.97	1902.07	128.58
2009	1182.50	244.03	38.38	900.09	101.61	274.87	1210.66	83.98
2010	1396.03	357.04	50.51	988.49	119.96	402.16	1593.27	92.23
2011	1627.18	379.35	55.65	1192.18	139.82	427.29	1755.63	111.23
2012	1305.45	357.74	33.20	914.52	112.18	402.95	1047.24	85.33
2013	1421.29	409.02	75.80	936.47	122.13	460.71	2391.17	87.37
2014	1366.90	446.19	72.36	848.36	117.46	502.58	2282.52	79.15
2015	1708.09	400.40	32.10	1275.59	146.78	451.00	1012.67	119.01
2016	1543.24	414.23	25.19	1103.82	132.61	466.59	794.53	102.99
2017	1600.98	467.36	38.47	1095.15	137.57	526.42	1213.65	102.18
2018	986.35	414.75	37.58	534.03	84.76	467.16	1185.38	49.83
2019	1313.77	373.10	23.79	916.88	112.89	420.25	750.42	85.55

Source: Author's calculations using UNCTAD database

That means almost 92 percent of the OFDI was coming from the developed economies and the contribution of developing and transition economies was very small. In terms of growth index the OFDI from developing and transition economies has grown at a higher rate than the world outward FDI. Due to the process of globalization, liberalization and competition, the developing and transition economies are gaining control over the global productive resources as the growth index of OFDI (with respect to base year of 2000) for the developing economies has increased from 100 points to 420.25 points in 2019 and for the transition economies the growth index has increased from 100 points to 750.42 points during the same year. On the other hand the control and dominance of developed economies over the world capital resources has declined, as their index has declined from 100 points to 85.55 points during the same period.

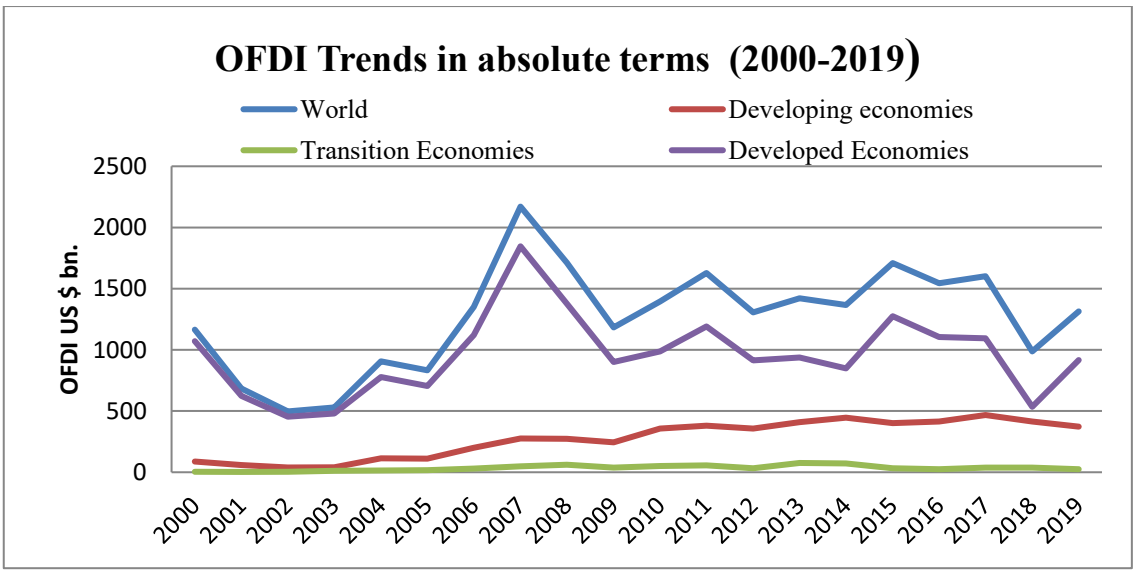
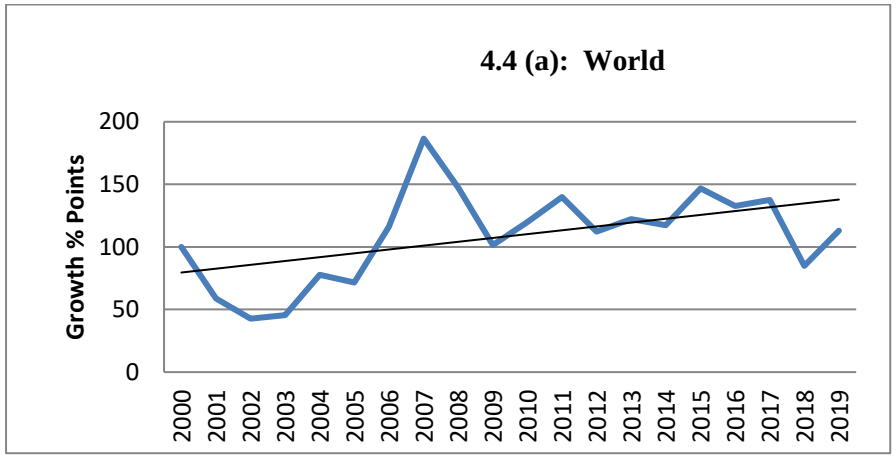


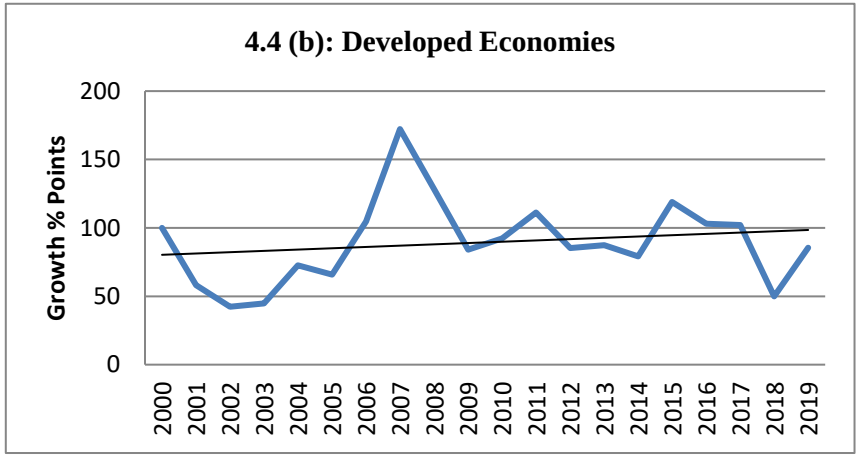
Figure No. 4.3: Trend in FDI outflows (in Absolute terms)

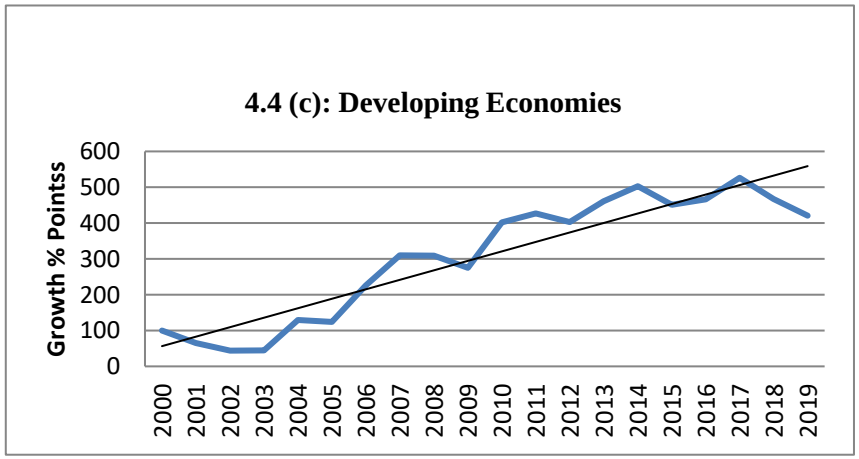
The figure no. 4.3 gives the pictorial view of the trends in the FDI outflows from the world as a whole and also from different groups of countries. In the initial periods the trend lines of OFDI from world and from developed countries are overlapping with each other or were very near to each other. It means the greater part of the world OFDI was coming from the developed economies. But subsequently the gap between these two trend lines is widening and this gap is covered by the growing OFDI from developing and transition economies. These growing trends of OFDI from developing and transition economies are a clear indication that now developing economies are also gaining control over the international capital and productive resources.

Graph no. 4.4 depicts the pictorial view of the trends in FDI outflows in absolute terms with respect to the base year of 2000. For the world as a whole (graph no. 4.4 a) there in only marginal improvement in the growth index of OFDI in the year 2019 in comparison to the year 2000. The world OFDI growth index was the highest in the year 2007.

OFDI Growth Index (In Absolute terms)







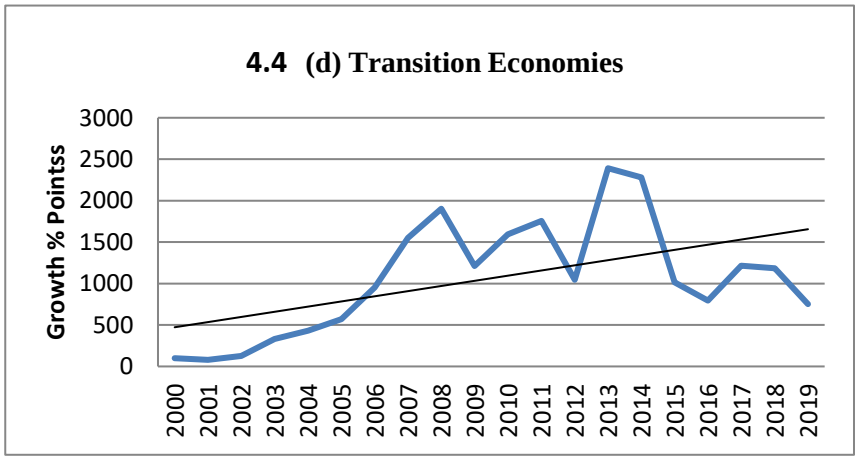


Figure: 4.4: Growth of FDI outflows (in absolute terms) (2000-2019)

The growth index of OFDI outflows from developed economies has decreased by almost 50 percent points in the year 2018 and therefore the OFDI growth index is not showing a rising trend for the developed economies (See figure 4.4 b). Although some improvement is seen in the year 2019 and the growth indexed improved to 85 basis points. Graph no. 4.3(c) shows the trend in the OFDI in the developing economies. It is showing a rising trend and the growth index of OFDI from developing economies has improved from 100 basis points in 2000 to 420.25 basis points in 2019. Similarly, graph no 4.4 (d) is explaining the position of OFDI from transition economies. This graph is showing a significant and rising trend of OFDI from transition economies. This high growth trend from transition economies is due to 'catch-up-effect'.

4.5.2: Growth Index of outward FDI (In percentage terms)

Table no. 4.12 reveals the position of developed, developing and transition economies in terms of their percentage share in world FDI outflows and also in terms of growth index of their share in world FDI outflows:

As per the table no. 4.12, in the base year of 2000, about 92 percent of the world OFDI was contributed by the developed economies, whereas the combined share of developing and transition economies in the world FDI outflows was just 7.9 percent. It means that developed economies were having the monopoly over the productive capital resources. But this position has changed over the years. The share of developed economies has decreased to the level of 54.14 percent in 2018 and then slightly increased to 69.79 percent in 2019. On the other hand share of developing and transition economies increased to 45.86 percent in 2018. In terms of growth index of percent share in world OFDI, the growth index for developed economies has declined from 100 percent point in 2000 to 58.79 percent point in 2018 and that for developing economies and transition economies has increased substantially to 551.10 percent point and 1410.99 percent points respectively during the same period. In other words, in terms of growth indices, there is about 41 percent point decline in 2018 with respect to base year for the developed economies.

Table No. 4.12: FDI Outflows (In percentage terms) in Developing, Transition and Developed Economies: Indices & Trends

	FDI outflows (Percentage of World OFDI)			Base Year = 2000		
Year	**Developing Economies**	**Transition Economies**	**Developed Economies**	**Developing Economies**	**Transition Economies**	**Developed Economies**
2000	7.63	0.27	92.10	100.00	100.00	100.00
2001	8.44	0.37	91.19	110.63	136.73	99.01
2002	7.86	0.81	91.33	102.95	301.72	99.16
2003	7.53	1.98	90.49	98.70	734.19	98.25
2004	12.65	1.51	85.84	165.79	558.50	93.21
2005	13.26	2.17	84.57	173.80	802.23	91.83
2006	14.84	2.23	82.93	194.43	826.27	90.05
2007	12.69	2.27	85.05	166.26	839.21	92.34
2008	16.02	3.52	80.46	209.90	1303.86	87.37
2009	20.64	3.25	76.12	270.47	1202.03	82.65
2010	25.57	3.62	70.81	335.19	1339.95	76.88
2011	23.31	3.42	73.27	305.54	1266.76	79.55
2012	27.40	2.54	70.05	359.15	941.85	76.06
2013	28.78	5.33	65.89	377.17	1975.26	71.54
2014	32.64	5.29	62.06	427.82	1960.53	67.39
2015	23.44	1.88	74.68	307.23	696.07	81.08
2016	26.84	1.63	71.53	351.79	604.47	77.66
2017	29.19	2.40	68.41	382.59	890.03	74.27
2018	42.05	3.81	54.14	551.10	1410.99	58.79
2019	28.40	1.81	69.79	372.21	670.63	75.78

Source: Author's calculations using UNCTAD database

But in case of developing economies the growth index of their percent share in world OFDI has jumped to more than 450 percent pint from 2000 to 2018 and for the transition economies, during the same period, the growth index of percent share in world OFDI flows has increased more than 570 percent points (see table no. 4.12).

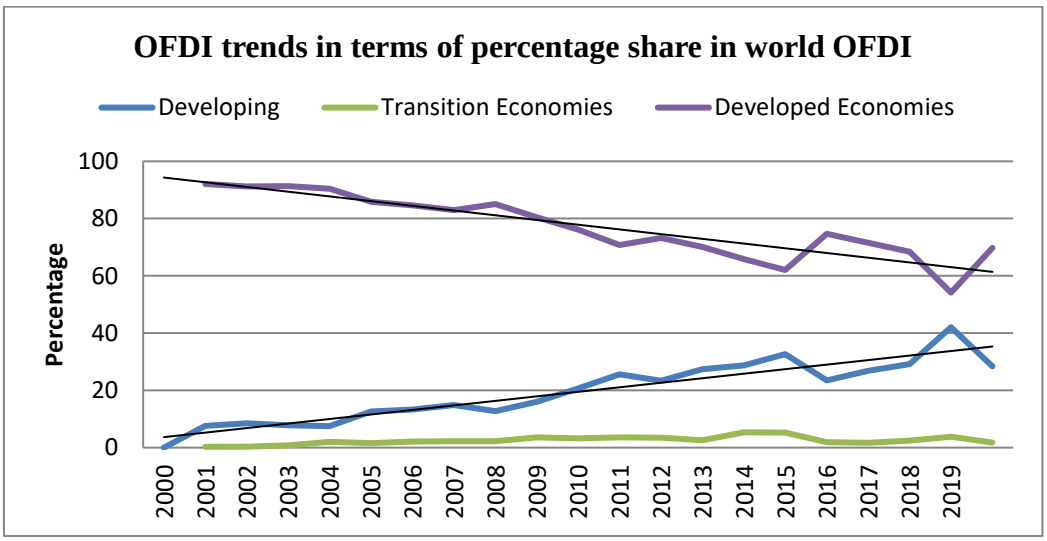


Figure No. 4.5: Trends in FDI outflows (In terms of percentage share in world OFDI

The figure no. 4.5 shows the changes in the FDI outflows in terms of percentage share in World OFDI for different groups of countries. During the early years of the decade of 2000, there was large gap between the percentage share of developed and developing countries in world OFDI. But over a period of time this gap is narrowing down.

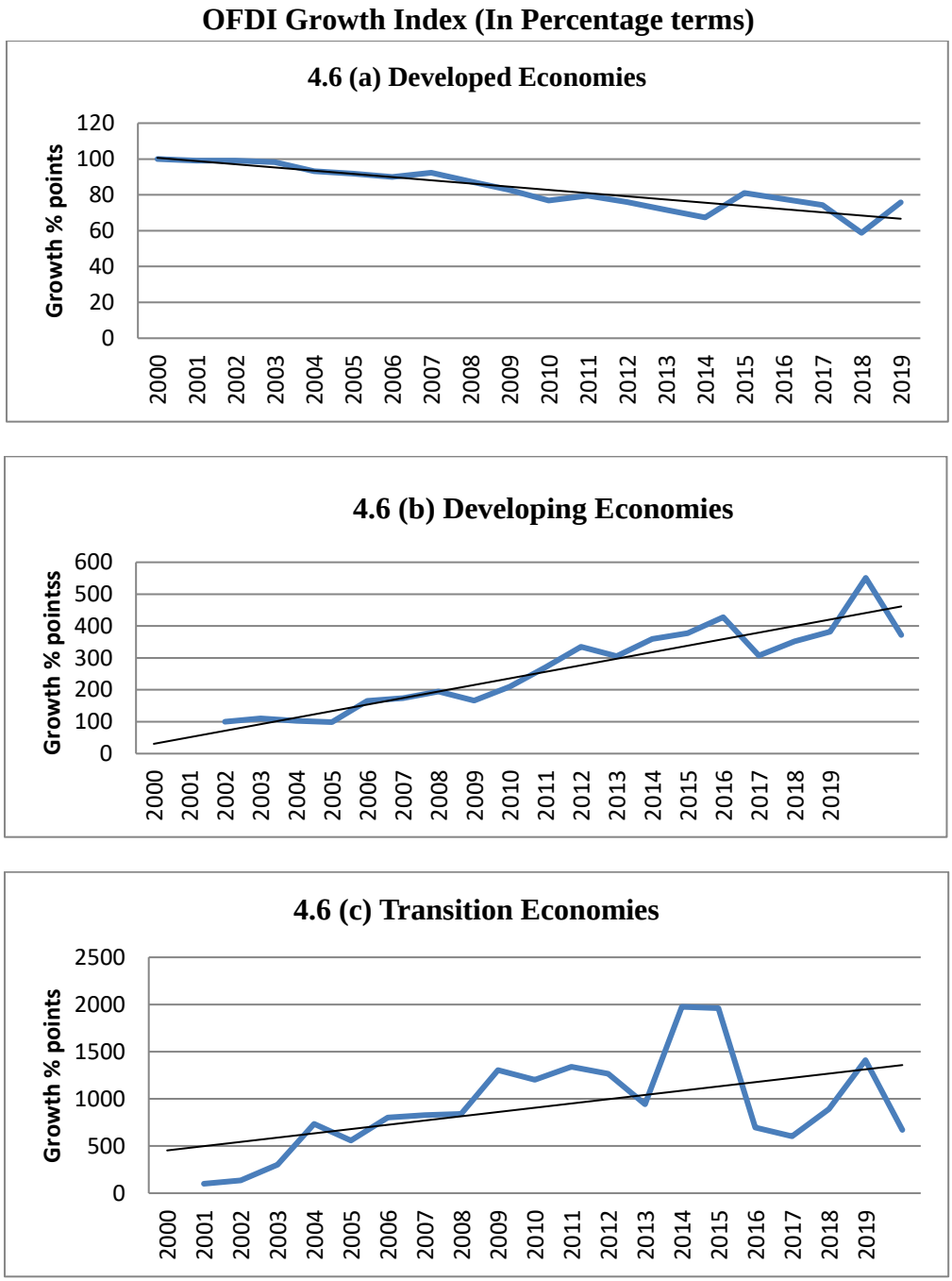


Figure 4.6: Growth of FDI outflows (percentage share in World) (2000-2019)

Figure 4.6 elucidates the growth of FDI outflows (in terms of percentage share in World OFDI) in comparison to the base year of 2000. FDI outflows from the developed economies have declined and therefore the line chart, which shows the growth index of OFDI for developed economies has been falling (see figure 4.6 a). Part b and part c of the above graph shows that over the time period, the graph of OFDI has increased for the developing economies and transition economies. It is also clear from the above graph that growth trend of OFDI in transition economies is much higher than that in developing economies. This higher trend of OFDI from transition economies is due to the very small FDI outflows in the base year.

4.6: FDI Outflows in select Asian Economies

Table no. 4.13 and 4.14 elucidate how the OFDI (in absolute terms) has grown both in terms of US $ billion and also in terms of their growth indices for the select twelve Asian economies. Table no. 4.15 and 4.16 are depicting the growth of OFDI (in proportionate terms) as percent of world OFDI and also the growth of the share in world OFDI for the select Asian economies.

As per the table nos. 4.13 to 4.16, in the year 2000, the OFDI from China was only to the tune of US $ 0.92 billion. But over a period of time there is substantial improvement in the OFDI position of China and in the year 2019, it reached to the level of US $ 117.12 billion and also touched the height of US $ 196.15 billion in 2016. In the year 2016, China also obtained the position of the largest source of FDI flows among the developing economies. In terms of growth index of FDI outflows (in absolute terms), the growth index of Chinese OFDI increased from 100 basis points in 2000 to 21320.5 basis points in the year 2016 and then to 12730.4 basis points in the year 2019(see table no. 4.14). The FDI outflows China 9in proportionate terms) has also shown a upward trend since 2000. In the year 2000, Chinese share in world OFDI was just 0.08 percent and that increased to 14..50 percent in the year 2018(see table no. 4.15) and the growth index of Chinese share in World OFDI has also increased from 100 percent point in 2000 to 18127.4 percent point in 2018 (see table no. 4.16). All these things prove to the fact that China is having a dominant position and control over the world capital flows.

The FDI outflows from Hongkong were US $ 54.08 billion in the year 2000 and among all Asian economies; Hongkong was at the first position at that time. In the year 2019, OFDI from Hongkong increased to US $ 59.28 billion and also touched the height of 124.09 billion in 20189see table no. 4.13). In terms of growth index of FDI outflows (in absolute terms) also there is marginal improvement in Hongkong's OFDI growth index that increased from 100 basis point in 2000 to 109.6 basis point in 2019 i.e. in comparison to the base year only 9.6 point increase (see table no. 4.14). As far as percentage share of Hongkong in world OFDI is concerned, in the year 2000, 4.65 percent of the World OFDI was contributed by Hongkong and in the year 2019, share of Hongkong declined to 4.5 percent in 2014, it touched the height of 9.08 percent (see table no. 4.15). in regard to growth index of share in world OFDI, the position of Hongkong deteriorated from 100 percent point in 2000 to 97 percent point in 2019 (see table no. 4.16). Thus in comparison to China, Hongkong has made less progress in the field of FDI outflows.

Like Hongkong, Taiwan also started with relatively high level of outward FDI in 2000 but its performance during the period of 2000-2019 is not significant. In the year 2000, Taiwan's OFDI was US $ 6.70 billion and that increased to US $ 11.86 billion in 2019 and its highest position was in 2018 with OFDI of US $ 18.06 billion (see table no. 4.13). Accordingly, the growth index of Taiwan's OFDI (in absolute terms) improved from 100 basis point in 2000 to 177 basis point in 2019 (see table no. 4.14). Taiwan's share in world OFDI which was 0.58 percent in 2000, increased only marginally in 2019 to the level of 0.90 percent and it was highest in 2018 (1.83 percent of the world OFDI). The growth Index of Taiwan's share in world OFDI also increased from 100 percent point in 2000 to 155.7 percent point in 2018.

Table No. 4.13: FDI Outflows (in Absolute terms) in Select Asian Economies in US $ billion (2000-2019)

Year	FDI Outflows (in US $ billion)											
	China	Hong Kong	Taiwan	India	Indonesia	Japan	Korea	Malaysia	Saudi Arabia	Singapore	Thailand	UAE
2000	0.92	54.08	6.70	0.51	2.90	31.56	4.84	2.03	1.55	6.85	0.02	0.42
2001	6.89	18.06	5.48	1.40	2.97	38.33	2.74	0.27	0.05	20.20	0.43	0.21
2002	2.52	13.16	4.89	1.68	3.03	32.28	3.44	1.90	2.02	2.84	0.17	0.44
2003	2.85	12.06	5.68	1.88	3.27	28.80	5.02	1.37	0.47	3.73	0.61	0.99
2004	5.50	43.64	7.15	2.18	3.41	30.95	7.20	2.06	0.08	13.14	0.07	2.21
2005	12.26	27.00	6.03	2.99	3.07	45.78	8.33	3.08	-0.35	12.55	0.31	3.75
2006	17.63	44.48	7.40	14.28	2.73	50.27	12.56	6.02	-0.04	20.06	0.30	10.89
2007	26.51	64.17	11.11	17.23	4.68	73.55	21.83	11.31	-0.14	40.88	2.11	14.57
2008	55.91	48.38	10.29	21.14	5.90	128.02	19.54	14.96	3.50	7.96	1.83	15.82
2009	56.53	59.20	5.88	16.06	2.25	74.70	17.40	7.78	2.18	32.04	4.95	2.72
2010	68.81	86.25	11.57	15.95	2.66	56.26	28.22	13.40	3.91	35.41	7.94	2.02
2011	74.65	96.34	12.77	12.46	7.71	107.60	29.65	15.25	3.43	31.90	6.07	2.18
2012	87.80	83.41	13.14	8.49	5.42	122.55	30.60	17.14	4.40	20.48	10.50	2.54
2013	107.84	80.77	14.29	1.68	6.65	135.75	28.32	14.11	4.94	45.28	11.68	8.83
2014	123.12	124.09	12.71	11.78	7.08	130.84	28.00	16.37	5.40	52.48	5.58	11.74
2015	145.67	71.82	14.71	7.57	5.94	136.25	23.69	10.55	5.39	45.22	1.69	16.69
2016	196.15	59.70	17.95	5.07	-12.21	155.94	29.89	8.01	8.94	39.97	12.37	15.71
2017	158.29	86.70	11.55	11.14	2.08	164.68	34.07	5.64	7.28	48.83	16.96	14.06
2018	143.04	82.20	18.06	11.45	8.05	143.16	38.22	5.11	22.99	29.76	18.44	15.08
2019	117.12	59.28	11.86	12.10	3.38	226.65	35.53	6.30	13.19	33.28	11.85	15.90

Source: Author's calculation using UNCTAD database

Table No. 4.14: FDI Outflows (in Absolute terms) in Select Asian Economies (2000-2019): Indices & Trend (2010=100)

Year	FDI Outflows (In Absolute terms) Indices (Base Year =2000)											
	China	Hong Kong	Taiwan	India	Indonesia	Japan	Korea	Malaysia	Saudi Arabia	Singapore	Thailand	UAE
2000	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2001	748.4	33.4	81.8	274.0	102.3	121.5	56.7	13.1	2.9	295.0	2137.2	50.9
2002	273.7	24.3	72.9	329.0	104.6	102.3	71.0	93.8	130.3	41.4	853.1	105.0
2003	310.3	22.3	84.8	367.8	112.6	91.3	103.7	67.5	30.5	54.4	3074.4	236.0
2004	597.6	80.7	106.6	426.5	117.5	98.1	148.7	101.5	5.1	191.8	358.6	525.7
2005	1332.7	49.9	90.0	585.4	105.7	145.1	172.1	151.5	-22.6	183.2	1554.5	892.9
2006	1916.7	82.2	110.4	2801.2	94.0	159.3	259.6	296.6	-2.5	292.9	1524.7	2593.
2007	2881.1	118.6	165.8	3379.4	161.2	233.0	451.1	557.3	-8.7	596.8	10539.5	3468.5
2008	6076.9	89.5	153.5	4145.6	203.4	405.6	403.6	737.2	225.7	116.3	9162.5	3766.7
2009	6144.5	109.5	87.7	3148.6	77.6	236.7	359.5	383.5	140.5	467.7	24733.2	648.3
2010	7479.5	159.5	172.7	3126.9	91.9	178.3	583.1	660.1	252.1	516.9	39698.0	479.8
2011	8114.6	178.1	190.5	2442.4	266.0	340.9	612.6	751.2	221.3	465.7	30362.2	518.6
2012	9543.9	154.2	196.1	1663.9	187.0	388.3	632.2	844.5	284.0	299.0	52483.8	603.8
2013	11722.1	149.4	213.2	329.2	229.2	430.1	585.1	694.9	318.9	661.0	58392.8	2102.0
2014	13382.6	229.5	189.7	2310.5	244.0	414.6	578.5	806.4	348.1	766.1	27876.9	2794.3
2015	15833.4	132.8	219.5	1484.8	204.7	431.7	489.4	519.5	347.7	660.2	8436.3	3974.2
2016	21320.5	110.4	267.8	994.5	-421.2	494.1	617.5	394.6	576.5	583.4	61834.4	3740.8
2017	17205.4	160.3	172.4	2184.4	71.6	521.8	703.9	277.7	469.6	712.8	84813.5	3347.6
2018	15547.8	152.0	269.5	2244.4	277.6	453.6	789.6	251.9	1483.0	434.4	92212.2	3590.3
2019	12730.4	109.6	177.0	2373.3	116.5	718.1	734.1	310.5	850.6	485.8	59234.1	3785.9

Source: Author's calculation using UNCTAD database

Table No. 4.15: FDI Outflows (percentage of World OFDI) in Select Asian Economies (2000-2019)

Year	FDI Outflows (percentage of World OFDI)											
	China	Hong Kong	Taiwan	India	Indonesia	Japan	Korea	Malaysia	Saudi Arabia	Singapore	Thailand	UAE
2000	0.08	4.65	0.58	0.04	0.25	2.71	0.42	0.17	0.13	0.59	0.00	0.04
2001	1.01	2.64	0.80	0.20	0.32	5.61	0.40	0.04	0.01	2.96	0.06	0.03
2002	0.51	2.65	0.98	0.34	0.33	6.49	0.69	0.38	0.41	0.57	0.03	0.09
2003	0.54	2.28	1.07	0.35	0.34	5.43	0.95	0.26	0.09	0.70	0.12	0.19
2004	0.61	4.82	0.79	0.24	0.38	3.42	0.79	0.23	0.01	1.45	0.01	0.24
2005	1.47	3.24	0.72	0.36	0.37	5.49	1.00	0.37	-0.04	1.51	0.04	0.45
2006	1.30	3.29	0.55	1.06	0.20	3.72	0.93	0.45	0.00	1.48	0.02	0.81
2007	1.22	2.96	0.51	0.79	0.22	3.39	1.01	0.52	-0.01	1.88	0.10	0.67
2008	3.26	2.82	0.60	1.23	0.34	7.47	1.14	0.87	0.20	0.47	0.11	0.92
2009	4.78	5.01	0.50	1.36	0.19	6.32	1.47	0.66	0.18	2.71	0.42	0.23
2010	4.93	6.18	0.83	1.14	0.19	4.03	2.02	0.96	0.28	2.54	0.57	0.14
2011	4.59	5.92	0.78	0.77	0.47	6.61	1.82	0.94	0.21	1.96	0.37	0.13
2012	6.73	6.39	1.01	0.65	0.42	9.39	2.34	1.31	0.34	1.57	0.80	0.19
2013	7.59	5.68	1.01	0.12	0.47	9.55	1.99	0.99	0.35	3.19	0.82	0.62
2014	9.01	9.08	0.93	0.86	0.52	9.57	2.05	1.20	0.39	3.84	0.41	0.86
2015	8.53	4.20	0.86	0.44	0.35	7.98	1.39	0.62	0.32	2.65	0.10	0.98
2016	12.71	3.87	1.16	0.33	-0.79	10.10	1.94	0.52	0.58	2.59	0.80	1.02
2017	9.89	5.42	0.72	0.70	0.13	10.29	2.13	0.35	0.45	3.05	1.06	0.88
2018	14.50	8.33	1.83	1.16	0.82	14.51	3.87	0.52	2.33	3.02	1.87	1.53
2019	8.91	4.51	0.90	0.92	0.26	17.25	2.70	0.48	1.00	2.53	0.90	1.21

Source: Author's calculation using UNCTAD database

Table No. 4.16: FDI Outflows (percentage of World OFDI) in Select Asian Economies (2000-2019): indices & trends

Year	FDI Outflows (percentage of World OFDI) Indices (Base year =2000)											
	China	Hong Kong	Taiwan	India	Indonesia	Japan	Korea	Malaysia	Saudi Arabia	Singapore	Thailand	UAE
2000	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2001	1259.2	56.8	138.2	511.1	127.0	206.9	95.6	23.0	5.1	501.0	625.4	86.8
2002	633.3	56.9	169.5	844.0	132.0	239.6	164.6	225.4	312.6	96.7	343.3	246.5
2003	673.3	48.9	184.8	884.8	134.2	200.5	225.5	152.0	68.7	119.2	1160.2	519.5
2004	758.6	103.6	136.0	600.3	150.5	126.1	189.1	133.8	6.7	245.8	79.2	677.0
2005	1839.5	69.7	124.7	895.8	147.1	202.8	238.0	217.1	-32.3	255.4	373.2	1250.3
2006	1630.8	70.8	94.4	2642.1	80.7	137.2	221.3	262.0	-2.2	251.6	225.6	2238.4
2007	1526.5	63.6	88.2	1985.0	86.2	125.0	239.5	306.6	-4.8	319.3	971.2	1864.4
2008	4080.2	60.7	103.6	3086.1	137.8	275.8	271.6	514.0	157.1	78.8	1069.9	2565.8
2009	5975.6	107.7	85.7	3394.9	76.1	233.1	350.4	387.2	141.6	459.2	4183.2	639.6
2010	6161.3	132.9	142.9	2855.8	76.3	148.7	481.3	564.6	215.3	429.9	5687.3	400.9
2011	5734.9	127.3	135.3	1913.8	189.6	244.0	433.8	551.3	162.1	332.3	3731.9	371.8
2012	8407.4	137.4	173.5	1625.0	166.1	346.4	558.1	772.5	259.4	265.9	8040.7	539.6
2013	9484.7	122.2	173.3	295.3	187.1	352.4	474.4	583.9	267.5	540.0	8216.9	1725.4
2014	11259.0	195.2	160.3	2155.1	207.1	353.2	487.7	704.4	303.7	650.7	4078.8	2384.9
2015	10660.1	90.4	148.5	1108.3	139.0	294.3	330.2	363.2	242.7	448.7	987.8	2714.5
2016	15887.8	83.2	200.5	821.7	-316.6	372.9	461.1	305.4	445.4	439.0	8013.6	2828.0
2017	12358.8	116.5	124.4	1739.6	51.9	379.6	506.7	207.2	349.8	516.9	10590.0	2439.5
2018	18127.4	179.2	315.7	2901.3	326.6	535.6	922.6	305.0	1792.7	511.4	18697.7	4246.7
2019	11143.5	97.0	155.7	2303.3	102.9	636.6	643.9	282.3	772.0	429.4	9017.4	3362.1

Source: Author's calculation using UNCTAD database

India's performance in the world OFDI flows is also remarkable. In the year 2000, total OFDI from India was only US $ 0.51 billion and that increased by nearly 24 times to US $ 12.10 billion in 2019. In the year 2008, India's OFDI was the highest to the tune of US $ 21.4 billion. The growth index of India's OFDI (in absolute terms) also increased from 100 basis point in 2000 to 2373.3 basis point in 2019 and was at the high level of 4151.6 basis point in 2008 (see table no. 4.14). In percentage terms, in the year 2000, India's share in world OFDI was just 0.04 percent but that share kept on increasing over the time period and in 2009, India's share in world OFDI was the highest at the level of 1.36 percent (see table no. 4.15). In terms of growth index of India's share in World FDI outflows, it increased from 100 percent points in 2000 to 2303.3 percent points in 2019 and was the highest in 2009 at the level of 3394.9 percent points (see table no. 4.16). It shows that compared to the base period of 2000, India has made significant progress in the field of outward FDI.

Indonesia has not shown a very good record in the sphere of its OFDI performance during the last two decades. Its total outward FDI in the year 2000 was US $ 2.9 billion and that increased only marginally to US $ 3.38 billion in 2019. Accordingly, the growth index of Indonesian OFDI (in absolute terms) has improved only by 16.5 basis points from 100 in the year 2000 to 116.5 basis points in 2019 (see table no. 4.14). In proportionate terms, in the year 2000, Indonesia was contributing just 0.25 percent share in world OFDI and that share remained near-about the same at the level of 0.26 percent in 2009. Therefore the growth index of Indonesia's OFDI performance in terms of its share in world OFDI has also not increased much. It has increased from 100 percent point in 2000 to 102.9 percent points in 2019.

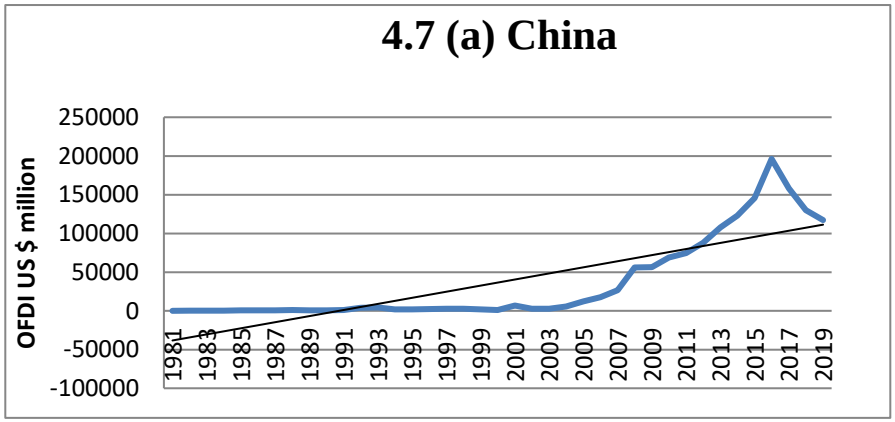
Japan, which is the only developed country among the select twelve Asian economies, has made substantial progress in the field of FDI outflows. In the year 2000, Japan's OFDI was US $ 31.56 billion and in the year 2019 that increased to US $ 226.65 billion i.e. Japan OFDI has increased by more than seven times during the last two decades (see table no. 4.13) and the growth index of Japan's OFDI (in absolute terms) also increased from 100 basis points in 2000 to 718.1 basis points in the year 2019 (see table no. 4.14). As far as Japan's share in world OFDI is concerned, in the year 2000, it was 2.71 percent and it was even less than the share of

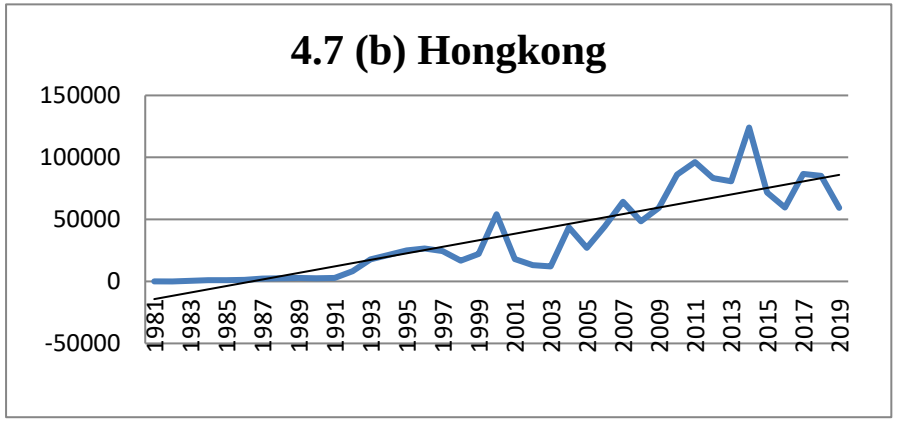
Hongkong in the same period, which was 4.65 percent. But during the period of last two decades, Japan, Japan has made rapid progress in this field and in the year 2019, Japan's contribution in the world OFDI flows was the highest at the level of 17.25 percent and in the years 2018 and 2019, Japan was the largest contributor in the world FDI outflows and accordingly, Japan's growth index of percentage share in world OFDI also increased from 100 percent points in 2000 to 636.6 percent points in2019 (see table no. 4.16).

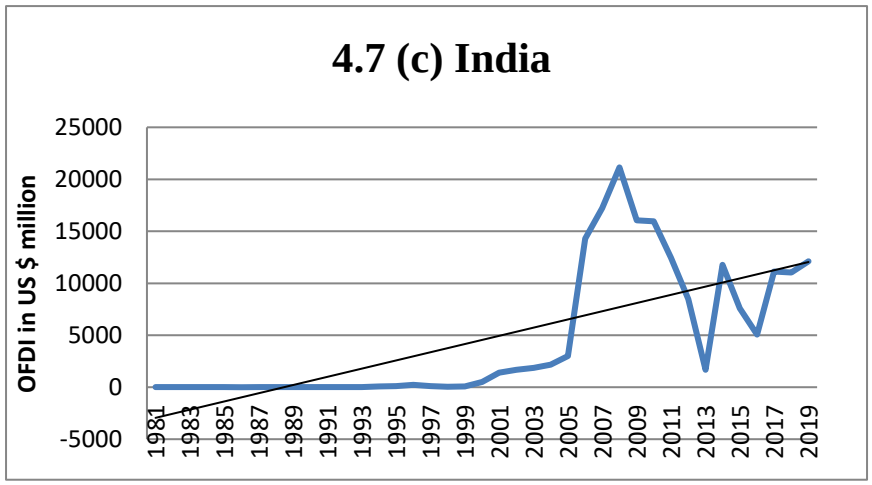
Like Japan, Korea's OFDI has also increased by eight times during the period of 2000-2019. In the year 2000, Korea's OFDI was to the tune of US $ 4.84 billion and that went up to US $ 35.53 billion in 2019and also touched the height of US $ 38.22 billion in 2018. The growth index of Korea's OFDI (in absolute terms) also increased from 100 basis points in 2000 to 734.1 basis points in 2019. In the year 2000, Korea's share in world FDI outflows was just 0.42 percent and increased to 2.70 percent in 2019 and the growth index of Korea's share in world OGFDI also increased from 100 percent points in the year 2000 to 634.9 percent points in 2019. Malaysia's OFDI in the year 2000 was US $ 2.03 billion and that increased to US $ 6.3 billion in 2019. And the share of Malaysia's OFDI in the world OFDI also increased from 0.17 percent in the year 2000 to 0.48 percent in the year 2019 and it was the highest in 2012 at the level of 1.31 percent (see table no. 4.15). The growth index of Malaysia's share jumped by 182.3 percent points in 2019 with respect to the base year of 2000.

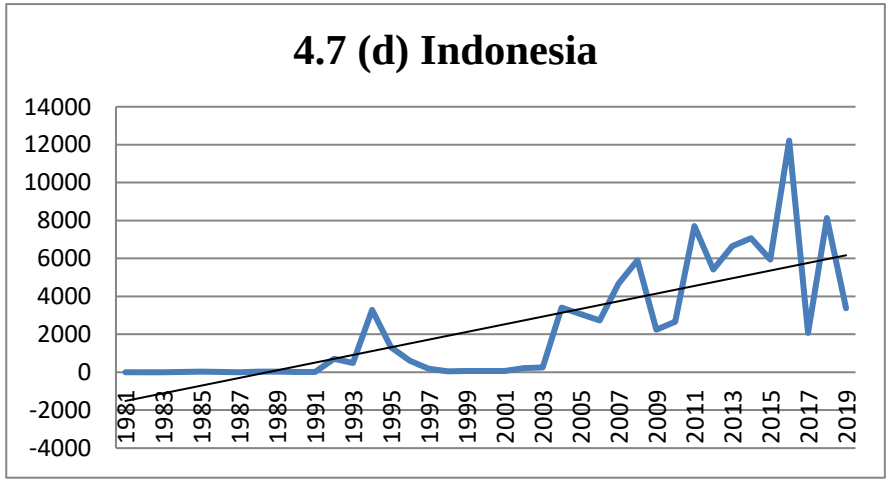
The OFDI from Saudi Arabia, Singapore, Thailand and UAE was US $ 1.55 billion, US $ 6.85 billion, US $ 0.02 billion and US $ 0.042 billion respectively in the year 2000 and that share of these four Asian countries increased to US $ 13.19 billion, US $ 33.28 billion, US $ 11.85 billion and US $ 15.90 billion in 2019 (see table no. 4.13). Out of these four Asian countries, OFDI growth index of Thailand (in absolute terms) was the highest in 2019 at the level of 59234.1 basis points, followed by YAE (3785.9 basis points), Saudi Arabia (850.6 basis points), and Singapore (458.8 basis points). This significant performance of Thailand in the field of growth of OFDI outflows is mainly due to the 'Catch-up effect'.

Trend lines of OFDI growth in the select Asian Economies (1981-2019)

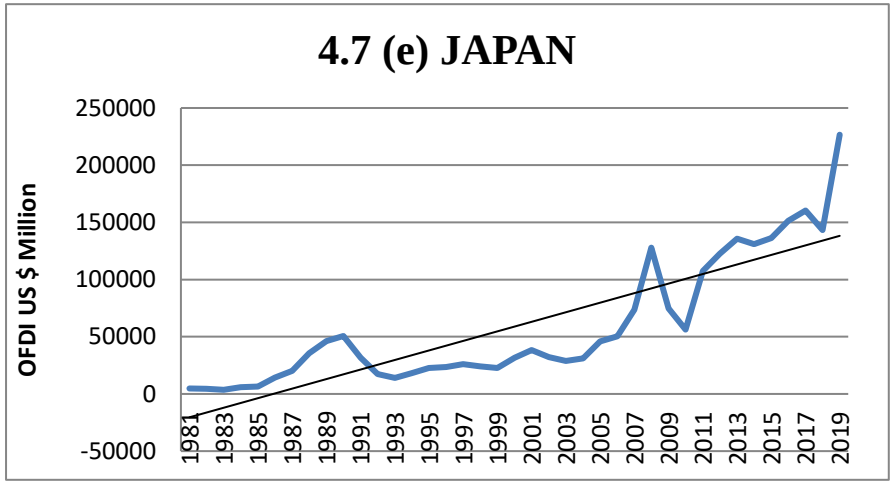


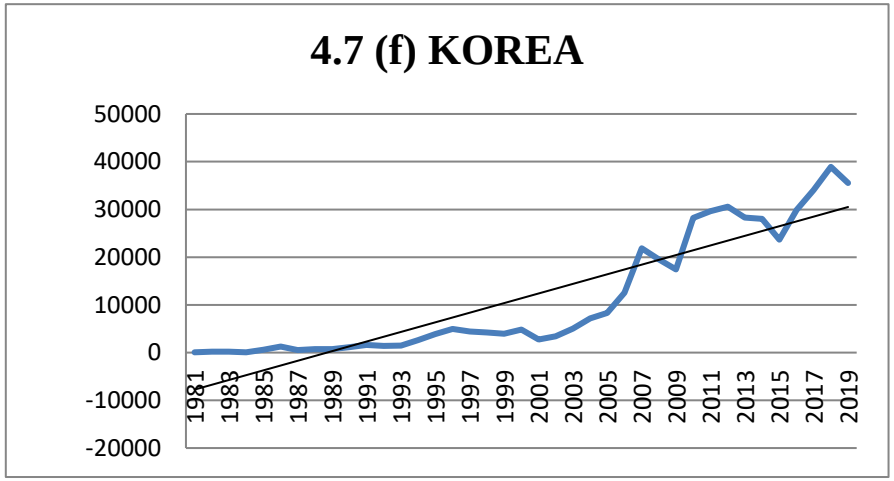


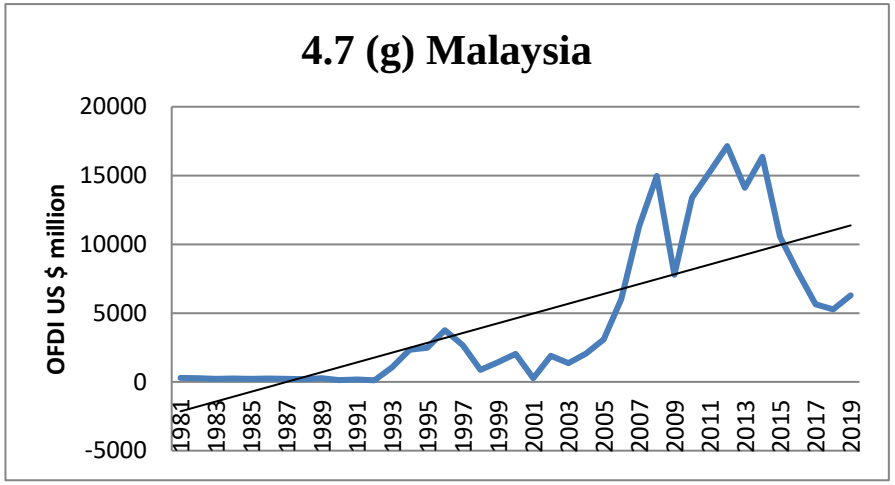


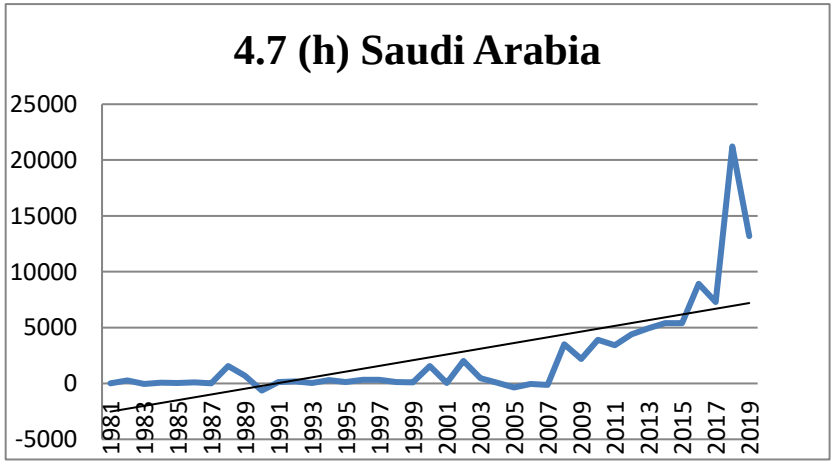


Trend lines of OFDI growth in the select Asian Economies (1981-2019)









Trend lines of OFDI growth in the select Asian Economies (1981-2019)

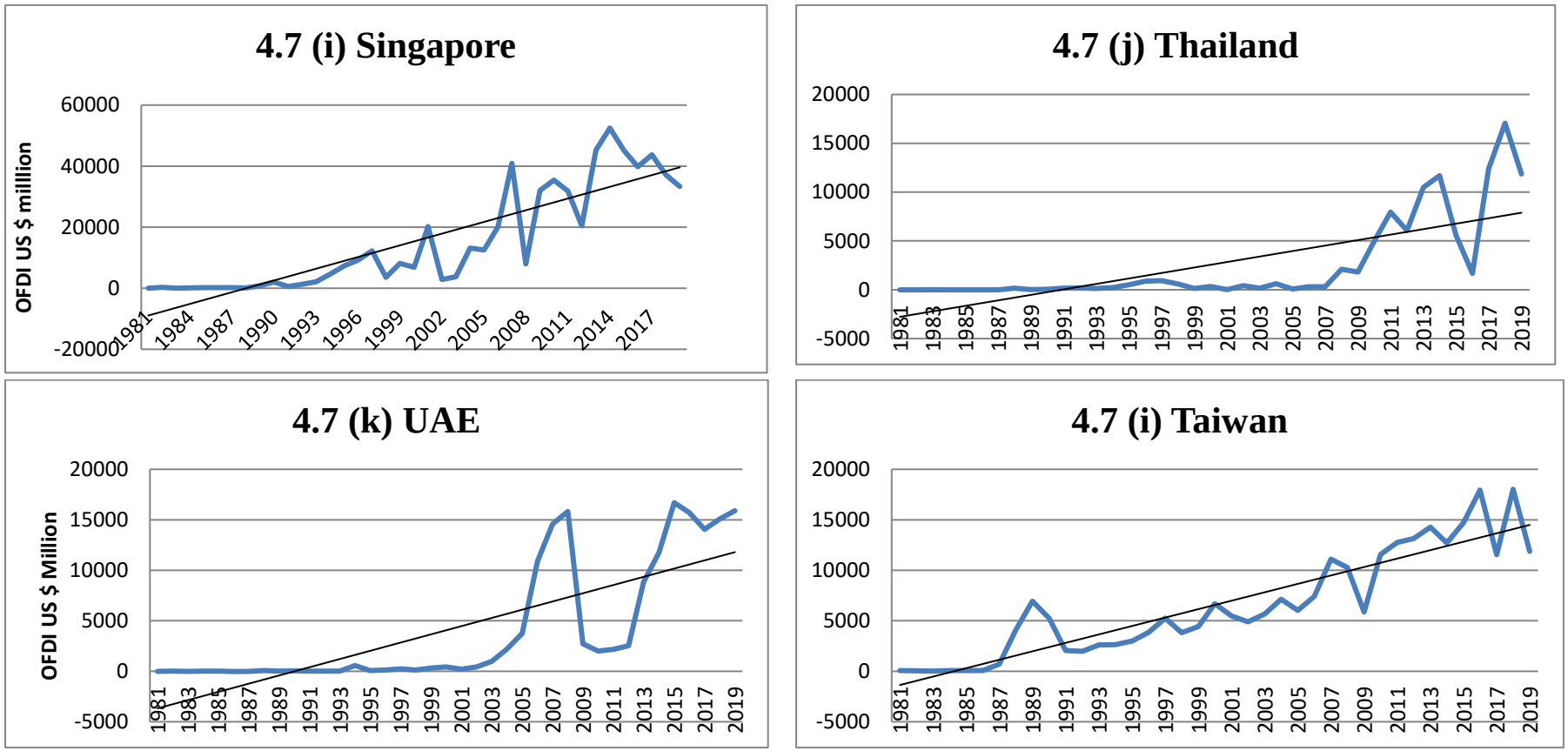


Figure No. 4.7: Trend in growth of outward FDI in Select Asian Economies

That means the country started from a very low level of OFDI in base period will achieve a higher growth rate of OFDI than the country having a high level of OFDI in the base period. In terms of percentage share of these four Asian countries in World OFDI, in the year 2000, share of Singapore was the highest at the level of 0.59 percent in the year 2000 and the same trend continued during the last two decades and in the year 2019, Singapore contributed 2.53 percent of the world OFDI (see table no. 4.14).

Comparison of the OFDI positions and growth indices of all the selected Asian countries clearly revels the fact that Japan is controlling the dominant share of the world OFDI followed by China, Hongkong, Korea and Singapore.

Figure no. 4.7 (a) to 4.7 (i) gives the pictorial view of the linear trend in the growth of outward foreign direct investment in all the select Asian economies for the period of 1981-2019. The above graphs clearly show that in each of the twelve select Asian economies the trend of OFDI growth is rising and significant.

4.7: Trend analysis of OFDI on country-by-country basis using bi-variate regression model

In this section of the study, the trend in outward FDI in the selected twelve Asian economies are examined using bi-variate regression model. For this purpose the time-series data of outward FDI from twelve Asian economies for the period of 39 years (1981-2019) is used. The following regression model is used for the purpose:

$$OFDI_i = a + b*Time + \varepsilon_i$$

Where $OFDI_i$ is the outward FDI of the i^{th} country and is the dependent variable. Time is the independent variable. ‘a’ is the intercept of the model and ‘b’ is the slope of this equation. The results of the regression model are presented in the following table no. 4.17:

Table No. 4.17: Results of Bivariate Regression model

Independent Variable: Outward FDI					
Country	**Independent Variable**	**Regression Coefficients**	**t-Statistic**	**F- Statistics**	**R-Square**
CHINA	Intercept	-38282.2	-3.739 (0.00)***	72.10	0.660
	Time	3936.10	8.491 (0.00)***	(0.00)***	
HONGKONG	Intercept	-14265.5	-2.765 (0.00)***	127.35	0.774
	Time	2635.87	11.285 (0.00)***	(0.00)***	
TAIWAN	Intercept	-1358.34	-2.023 (0.00)***	188.29	0.835
	Time	417.108	13.721 (0.00)***	(0.00)***	
INDIA	Intercept	-2945.68	-2.080 (0.04)**	37.83	0.505
	Time	394.422	6.151 (0.00)***	(0.00)***	
INDONESIA	Intercept	-1514.66	-2.414 (0.02)**	50.65	0.577
	Time	202.188	7.117 (0.00)***	(0.00)***	
JAPAN	Intercept	-20421.9	-2.224 (0.03)**	100.83	0.731
	Time	4175.22	10.041 (0.00)***	(0.00)***	
KOREA	Intercept	-7751.85	-4.420 (0.00)***	160.74	0.812
	Time	1006.79	12.678 (0.00)***	(0.00)***	
MALYSIA	Intercept	-2142.75	-1.852 (0.07)*	46.14	0.555
	Time	355.729	6.793 (0.00)***	(0.00)***	
SAUDI ARABIA	Intercept	-2522.52	-2.514 (0.16)**	31.71	0.461
	Time	255.821	5.631 (0.00)***	(0.00)***	
SINGAPORE	Intercept	-8945.14	-3.361 (0.00)***	112.46	0.752
	Time	-8945.14	10.605 (0.00)***	(0.00)***	
THAILAND	Intercept	-2769.58	-2.842 (0.00)***	40.42	0.522
	Time	280.554	6.358 (0.00)***	(0.00)***	
UAE	Intercept	-3670.94	-2.945 (0.00)***	52.00	0.764
	Time	406.970	7.211 (0.00)***	(0.00)***	

Notes: 1. Values in parenthesis shows p-values

2. (***), (**) & (*) show that the significance of values at one percent, five percent and ten percent levels respectively.

Table no. 4.17 compiles the results of the bivariate regression model on the outward FDI from select twelve Asian economies. This table elucidates that for all the countries (that were selected for the study) the coefficient of independent variable time is positive and significant with absolute value of t-statistics higher than 1.96 and the corresponding p-value less than 0.05. The positive values of coefficients of independent variable time show that over the period of study (1981-2019) in the select Asian economies there is rising trend of outward FDI. Moreover the significant value of t-statistics and the corresponding p-values are the clear indication that the rising trend of outward FDI from select Asian economies is also significant. In the above model the values of F-statistics are also highly significant as the corresponding p-values are less than 0.01. Besides the value of R-square of the bivariate regression models of all the countries are also high. The significant values of F-statistics and high values of R-square indicate that the overall models are good.

4.8 Summary

The global FDI outflows have shown an upsurge during the last two decades with FDI outflows increasing from US $ 683.51 billion to US $ 1313.7 billion in 2019. Besides, the phenomenon of 'Reverse OFDI' is gaining momentum; it means instead of developed economies, the developing economies are emerging as an important source of outward FDI. It implies that developing economies are showing their increasing assertiveness in FDI outflows. The share of developing and transition economies in the world OFDI was just 7.9 percent in the beginning of this century that increased to 44.9 percent in 2018. The ratio of OFDI to IFDI for developed economies has gradually declined from 1.4 percent in 1985 to nearly 1.0 percent in 2018 and 1.15 percent in 2019. But for the developing economies the ratio of OFDI to IFDI has doubled from 0.26 percent in 1985 to 0.54 percent in 2019. This means that for the developing economies, the outward FDI has increased in a greater extent than the inward FDI. Moreover, in each of the twelve select Asian economy, the ratio of OFDI to IFDI has also improved.

Out of the total share of developing economies, the developing economies of Asia are contributing the larger share. In the year 2018, total share of developing economies in the world OFDI was 41.9 percent out of which share of developing economies of Asia was 39.59 percent. In the Asian region, the developing economies of Asia always contribute more than the developed economies of Asia in the world OFDI. In the year 2018, developed economies of Asia contributed 14.7 percent share in OFDI whereas the developing economies of Asia contribute 39.6 percent share in OFDI. In the Asian region, the economies of East Asia (which include the economies like Japan, China, Hongkong and Taiwan) are dominating the major share of Asian OFDI. Moreover, the results of Index of Rank Dominance show that over the period of 2013-2019, six Asian economies dominate the pattern of OFDI. Among the top five OFDI dominant countries of the world, three economies (Japan, China and Hongkong) are from Asian region. The five OFDI dominant countries namely Japan, China, USA, Hongkong and Germany together contribute 40 percent share in world OFDI. Moreover, the top ten dominating countries (out of which five are Asian) dominate the international flow of capital in such a way that together they represent more than 68 percent of the world OFDI. One important feature of this rising trend is that the economies of Asia have emerged as a major source of foreign direct investment. This rising trend of OFDI from Asian economies is a clear signal that the competitiveness of the firms of Asia is increasing. This rapid expansion of OFDI from Asia is also due to the fact that there is substantial increase in revenues of Asian economies from the exports of manufactured goods and natural resources that helped Asian economies to build a sound financial base which is the precondition for engaging in outward FDI. Even the developing countries of Asia have realized that to enhance their international competitiveness they must get access to the international markets and productive resources. In the form of OFDI, Asian economies have got an attractive avenue through which they can connect to the global markets and productive resources. Compared to the investment scenario of two decades back, the current investment scenario has shown a sea change and the economies of Asia are displaying their increasing competitiveness. In the present wave of outward orientation from Asian region not only the industrialized economies like Japan, China, Hongkong and Singapore are going for outward FDI but other lower income

economies are also expanding their wings in foreign markets. This trend of outward orientation from Asian region will not just continue rather it will become increasingly stronger.

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CHAPTER: 5

OUTWARD FOREIGN DIRECT INVESTMENT AND DOMESTIC INVESTMENT IN SELECT ASIAN ECONOMIES

Capital is a very important factor of production and at the same time it is a scarce factor (especially for underdeveloped economies). During the last two decades, firms from developing and transition economies have been increasingly investing their scarce capital resources in other countries. Firms from developing and transition economies are investing their funds not only in other developing economies but also in developed economies. The share of developing and transition economies in world outward FDI flow, that was only 0.29 percent in 1981, jumped up to 31.8 percent in 2010, 30.3 percent in 2019 and also touched the height of 44.9 percent in 2018 (WIR, 2019).

Therefore, in the present times, one important point of discussion among the researchers in the field of foreign investment is that whether the outward FDI affects domestic investment or not. Since the level of domestic investment in a country determines the rate of economic growth in that country, thus if a country wants to boost its rate of domestic investment and hence economic growth, then it must understand how outward FDI affects domestic investment. As per the available literature, FDI outflows can significantly affect domestic investment. Thus, it is required to explore how OFDI affects domestic investment i.e. it is very important to study the nature of relationship between OFDI and domestic investment. Theoretically there can be both complementary and competitive (substitutive) relationship between OFDI and domestic investment.

The potential impact outward FDI on domestic investment may occur either through domestic financial market or through domestic product market. Firstly, if the FDI outflows from a country increases then, it means that there is shifting of investible funds from home to foreign markets. In this way, some portion of domestic savings is shifted to other countries. Given the scarcity of financial resources at home, interest rate will increase and thus borrowings for domestic firms may become costlier and availability of investible funds for new investment activities at home is

compromised. This problem will become severe if the funds for international investment are arranged internally. In this way, through negative impact on financial markets, OFDI reduces domestic investment. Secondly, through product market also OFDI affects domestic investment. When firms shift a part their production base to foreign countries, then it may imply that its exports are falling and hence it will adversely affect domestic investment. On the other hand, if due to linkage effects (backward or forward) of outward FDI, exports are increased, then outward FDI will be considered as complement to domestic investment.

The researchers, who support the view point of inverse relationship between OFDI and domestic investment, argue that through foreign investment, firms substitute domestic activities by foreign activities. Meaning that, when firms transfer a part of their production activities to foreign centers, they actually reduce investments in their domestic plants, because domestic investment and foreign investment are interdependent through production process. Accordingly, when firms invest their funds at different locations, then there will be competition for the scarce investible resources due to the higher funding costs abroad. In this way, it is inevitable that the decision of the firm to invest abroad, reduces domestic investment (Stevens & Lipsey, 1992).

On the other hand, the alternative argument is that higher foreign investment accentuates domestic investment. The researchers, who support this view point, argue that firms going for outward FDI are in position to import intermediate goods from its foreign subsidiaries at a lower cost and when these cheaper intermediate goods are used in the domestic plants then it will boost their domestic production and hence domestic investment. In this why, firms combine their domestic and foreign production to reduce production costs and to earn higher returns on domestic investment. All these things raises output at home and also investment at home (Desai et al., 2005).

Even in literature, one can find contradictory evidences about the nature of relationship between OFDI and domestic investment. The relationship between these two variables also depends upon the type of outward FDI (Herzer, 2010). If the OFDI

is market-seeking (Horizontal) in which aim of the firm is to access foreign markets, then its impact on domestic investment is ambiguous. It all depends upon the fact that whether exports are positively or negatively affected by this economic activity. If firm tries to satisfy foreign demand by producing abroad and reducing exports to that country then, it will reduce domestic investment. It generally happens in case of exports of finished goods. On the other hand, it is quite likely that exports of finished goods fall but exports of intermediate goods may increases (as now firm is exporting intermediate goods for producing finished goods abroad). However, if the outward FDI is in services then, there are very small chances of negative impact of OFDI on domestic investment. In case of OFDI in services, the impact on domestic investment can be either positive or neutral, because this type of OFDI does not substitute exports (Hejazi and Pauly, 2003).

When firm expands production abroad by reducing domestic production, then OFDI substitutes domestic investment. But it is quite possible that fall in domestic investment is only for short period. Normally, the assets which are firm-specific are produced at home (at the headquarters of the firm) and then, they are supplied to foreign plants of the firms. In this way, domestic and foreign production are combined and it results in higher demand for inputs at home (Desai et al., 2005). It implies that domestic production of finished goods may fall but production of intermediate goods will increase (Kokko, 2006). In this process domestic investment may improve. In their work for Chinese economy, Ameer et al. (2017) also found a positive relationship between outward FDI and domestic investment.

Besides, if the firm is going for vertical OFDI, then this type of FDI may also lead to fall in output (may be for short period). In the long period, due to this vertical OFDI firms may be in position to import intermediate products at cheaper price from the host economies and hence due to cheaper raw materials, there is every possibility that domestic investment will increase.

But if the firms fail to raise the competitive position (due to market imperfections) then it will not be possible for them to compensate the fall in domestic

investment in finished goods and in this situation both types of OFDI (vertical and horizontal) will adversely affect domestic investment.

If the main motive of outward FDI is strategic asset seeking, then there are more chances that it will positively affect domestic investment. Through this type of OFDI, firm acquires access over the new and improved foreign technologies and it will help that firm to improve productivity at home and it will favorably affect domestic investment.

Keeping in view both of these theoretical arguments, it can be said that each of these two scenario may hold true to individual firm. i.e. the net effect of outward FDI on domestic investment is not determinate and needs to be tested empirically. The evidences available on this particular aspect are also not conclusive e.g. the results of the study conducted by Deasi et al. (2005) on US firms show that domestic investment is not substituted by foreign investment, rather there is a positive relationship between the two. Whereas, Steven & Lipsey (1992) found a negative relationship between OFDI and domestic investment. In their study about US MNCs, they concluded that foreign investment by US firms reduced domestic investment.

Most of the studies on exploring the relationship between OFDI and domestic investment are the firm level studies. They have not analyzed the overall impact of outward FDI on domestic investment. They have just focused on the limited number of large multinationals. There are only a few numbers of studies that have explored the macro level relationship between foreign direct investment and domestic investment. Moreover, no study even explored the impact of outward FDI on domestic investment for the Asian economies. Hence, through this study an attempt has been made to bridge this gap by analyzing the impact of outward FDI on domestic investment at the macroeconomic level.

In this chapter, an attempt has been made to examine the causal relationship between outward FDI and domestic investment in the select Asian economies. Depending upon the availability, the present study uses data for the time frame of 1981 to 2019. For such a long span, there is no other frequency of data, therefore annual data is used. The data is compiled from online sources of World Development

Indicators published by World Bank. Two variables namely outward FDI and Domestic investment are used. In the study Gross Capital formation (percentage of GDP) is used as proxy for domestic investment. The second variable outward FDI is also represented by Outward FDI (% of GDP). Natural logarithms of both the variables are taken and are symbolized as LDI and LOFDI. The countries selected in our sample are Japan, China, Hong Kong, Singapore, Republic of Korea, Malaysia, Saudi Arabia Thailand, United States of Emirates and India. As data relating to GCF for Indonesia and Taiwan was not available, so while studying the relationship between domestic investment and outward FDI, these two countries were excluded and therefore number of countries for the present objective was reduced from twelve to ten.

5.1: Results and Discussion:

5.1.1: Panel Unit-root:

Before applying the causality tests, a critical assumption that must be satisfied is that the data must be stationary. It means it should be free from unit-root. A data is said to be free from unit-root, if means and variances in the data remain constant over time. If unit-root is present in the data, then behavior of data can be analyzed only for the period under consideration but it cannot be generalized for other time periods (Dickey & Fuller, 1981). A non-stationary data may create the problem of spurious regression and may lead to misleading results. Therefore regression should not be applied on a non-stationary data (Koop. 2006). For checking the stationarity of the data, unit root tests propounded by Levin, Lin & Chu (2002, Im, Pesaran & Shin (2003) and Fisher type unit root tests which are based on Phillips-Perron and Augmented Dickey Fuller Tests are applied. The results of both the tests are shown in the table no. 5.1

Table No. 5.1: Panel Unit root Test results

	Panel Level Series	
	LOFDI (% of GDP)	**LDI (% of GDP)**
LLC	-10.9228 (0.0000)***	-1.90617 (0.0283)**
IPS	-13.7048 (0.000)***	-1.99434 (0.0231)**
ADF-Fisher Chi Square	187.891 (0.000)***	31.2869 (0.0415)**
PP- Fisher Chi Square	284.301 (0.000)***	30.3093 (0.0450)**

Notes: (i) Panel data includes eleven countries. (ii) The values in parenthesis depicts p-values (iii) (***) shows significant at 1 % level of significance (iv) Null Hypothesis : Series are non-stationary (v) LLS indicates "Levin, Lin & Chu W-stat, IPS shows Im, Pesaran & Shin stat, ADF shows Augmented-Dickey Fuller stat and PP shows Phillips-Perron stat".

Panel Unit root results in the above table indicates that the null hypothesis of presence of unit root for both the series at their levels is rejected at one percent level of significance for the variable OFDI and at five percent level of significance for the variable domestic investment. All the four unit root tests show the similar results. It means both the series are stationary at level i.e. both the series are I (0). After satisfying the assumption of stationarity, the chances of getting spurious regression is ruled out and the data can now be used for further analysis.

5.1.2: Lag Order Selection

The literature suggests that lag length should be selected after applying Information Criterion. There are a number of criteria like AIC (Akaike Information Criterion), SIC (Schwartcz Information Criterion), HQ (Hannan-Quinn Criterion), RMSE (Root Mean Square Error) criterion etc. Different criteria give different optimum lag length. However, AIC or SIC criteria are generally used for selecting optimum lag length of a VAR model. Literature also supports that the criterion giving lowest value should be chosen. The results of lag length selection criterion are presented in table no. 5.2.

Table No. 5.2: VAR Lag Order selection criterion results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-17.21208	NA	0.003981	0.149510	0.177130	0.160617
1	407.0709	838.6605	0.000151	-3.121174	-3.038316	-3.087853
2	**423.5133**	**32.24510**	**0.000136***	**-3.224151***	**-3.079906***	**-3.162467***
3	428.3034	9.319160	0.000137	-3.218003	-3.030816	-3.146401
4	431.5365	6.239853	0.000137	-3.218183	-2.969610	-3.118219
5	433.4315	3.627735	0.000139	-3.201802	-2.897990	-3.079624
6	439.7151	11.93140*	0.000137	-3.219572	-2.860522	-3.075180
7	444.2374	8.516801	0.000137	-3.223637	-2.809348	-3.057031
8	448.1437	7.295875	0.000137	-3.222909	-2.753381	-3.034088

Note: (i). (*) shows lag order selection by the criterion
(ii). LR is the sequential modified LR test statistics (each test at 5 % level)
(iii) FPE is Final prediction error
(iv) AIC is the Akaike information criterion
(v) SC is the Schwarz information criterion
(vi) HQ is Hannan-Quinn information criterion

The results given by the above information criterion indicates that all the lag selection criteria namely FPE criterion, AIC criterion, SC criterion and HQ criterion are giving the same results regarding optimal lag length. But the LR criterion is giving optimal lag length of six. Since four out of five criteria are giving optimal lag length of two, so we shall go accordingly and take lag length of two as the optimal lag length. Moreover, the criterion giving lowest value should be adopted. Going by this fact also, we shall choose second lag as optimal lag because by AIC criterion the value at lag 2 is -30224151, which is minimum of all the values. So the present VAR model is best fit with optimal lag length of two.

5.1.3: Vector Autoregressive (VAR) Model:

Results of unit-root test shows that both the variables are stationary at their levels. The literature suggests that when variables are stationary at I(0), then it is not required to find cointegration between them and the estimation of Vector Error Correction Model (VECM) is reduced to the estimation of Vector Autoregressive (VAR) model and thus for two I(0) series VAR model can be directly applied **(** Paul, M. Thomas, 2014; Amoo, Eric, 2014; Jiang Heng, 2014; Osabuohien-Irabor Osarumwense, 2016; Kumar, Ronald, 2019; Paul, M. Thomas 2019; Ascarya,

Ascarya. 2020; Bragoudakis, Zacharias. 2020). VAR which is a generalized form of Auto Regressive (AR) model, allows for more than one evolving variables.

Table No. 5.3: VAR Model Results for Domestic Investment and Outward FDI

Dependent variable is domestic investment

Variable	Coefficients	Standard Error	t-Statistics	p-value
DI(-1)	0.944818	0.053462	17.67278	0.000***
DI(-2)	-0.023371	0.053396	-0.437685	0.6618
OFDI(-1)	0.008578	0.005808	1.477004	0.1401
OFDI(-2)	-0.012217	0.005700	-2.143408	0.0524*
Constant	0.111390	0.033404	3.334628	0.0009***
R-Square	0.832833			
Adj. R-square	0.830889			
D-W Stat.	2.008837			

Note: (***) & (*) mean significant at 1 % and 10 % respectively.

Table No. 5.4: VAR Model Results for Domestic Investment and Outward FDI

Dependent variable is Outward Foreign direct investment

Variable	Coefficients	Standard Error	t-Statistics	p-value
DI(-1)	-0.606173	0.420506	-1.441532	0.1499
DI(-2)	0.323406	0.422776	0.764960	0.4446
OFDI(-1)	0.526746	0.047598	11.06650	0.0000***
OFDI(-2)	0.352019	0.046149	7.627806	0.0000***
Constant	0.473801	0.267052	1.774187	0.07865*
R-Square	0.841832			
Adj. R-square	0.839949			
D-W Stat.	1.907855			

Note: (***) & (*) mean significant at 1 % and 10 % respectively.

VAR model is a stochastic process and is generally used for capturing the linear interdependence among multivariate time series. VAR model gives flexibility to forecasting and structure of VAR is such that each variable is a linear function of its

past lags and also the past lags of other independent variables. VAR model also helps in structural inferences and policy analysis. Applying unstructured VAR model with lag two, on the data of DI and OFDI, the following model was obtained.

Estimated equations:

DI = 0.944818 DI(-1) -0.023371DI(-2) + 0.008578OFDI(-1) -0.012217OFDI(-2) +0.111390

------ (I)

OFDI= -0.606173 DI(-1) + 0.323406DI(-2) +0.526746OFDI(-1) +0.352019OFDI(-2) +0.473801

-------- (II)

Table no. 5.3 and equation (1) show the VAR model results when domestic investment is the dependent variable. This equation reveals that coefficient of first lag value of domestic investment is positive, and highly significant at one percent level of significance with prob. value of 0.00, but coefficient of second lag of DI is negative and insignificant. The effect of first lag of DI is 0.94 and that of second lag of DI is -0.02. It shows that Domestic investment is significantly affected by its first lag but not by its second lag. On the other hand the coefficient of first lag of OFDI is positive but insignificant, and the coefficient of second lag of OFDI is negative but insignificant at 5 % level of significance. All this shows that domestic investment is positively and significantly affected by its own past lags and the effect of past lags of outward FDI on domestic investment is very small. Value of R-square is 0.8328, which can be considered as good value for the model. Value of Durbin-Watson test is 2.008, which is near to 2, so the possibility of existence of auto-correlation in the model is also ruled out. Value of F-stat is 3154.54 with probability value of 0.0000, which shows that the model is fit.

Table no. 5.4 and Equation (2) show the results of VAR model and the regression equation when OFDI is the dependent variable. The VAR model results indicate that the coefficients of lag values of domestic investment are insignificant. The effect of first lag of domestic investment is negative and its coefficient is -0.0606, implies that OFDI is negatively affected by the first lag of domestic investment. On the other hand the coefficient of second lag of domestic investment is 0.323406, it is positive but insignificant. However, the effect of first and second lag of OFDI on

OFDI is positive and significant (at one percent) with coefficients 0.7526746 and 0.352019 respectively. All this implies that OFDI is more affected by its own past lags and less by the lags of domestic investment. In the model the value of R-square is 0.841832, which can be treated as a good value. D-W stat is 1.9078, that is near to two, so the model is free from the problem of auto-correlation. Value of F-stat is 3212.478 with probability value of 0.000, showing that the model fits very well.

5.1.4: Wald Test for Joint significance

The VAR model results show the effect of each variable and its lags on the dependent variable. It is quite possible that any of the explanatory variable or the lags of explanatory variables are insignificant individually but jointly they may be significant and vice-versa. But if we want to test the joint effect of all the lags of independent variable on dependent variable, then Wald test of joint significance will be used. In the present study, we shall examine Joint significance in four parts.

i. Wald test for Joint significance of lag 1 and lag 2 of DI on DI
   [H_0: C(1)=C(2)=0]
ii. Wald test for joint significance of lag 1 and lag 2 of OFDI on DI
   [H_0: C(3)=C(4)=0]
iii. Wald test for Joint significance of lag 1 and lag 2 of DI on OFDI
   [H_0: C(6)=C(7)=0]
iv. Wald test for Joint significance of lag 1 and lag 2 of OFDI on OFDI
   [H_0: C(8)=C(9)=0]

Table No. 5.5: Results of Wald Test of Joint significance

S. No.	Description	Null Hypothesis	Chi-Square Value	d.f.	Prob.
1.	Joint Sig. of lag I & 2 of DI on DI	C(1)=C(2)=0	1707.260	2	0.000***
2.	Joint Sig. of lag I & 2 of OFDI on DI	C(3)=C(4)=0	5.685427	2	0.0583*
3.	Joint Sig. of lag I & 2 of DI on OFDI	C(6)=C(7)=0	3.720961	2	0.1556
4.	Joint Sig. of lag I & 2 of OFDI on	C(8)=C(9)=0	1773.738	2	

OFDI	0.000***

Note: (***) & (*) implies significant at one percent and ten percent levels of significance respectively.

- The results given at serial no. 1 of the above table show that p-value is less than 5 percent, so the null hypothesis of insignificant joint effect of lag 1 and 2 of DI on DI is rejected. It implies that domestic investment is significantly influenced by its first two lags jointly.
- The results at serial no. 2 in the above table show that p-value of chi-square statistics is 0.0583, which is more than 5 percent, so the null hypothesis of insignificant joint effect of lag 1 and 2 of OFDI on DI is not rejected. It implies that domestic investment is not significantly influenced by first two lags of OFDI jointly at 5 percent but at 10 percent two lags of OFDI are significantly affecting DI. This shows weak effect of OFDI on DI.
- The results at serial no. 3 in the above table show that p-value of chi-square statistics is 0.1556, which is more than 5 percent, so the null hypothesis of insignificant joint effect of lag 1 and 2 of DI on OFDDI is not rejected. It implies that Outward FDI is not significantly influenced by first two lags of DI jointly.
- As per the results of serial no. 4 of the above table, p-value of chi-square statistics is 0.0000, which is less than 5 percent, so the null hypothesis of insignificant joint effect of lag 1 and 2 of OFDI on OFDI is rejected. It implies that Outward FDI is significantly influenced by first two lags of OFDI jointly.

5.1.5: VAR Model Stability

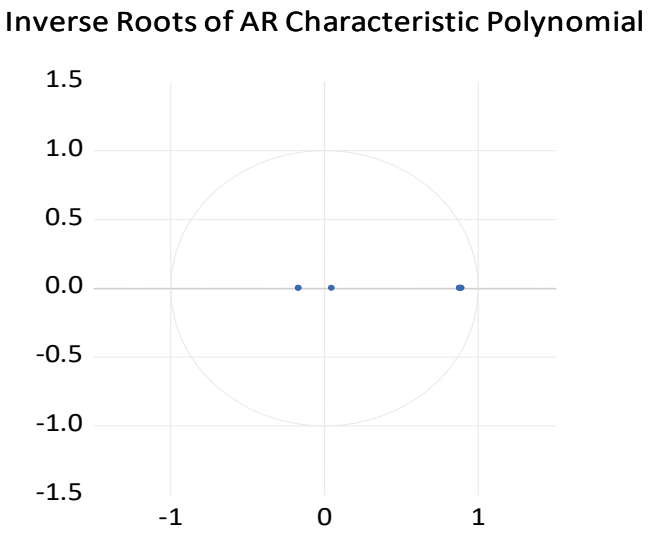
It is also necessary to check the stability of VAR model. If the stability condition of VAR model is not satisfied then the results of the Impulse Response Function will not be valid. For Stability check AR Roots table and AR Roots graph are being used. The results of stability check are presented with the help of following table and graph.

Table No. 5.6: AR Roots table Results

Roots of characteristic Polynomial, Endogenous variables: LDI LOFDI

Exogenous Variable: C, Lag Specification: 1 2

Root	Modulus
0.892779	0.892779
0.880509	0.880509
-0.167181	0.167181
0.048162	0.048162
As no root is lying outside the unit circle so, here the stability condition of VAR model is satisfied	



Graph No. 5.1: AR Roots Graph for VAR model stability

Literature suggests that if all dots in the AR roots graph are within the circle then the model is stable. So, the results of both AR Roots table and graph show that the stability condition is satisfied and this VAR model is stable.

Residual Diagnostic Tests:

The above VAR model also passes the tests of residual diagnostic against serial correlation; non-normality and heteroskedasticity (see table no. 5.7).

Table No.5.7: VAR model diagnostic Test Results

Testing against	Diagnostic Test applied	Statistics
Serial Correlation	LM test (lag 2)	2.380302 (0.6682)
Heteroscedasticity	Chi-square	52.7882 (0.1229)
Non-Normality	Jarque-Bera	5.679 (0.0637)

Note: Figures in parenthesis are showing the p-values

Table no. 5.7 shows that the value of LM test at lag 2 is 2.380302, with prob. Value of 0.6682, which is more than 5 percent, that means the null hypothesis of No Serial correlation cannot be rejected. So, the model is free from the problem of serial correlation. The value of Chi-square for the test of heteroscedasticity is 22.7882 with prob. value of 0.1229, which is also significant. So, we fail to reject the null hypothesis of presence of homosedasticity in residuals. Similarly the prob. Value of Jarque-Bera test is also significant with prob. Value of 0.0637, so the residuals are also normally distributed

5.1.6: Granger Causality Test

In the next part of our analysis, we conducted the causality test between the variables of our interest. This test is applied with the purpose to forecast one time series from the other. This test is basically based on the assumption that "variable X can be said to granger causes variable Y, if Y can be better explained using the past values of X and Y than it can be explained using the past values of Y alone". This test is used to establish the direction of relationship between the variables. In this chapter, this test is applied to examine the causality between domestic investment and outward FDI on one hand and between outward FDI and Domestic investment on the other hand. The results are shown in the table no. 5.8.

Table No. 5.8: Results of Granger Causality Test between DI and OFDI

Null Hypothesis:	F-Statistic	Decision
OFDI is not granger causing DI	1.99478 (0.1370)**	No causal relationship
DI is not granger causing OFDI	0.04035 (0.9605)**	running from either side

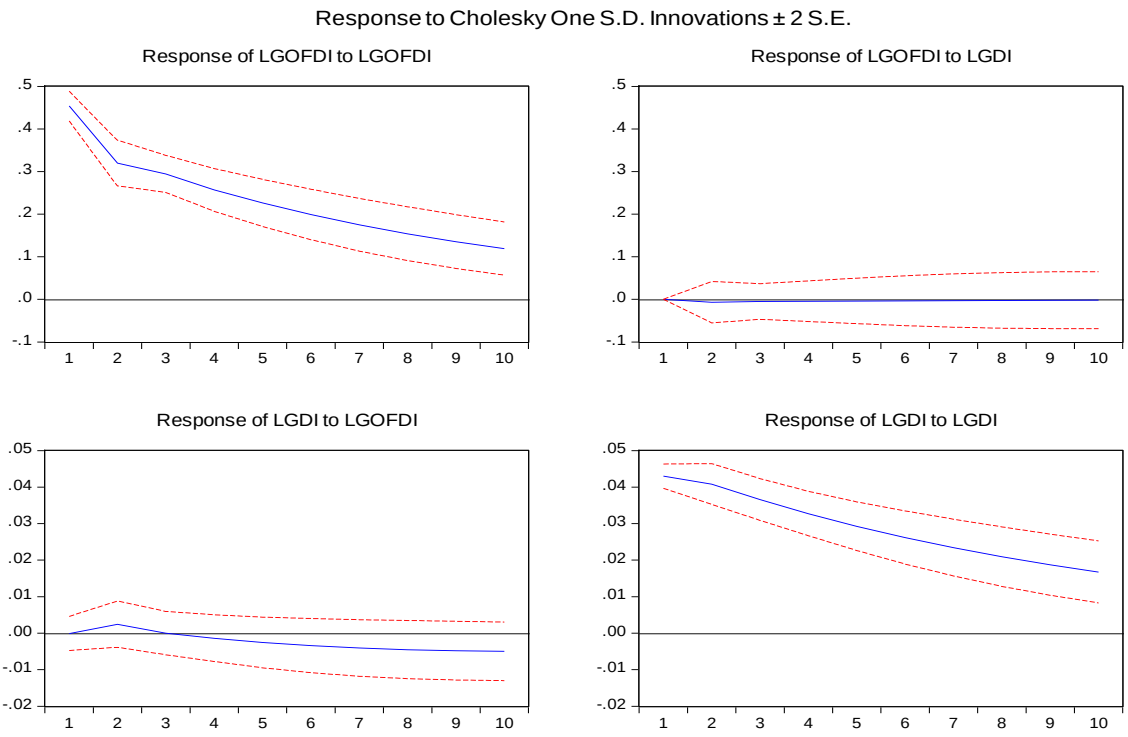
Notes: 1. The values in parenthesis denote p-values.

2. (**) denotes the acceptance of the null hypothesis of no causal relationship between the variables.

The granger causality test results are not giving proofs of any causal relationship between domestic investment and outward FDI. It means neither OFDI is causing domestic investment nor domestic investment is causing OFDI.

5.1.7: Impulse Response Function (IRF):

The test of Granger causality is limited only to the study of in-sample test and it does not provide information about dynamic interaction of the variables beyond the period of sample. Going with this purpose, Impulse response Function and Forecast Error Variance Decomposition tests have been employed. IRF is an important step in econometric analysis, which employ VAR model (Franz X. Mohr, 2019). They are used for obtaining more information about the dynamic behavior of VAR model. Through IRF more clarity and light can be thrown to the information provided by Granger Causality test. IRF helps in explaining the sign of relationship between the two variables and they also help in explaining how long these effects will be operational. The IRF are applied with the purpose of explaining the evolution of a model's variable, when a shock is given to one or more variable. After getting results of VAR model, in our study, we tried to identify the responsiveness of dependent variable (endogenous variable) when a shock is given to independent variable. In the present study, period of response is taken to be ten years. This will explain how the two variables will react to each other in the next ten years. In the context of our study, IRF will explain how long and in what manner OFDI will affect domestic investment and also how long and in what manner domestic investment will affect OFDI during the next ten years, when one standard deviation shock is given to the residuals of each variable. The results of IRF are represented with the help of following graphs.



Graph No. 5.2: Impulse Response Function of Domestic Investment and Outward FDI

Part (i) of the graph shows the reaction of OFDI to OFDI for the next ten years, when one standard deviation shock is given to OFDI. It is clear from the graph that the reaction of OFDI to OFDI is positive. It is very high initially but it goes on falling but still it is very high. It implies that when one standard deviation shock is given to the residuals of OFDI then for the next ten years, it will positively and significantly affect outward DI.

Part (ii) of the graph explains the response of OFDI to domestic investment. This graph indicates that effect of shocks to domestic investment on OFDI is positive but insignificant. It is almost zero throughout the period of next ten years.

Part (iii) of the above graph shows, how domestic investment will respond when one standard deviation positive shock is given to the residual of OFDI. Here it is clear that initially domestic investment is responding positively (upto three periods) due to the shock given to OFDI but after third period the effect of shocks to OFDI becomes negative. But this effect of OFDI to domestic investment is weak as the

graph fluctuates very near to zero for the entire period of ten years. It implies that OFDI will be negatively but insignificantly affecting domestic investment.

Part (iv) of the graph shows the response of domestic investment to domestic investment for the next ten years. When one standard deviation positive shock is given to the residual of domestic investment, then domestic investment will be positively and highly affected by these shocks. It implies that effect of domestic investment on domestic investment will be positive and high during the ten years in future.

5.1.8: Forecast Error Variance Decomposition (FEVD) or Variance Decomposition Model

The variance Decomposition Analysis gives information regarding the relative strength of random shock in the model. If a variable is purely exogenous, then its forecast error variance shall be explained only by its own shock. The findings that emerge from the variance decomposition analysis are in line with the Granger causality results and Impulse Response Function results, which give robustness to our results. Table no. 7.9 summarizes the results of Variance Decomposition of Domestic investment and outward FDI up to ten years. As per the results of variance Decomposition test both domestic investment and outward FDI are exogenous variables not only in short run but also in long run as the forecast error variance of both the variables is explained respectively by their own shocks.

Part (i) of Table no.5.9 shows the variance decomposition of OFDI for the next ten years. It is clear that OFDI is also an exogenous variable both in short run and long run. In short run (say in 3rd year) contribution of OFDI in the fluctuations in OFDI is 99.98 percent and the contribution of domestic investment in the fluctuation in OFDI is almost zero at 0.01 percent in the same third year. In the tenth year also the trend has remained the same. In the tenth year, 99.97 percent of the fluctuations in OFDI are caused by its own shocks and the effect of shocks to domestic investment is almost zero at 0.02 percent.

Table No. 5.9: Variance decomposition results of OFDI and DI

'Variance Decomposition of OFDI'			
Period	**S.E.**	**OFDI**	**DI**
1	0.453892	100.0000	0.000000
2	0.555301	99.98458	0.015416
3	0.628549	99.98130	0.018700
4	0.678991	99.97942	0.020577
5	0.715694	99.97847	0.021528
6	0.742828	99.97794	0.022060
7	0.763160	99.97764	0.022358
8	0.778522	99.97748	0.022520
9	0.790201	99.97740	0.022602
10	0.799117	99.97736	0.022636
'Variance Decomposition of DI'			
Period	**S.E.**	**OFDI**	**DI**
1	0.042987	0.000527	99.99947
2	0.059333	0.170831	99.82917
3	0.069702	0.123785	99.87622
4	0.077017	0.133876	99.86612
5	0.082432	0.213159	99.78684
6	0.086557	0.350205	99.64980
7	0.089761	0.531396	99.46860
8	0.092282	0.743122	99.25688
9	0.094287	0.973460	99.02654
10	0.095893	1.212458	98.78754
Cholesky Ordering: LOFDI LDI			

The results are in line with the results given by other econometric techniques like VAR model results (table no. 5.3 & 5.4 and equation no. I & II), Wald test results (table no. 5.9), Granger Causality test results (table no. 5.8) and Impulse Response Function results (graph no. 5.2). All these econometric techniques have also provided the evidences that OFDI is much affected by its own lag values and the effect of domestic investment on OFDI is almost nil.

Part (ii) of table no. 5.9 provides information about variance decomposition of domestic investment for the period of ten years in future. It is clear that in short period

(say in 3rd period) shock or innovation to domestic investment accounts for 99.87 percent variation of the fluctuations in domestic investment (own shock) and the shock in OFDI is causing only 0.12 percent fluctuations in domestic investment during the same period. And the total variation is 100 percent. Similarly in the long period (say in ten years) the share of domestic investment in fluctuations in domestic investment is still very high at 98.78 percent. But the share of OFDI in causing fluctuations in domestic investment is only 1.21 percent. These results given by Variance Decomposition Analysis are also consistent with the results given by VAR model (table no. 5.3 & 5.4), Wald test of joint significance (table no. 5.5), Granger causality test (table no. 5.8) and also the results given by Impulse Response Function (graph no. 5.2) that domestic investment is much affected by its own past values and the effect of OFDI on domestic investment is insignificant.

5.2: Relationship between domestic investment and outward foreign direct investment on country-by-country basis

On applying a number of econometric techniques like VAR model, Wald test, Granger Causality test, Impulse Response Function and Variance Decomposition Test on the panel data of select Asian economies to explore the relationship between OFDI and DI, we did not find evidence of any type of (substitutive or complementary) relationship between domestic investment and outward foreign direct investment. These results were opposite to our hypothesized relationship between the two variables. So, to check robustness of our results, we applied the granger causality test on the time-series data on country-by-country basis also to check whether the similar results are applicable on country-by country basis or not. The results of individual cross-country granger causality analysis between Outward FDI and domestic investment are presented in table no. 5.10.

Table no. 5.10 shows that even the country-wise results of granger Causality analysis are not much different from the results of causality analysis on aggregate basis.

Table No. 5.10: Individual country-wise results of Granger Causality Test

Country	Null Hypothesis	F-Statistics	Probability	Interpretation
China	**OFDI is not granger causing DI**	0.21882	0.8047	No Causal relationship between DI & OFDI
	DI is not granger causing OFDI	0.05121	0.9502	
Hongkong	**OFDI is not granger causing DI**	0.01211	0.9880	No Causal relationship between DI & OFDI
	DI is not granger causing OFDI	0.87976	0.4247	
India	**OFDI is not granger causing DI**	0.69972	0.5042	No Causal relationship between DI & OFDI
	DI is not granger causing OFDI	2.36475	0.1102	
Japan	**OFDI is not granger causing DI**	0.57894	0.5663	Uni-directional causal relationship running from DI to OFDI
	DI is not granger causing OFDI	6.14381	0.0055***	
Korea	**OFDI is not granger causing DI**	1.80414	0.1810	No Causal relationship between DI & OFDI
	DI is not granger causing OFDI	0.10389	0.9616	
Malaysia	**OFDI is not granger causing DI**	1.15468	0.3279	No Causal relationship between DI & OFDI
	DI is not granger causing OFDI	1.68500	0.2015	
Saudi Arabia	**OFDI is not granger causing DI**	4.68717	0.0214**	Uni-directional causal relationship running from OFDI to DI
	DI is not granger causing OFDI	1.03749	0.3726	
Singapore	**OFDI is not granger causing DI**	1.29553	0.2882	No Causal relationship between DI & OFDI
	DI is not granger causing OFDI	1.56606	0.2249	
Thailand	**OFDI is not granger causing DI**	0.91866	0.4104	No Causal relationship between DI & OFDI
	DI is not granger causing OFDI	0.28604	0.7533	
UAE	**OFDI is not granger causing DI**	1.02322	0.3735	No Causal relationship between DI & OFDI
	DI is not granger causing OFDI	1.66270	0.2092	

Note: (***) & (**) means significant at one percent and five percent levels respectively

The results elucidate that for China the p-values of both the null hypothesis (OFDI is not granger causing DI and DI is not granger causing OFDI) are 0.8027 and 0.9502 respectively, which are more than 0.05. So, we fail to reject both the null hypothesis. It implies that for China we did not find empirical evidence of any causal relationship between OFDI and DI in any direction. The similar results of the Granger causality test are obtained for Hongkong, India, Korea, Malaysia, Singapore, Thailand and UAE. In all these eight countries the p-values of both the null hypothesis are more than 0.05. It means for eight out of ten countries, empirical evidences of any type of causal relationship between OFDI and DI are not found. But for Japan the p-value of null hypothesis of DI is not granger causing OFDI is 0.0055, which is less than 0.05. So in this case we can reject the null hypothesis and therefore we found the empirical evidence of uni-directional causal relationship between DI and OFDI, running from DI to OFDI and not vice-versa. It implies that for Japan higher level of domestic investment is a cause of higher OFDI. The cross-country results in the above table

also reveal that for Saudi Arabia the p-value of null hypothesis of OFDI is not granger causing DI is 0.0214, which is less than 0.05, so we can reject the null hypothesis. Thus for Saudi Arabia, we found the empirical evidences of uni-directional causal relationship between OFDI and DI, running from OFDI to DI and not vice-versa. But for eight out of ten countries, we can say that the results of individual cross-country Granger Causality test are in line with the results of different econometric techniques applied on the panel data of ten select Asian economies that neither OFDI is causing DI nor DI is causing OFDI.

5.3: Summary

Given the theoretical base that generally foreign investment is financed by drawing funds from domestic market and there may be competitive relationship between outward FDI and domestic investment, this study attempts to investigate the nature of causal relationship between domestic investment and foreign investment based on select Asian economies (Japan, China, Hong Kong, Singapore, Korea, Saudi Arabia, Malaysia, Thailand, UAE and India) by taking the annual data of these ten economies for the span of 1981 to 2019. Various econometric tools have been employed in the study to achieve the objectives. The research engaged Unit Root test, Vector Auto Regressive model, Wald test for joint significance, Granger Causality test, Impulse Response Function and Variance Decomposition model in order to determine the dynamics of interaction between domestic investment and outward foreign direct Investment for the select Asian economies.

The panel data for these select economies for two variables was found to be stationary at level. Therefore we applied VAR model on the two I(0) series. The result of the VAR model shows that both the variables are mainly affected by their own past lags and not by the past lags of the other variable. In other words outward FDI is more affected by its own past lags and not by the past lags of domestic investment. Similarly domestic investment is also more affected by its own past lags and not by the past lags of outward FDI.

The results given by the VAR model are also complemented by Wald test of joint significance, Granger Causality test, Impulse Response function and Variance

decomposition model. The Wald test did not provide any evidence of joint effect of past lags of OFDI on DI and also did not provide evidence of joint effect of past lags of DI on OFDI. Rather, DI is significantly affected by the past lags of DI jointly and OFDI is also significantly affected by the past lags of OFDI jointly. Then the data was also analyzed using the Granger causality test. The causality test has two parts (a) Causality running from Domestic investment to OFDI and (b) Causality running from OFDI to domestic investment. The results of causality have showed that there is no causal relationship between domestic investment and outward investment in any direction. It means neither OFDI is causing domestic investment nor OFDI is caused by OFDI. It implies that MNCs might not help their home economies in boosting domestic investment and a high level of domestic investment is also not likely to be the cause of higher OFDI.

Further, to complete the causality analysis between OFDI and domestic investment, we also applied Forecast Error Decomposition and Impulse Response Function analysis. The basic purpose of applying these tests was that dynamic interaction between domestic investment and OFDI for these select economies of Asia can be explored. While doing this analysis, we provide additional insight for policy making on the relative importance of random shocks and response that variables give to these shocks. The results of IRF and Variance Decomposition analysis suggest that both the variables are purely exogenous, not only is short run but also in long run. It implies that both for domestic investment and OFDI, the forecast error variance has been explained only by their own shocks and not by the shocks of other variable. The results of IRF and variance decomposition are also in line with the findings given by the Granger Causality test results.

The causal relationship between DI and OFDI was also examined for each of the select Asian economy using Granger Causality test. The results of the individual country-wise Granger causality test provides that for China, Hongkong, India, Korea, Malaysia, Singapore, Thailand and UAE the causal relationship between OFDI and DI is not found. In each of these Asian economies, OFDI and DI are not causing each other. But for Japan and Saudi Arabia, the evidences of uni-directional causal

relationship between OFDI and DI are found. For Japan, DI is causing OFDI but not otherwise, whereas for Saudi-Arabia, OFDI is causing DI but not otherwise.

This provides robustness to our analysis. These results of no impact of outward foreign direct investment on domestic investment may be due to the reason that most of the MNCs of the select Asian economies are having a sound financial base and for financing OFDI may not be withdrawing funds from their domestic companies or they may be financing a large part of their overseas investments by obtaining funds from the financial markets of host economies.

The results of our study are in line with the results of the studies conducted by Kim Seunjin (2000) and Choy, Winky & Mak (2009). Kim Seunjin (2000) applied OLS estimation on the data of nine Korean industries and found the similar results of no relationship between these two variables. Cho, Winky and Mak (2009) applied the Fixed Effect Regression technique on the data of 25 Chinese regions for the period 2004 to 2007 and found that domestic investment is not significantly affected by FDI outflows.

In view of the policy recommendations, the results of the study suggest that the investing countries should not be suspicious about the impact of outward foreign direct investments on their domestic investments, as the study did not find any empirical evidence regarding the adverse effects of FDI outflows on domestic investments. It means rising outward foreign direct investment may not be at the cost of domestic investment. So if counties are sure about the positive and favorable spillover effects of outward FDI on their domestic economies, then OFDI must be encouraged without having fear that OFDI substitutes domestic investments.

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CHAPTER: 6

OUTWARD FOREIGN DIRECT INVESTMENT, ECONOMIC GROWTH AND EXPORT IN SELECT ASIAN ECONOMIES

In literature there are many conceptual arguments and empirically verified evidences in favor of the hypothesis that economic growth of a country is significantly associated with its exports and outward FDI. In the present chapter an attempt is made in the direction to analyze the causal relationship between outward FDI, export and economic growth.

6.1: The relationship between OFDI and Exports:

The relationship between export and outward FDI is highly complex. Export and outward FDI are the two alternative ways in which a firm can serve the foreign demand. Choice between these two alternative modes of serving foreign demand depends upon many factors like trade and investment policies of the receiving and home countries, economies of scale, transportation costs etc. Therefore logic that comes from the above argument is that when a firm serves foreign market by producing in the host country then exports are compromised. But the theoretical arguments and empirical evidences on the subject support both the hypothesis. Meaning that there may be competitive or complementary relationship between OFDI and exports. Studies conducted by Mundell (1957), Svesson (1996), Foneseca et al. (2009) and Dasgupta (2009) found the evidences that higher levels of outward FDI leads to lower levels of exports. Whereas many researchers like Bloomstrom et al., (1988), Brainard (1997), Liu et al. (2006) and Chiappini (2011) found the evidences of complementary relationship between outward FDI and exports as higher OFDI leads to higher exports. On the other hand some studies did not find any relationship between these two variables (Kim & Rang, 1997; Egger, 2001; Magalhas & Africano, 2007; Goh et al., 2014).

However, Cantwell & Narula (2001) are of their opinion that in some sectors the exporting can altogether be skipped by firms and they can directly go for outward FDI. But once they go for making investments in other countries, it will surely affect

the exports of the home economy. If the competitive advantages are offered in the production cycle by the home country firms, then it will be beneficial to the MNEs through backward & forward linkage effects. In such a situation FDI outflows and exports share a complementary relation (Bhasin & Paul, 2016).

Movement of capital from one country to another in the form of outward FDI would lead to relocation of trading of goods between countries and hence, outward FDI would replace exports (Mundell, 1957). Other approaches to FDI like OLI (ownership, location and internalization) paradigm also view FDI as an alternative way to serve foreign markets (Dunning & McQueen, 1981). In this sense, there is relationship of substitution between the two variables (Forte, 2004). When the internationalization costs are lower than the export costs, outward FDI will substitute exports (Forte, 2004). Besides, if a subsidiary is located in more-developed country compared to the investing company, the relationship between outward FDI and exports will be of substituting nature, due to the fact that the subsidiaries might obtain raw materials and other intermediate products from the local markets (Lee, 2010). If the host country has adopted restrictive trade policies, then the company will invest (instead of exporting) in that country to bypass these trade barriers, which will lead to a substitution relationship (Kim & Rang, 1997). Moreover, if the policies of the host countries are such that the inputs are to be obtained from the local markets only, then it will lead to the substitution relationship between outward FDI and exports.

However, the other side of the story is that outward FDI itself is also affected by the level of export intensity of a country. As per the Product Life Cycle (PLC) theory of Vernon, in the initial stages of internationalization, firm follows the mode of exports to the host countries (as exports are the less risky and less costlier method of entering foreign market). But when the demand for the products in the foreign markets reaches a high level then the firm starts thinking to produce the goods in the markets where they are to be sold. In this way, if exports levels are high then it will prove as promoting factor for outward FDI as, high export orientation improves the international competitiveness of the firms. Many researchers have concluded that if a country is open to foreign markets (due to high exports) then it is easier for the domestic firms to obtain information about foreign markets and hence easier to make

investments abroad (Gill & Singh, 2012; Gao, 2008; Pradhan, 2006; Kayam, 2009; Saad et al., 2011 ; Chen, 2018).

Whatever may be the nature of relationship between OFDI and exports, it will certainly have consequences for economic growth of home country. If OFDI acts as a substitute for exports, there may be two negative effects. It may divert domestic investment to other countries and secondly it will also put pressure on the balance of payment because of reduced foreign exchange earnings. But if outward FDI stimulate exports through backward and forward linkages in the production process, then it will be complementary to exports and this type of relationship between OFDI and exports will stimulate domestic investment and it will also help in promoting economic growth of the home country through increased foreign exchange reserves.

However the net effects of outward foreign direct investment on home country exports is theoretically ambiguous and there is no consensus and thus need to be empirically verified. The study of relationship between OFDI and exports of home country assume more significance from the view point of developing countries, where capital is relatively scarce, and the rising levels of outward FDI has become an important feature of many of such countries.

6.2: The relationship between OFDI and Economic Growth

In literature there are empirical evidences as well as theoretical arguments in support of the hypothesis that FDI outflows can affect economic growth (favorably or unfavorably). The nature of this relationship between OFDI and economic growth depends upon the type of OFDI or the motive by which a firm is going to invest abroad. In literature there can be three types or three motives of outward FDI, namely horizontal, vertical and technology-seeking outward FDI.

The horizontal OFDI in which purpose of a firm is to seek markets in other countries, the firm substitutes foreign production in place of domestic production. Thus there may be fall in domestic production. But this fall in domestic production may only be for short time period. There are some services or intermediate goods which are firm specific and are produced only at the headquarters of the firm and then

supplied to foreign subsidiaries of the firm (even if the final products are produced both at home and abroad). Thus, when a firm combines domestic production with foreign production, its average cost of production falls and returns to domestic production increases. Due to which demand for domestic production also increases and hence there is increase in production at home (Desai et al., 2005). Kokko (2006) also endorses the same view point that initial fall in domestic production of final goods is likely to be compensated by rising production of intermediate goods and services at home. Besides, this kind of horizontal OFDI helps the firms to improve their competitiveness by accessing new markets and due to all these things there is increased productivity at home, which is an indicator of economic growth (Herzer, 2010).

When a firm tries to take advantage of difference in factor prices then, it infact, is going for vertical OFDI. In this type of OFDI, firm divides its production process into different stages and distributes various stages of production at different locations, where the costs are lower. Due to vertical OFDI also, initially there is fall in production at home. But in the long period, because of this vertical OFDI, firms are in position to import costlier intermediate goods from its foreign subsidiaries at a lower price. Thus, through vertical OFDI firms can improve their competitive strength, which in turn help to raise production at home in the long run (Kokko, 2006).

But if there exist market imperfections at home, then competitive position of the firms will not improve and the initial loss of domestic production will not be compensated. In such a situation both vertical and horizontal OFDI will adversely affect domestic productivity and hence economic growth.

Thirdly, in case of technology-seeking OFDI, the firms aim to acquire or copy advanced technology of other countries (may be by purchasing or by establishing R&D activities abroad), to acquire knowledge of new management and marketing techniques or to have more information about consumer preferences etc. All these information and knowledge is generally transferred back to the head office of the company (at home country) and it will favorably affect domestic productivity and hence will promote economic growth.

All these beneficial effects of outward FDI are enjoyed not only by the firm that has invested abroad but also accrue to other firms in the home country (Blomstrom and Kokko, 1998). Other local firms may also adopt or copy that advanced technology (used by the firm investing abroad). And thereby increasing their productivity. Besides, due to outward FDI, the competition increases and firm will be compelled to use their resources and technology more efficiently. Moreover, the foreign investing firms may produce goods at a lower price and these goods may be used as intermediate goods by local firms. Thus the cost of production for local firms will also fall. Besides, when a MNC produces abroad by using inputs from home, then the local suppliers of that input also gain from the economies of scale. All these things show that home economies can be favorably affected because of the positive spillovers to domestic firms. In this way, OFDI positively affects economic growth of home economy.

6.3: The relationship between Exports and GDP

One of the prime objectives for every country of the world is economic growth. Economic growth can be contributed by many factors, one important factor is exports. This is popularly known as Export-led growth hypothesis. In literature there are many empirical evidences that prove the causal link between country's exports and its economic growth. As per this export-led growth strategy, rising exports are the main indicator of a country's economic growth. Country's overall level of economic growth depends not only on the rising level of domestic investment but also on its export volume. Exports are considered as "Engine of Progress". The link between exports and economic growth is also due to the existence of positive externalities that exist for the source economy like optimal reallocation of available resources, economies of large scale operations and also the favourable effects of labour trainings. When a firm becomes competitive in global markets, then it results in product innovations and domestic firms also came under pressure to minimize their inefficiencies. Bhagwati (1988) finds a two-way linkage between exports and economic growth. According to him more exports helps in generating more incomes (increased GDP) and higher income paves the way for more exports. Thus there is a 'Virtuous Circle' between them. This type of bidirectional relationship between

exports and economic growth is also identified by Grossman and Helpman (1991). Expansion of exports is both cause and effect of optimum allocation of available resources, time and scale economies, improved production techniques through expansion of technical knowledge base, capital accumulation, higher employment levels by creation of new jobs and thus it helps in economic expansion. In the developing economies the imbalances in the external sector can be removed by expansion of exports.

The international trade theories also advocate strong relationship between trade and development. Exports play an important role in country's economic development as they are the most contributing factor in foreign exchange reserves, that reduces pressure on Balance of Payment. The founding fathers of economic growth theories i.e. the classical economists like Adam Smith and David Ricardo have also emphasized on the significance of foreign trade in the promotion of a country's economic growth. According to them if a country tends to specialize in some commodities and export that commodities to the country in which these commodities are scarce, then it will be beneficial for both the countries (Ricardo, 1817). Chen (2007) applied VECM model and Granger Causality test for Taiwan and found that there exists bidirectional causal relationship between exports and economic growth. Furuoka (2009) concluded that there exists unidirectional relationship between these two variables, running from GDP to exports and not vice-versa, for Malaysian economy. Thus there are a large number of studies that have analyzed the importance of exports in country's economic growth and most of these studies have concluded with the existence of a strong link between exports and economic growth.

Thus we can say that many studies have been conducted and found that there is pair-wise bi-directional causal relationship between exports, outward FDI and economic growth. The pair-wise causal relationship between OFDI, Exports and GDP may go in both the directions. The nature of relationship between these three variables can be shown with the help of following triangle:

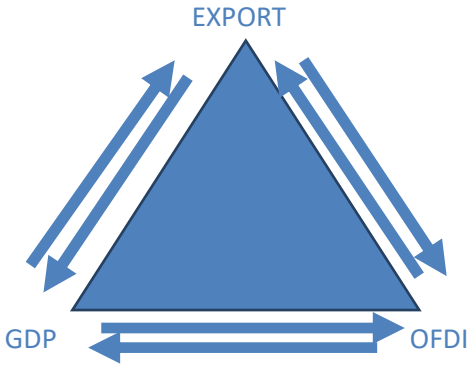


Figure No. 6.1: Theoretical relationship between OFDI, export and GDP

But no study has been seen so far that has examined the relationship between these three variables for the Asian countries. Therefore, in this chapter an attempt is made to analyze the causal relationship between exports, outward FDI and GDP for the Asian economies.

Correlation analysis

The results of correlation analysis in table no. 6.1 elucidate that the correlation between OFDI and exports is high and significant with t-statistic of 21.07 and p-value of 0.0000, which shows that correlation between OFDI and exports is highly significant. On the other hand, correlation between OFDI and GDP growth rate is negative and insignificant with absolute value of t-statistic of 0.0405715 and p-value of 0.6852. Whereas the correlation between Exports and GDP is positive with t-value of 1.936152 and p-value of 0.0535, which is significant at ten percent level of significance.

Table No. 6.1: Results of Correlation Analysis between OFDI, Exports and GDP

	OFDI (% of GDP)	Exports (% of GDP)	GDP (Growth Rate)
OFDI (% of GDP)	1.0000 ---- ----		
Exports (% of GDP)	0.714051 [21.07593] (0.0000)***	1.0000 ---- ----	
GDP (Growth Rate)	-0.019630 [-0.405715] (0.6852)	0.093268 [1.936152] (0.0535)**	1.0000 ---- ----

Notes (i) values in round brackets show p-values and values in square brackets show t-values. (ii) (***) and (*) shows significant at 1 % and 10 % respectively.

Techniques Applied:

In the present chapter, to study the causal relationship between outward FDI, export and economic growth, the data is taken from the World Development Indicators published by World Bank. But data relating to Taiwan was not available, so Taiwan is excluded from the group for the present chapter and therefore for the present objective of our study, number of countries in the panel was reduced to eleven from twelve. Outward FDI is measured as percentage of GDP, export is also measured as percentage of GDP and for economic growth the proxy used is GDP growth rate. Various econometric techniques are applied for studying causal relationship between the variables. First of all the data is checked for stationarity using various panel unit root tests. Thereafter the existence or non-existence of long run relationship between the variables is tested using Panel cointegartion tests. After that the Panel ARDL model is applied to estimate the long run and short effects of independent variables on the dependent variables. Finally the Granger Causality test is applied to estimate the pair-wise causal relationship between these variables.

6.4: Results and discussion:

6.4.1: Unit Root Test

Before starting the procedure of causality, it is necessary to check whether the series of exports, outward FDI and GDP are having unit root or not. A non-stationary data may create the problem of spurious regression and may lead to misleading results. A non-stationary data may result in high values of R^2 and t-statistics, that appear to be significant, but the result do not have any economic meaning (Enders, 2008). Thus, if a data is non-stationary, regression should not be used for analyses of data (Koop, 2006). In this situation, it becomes necessary to check the data for its stationarity. Moreover, for applying the panel ARDL test procedure it is required to ensure that none of the three variables is I (2). If any of the variables is I (2) then the value of F-statistic provided by Pesaran et al. (2001) will be invalid as the basic assumption for the ARDL model is that all the variables are either I(0) or I(1).

As per the recent literature, the results provided by panel-based unit root tests have higher power than the results provided by the unit root tests which are based on

individual time series. There are many panel unit root tests like the tests provided by Levin, Lin & Chu (2002), Im,Pesaran & Shin (2003) and Fisher type tests that uses Phillips-Perron and Augmented-Dickey Fuller tests. The unit root test provided by Levin, Lin & Chu (2002) assumes the homogeneity of the auto-regressive roots for all individuals of panel. Whereas the tests proposed by Im, Pesaran & shin (2003) Augmented-Dickey Fuller and Phillips-Perron have provided a different framework for testing of unit root on panel data that allows for the heterogeneity on the lagged level firm. In the present study, we shall apply four different types of unit root tests on the panel data for testing the stationarity of the three series.

Table No. 6.2: Panel Unit root tests results

Panel Level Series			
	OFDI	**Exports**	**GDP**
LLC	-1.06388 (0.1437)	-1.19301 (0.1164)	-7.86581
IPS	-4.4609(0.3224)	-0.37677 (0.3532)	-7.7491 (0.000)***
ADF- Fisher Chi Square	24.3035 (0.3315)	26.8999 (0.2151)	103.679 (0.000)***
PP- Fisher Chi Square	40.6831 (0.0590)	35.9895 (0.0304)	147.211 (0.000)***
Panel First Difference series			
	OFDI	**Exports**	
LLC	-13.8214 (0.000)***	-9.65695 (0.000)***	
IPS	-13.8672 (0.000)***	-10.7905 (0.000)***	
ADF- Fisher Chi Square	202.342 (0.000)***	152.192 (0.000)***	
PP- Fisher Chi Square	299.952 (0.000)***	236.413 (0.000)***	

Notes: (i) Panel data includes eleven countries. (ii) The values in parenthesis depicts p-values (iii) (***) shows "Significant at 1 % level of significance" (iv) Null Hypothesis : Series are non-stationary (v) LLS indicates "Levin, Lin & Chu W-stat, IPS shows Im, Pesaran & Shin stat, ADF shows Augmented-Dickey Fuller stat and PP shows Phillips-Perron stat".

The results of the panel unit root tests in table no. 6.2 indicate that the null hypothesis of presence of unit root at level is not rejected for OFDI and Exports series at their levels. But we fail to reject the null hypothesis of presence of unit root for GDP series at level. It implies that series of OFDI and Export are non-stationary at level i.e. there is presence of unit root in both OFDI and export series at their levels but the GDP series is stationary at level. But at first difference for OFDI and Export series we can reject the null hypothesis of presence of unit root, which means that OFDI and exports series are stationary at their first difference and GDP series is stationary at level. In other words, OFDI and Exports are I (1) and GDP is I(0). Thus

the three variables are found to be stationary at level or at first difference and no variable is stationary at the second difference, so the panel ARDL model is fit in this case.

6.4.2: Panel Cointegration test

After examining the stationarity of the series, in the next step we applied panel co-integration test with the objective of examining the existence of long run relationship between OFDI, Exports and GDP. Although it is optional to use panel cointegration test before going for panel ARDL, because in ARDL model the existence or non-existence of long run relationship between the variables can be known from the coefficients of Error Correction Term (ECT), but in the present study we have applied cointegration test as it gives robustness to our ARDL results. In this study we applied Fisher-type tests that uses Johansen methodology (Maddala & Wu, 1999) and also Pedroni Residual cointegration test (Pedroni, 1999 & 2004). For examining cointegartion, Pedroni used the Engle-granger framework.

Table No. 6.3: Johansen Fisher Panel Cointegration test results (OFDI as Dependent Variable)

Hypothesized no. of CE(s)	Fisher stat (trace stat)	Fisher stat (max-eigen test)
None	92.85 (0.0000)***	74.98 (0.000)***
At the most I	41.09 (0.0080)***	35.74 (0.0323)**
At the most 2	36.36 (0.0278)**	36.36 (0.0278)**

Notes: (i) "Values in parenthesis show the p-values" (ii) (***) and (**) show that values are significant at 1 percent and 5 % level of significance respectively (iii) Null Hypothesis: There is No Cointegration between variables.

Table No. 6.4: Pedroni Residual Cointegration Test Results (OFDI as Dependent variable)

	'Panel Cointegration Statistics'	'Group Mean Panel Cointegration Statistic'
Variance Statistics	0.291392 (0.3854)	---
Rho-statistics	-9.414660 (0.0000)***	-2.148583 (0.0158)**
PP-statistics	-9.162170 (0.0000)***	-3.271786 (0.0005)***
ADF-Statistics	-4.273000 (0.0000)***	-1.792422 (0.0365)**

Notes: (i) Values in parenthesis show the p-values (ii) (***) and (**) show that values are significant at 1 percent and 5 % level of significance respectively (iii) Null Hypothesis: There is No Cointegration between variables.

The table no. 6.3 shows the results of Johansen Fisher Panel cointegration test (with OFDI as dependent variable). It is clear from the above table that null hypothesis of no-cointegration is rejected at 1 percent level of significance. The values of Fisher stat (both from trace test and from max-eigen test) are highly significant at 1 percent level of significance, which shows that there is presence of cointegration among the variables. In the same way null hypothesis of at the most one and at the most two cointegrating equations are also rejected at one percent level of significance.

Table no. 6.4 elucidates the results of Pedroni (Engle-Granger based) cointegration test. This test examines the residuals for stationarity. For testing this, seven test statistics are used. Out of these seven tests, in the first four test statistics the autoregressive coefficients across different countries are pooled and thereafter first order autoregressive parameters for all countries will be the same. These are known as Panel Cointegration statistics by Pedroni (1999). Whereas in the remaining three test statistics, the individually estimated autoregressive coefficients for each country are averaged and therefore in these three test statistics the autoregressive coefficients are allowed to very across countries and are called as Group-Mean Panel cointegration statistics (Bhasin & Paul, 2016).

On analyzing the results of both Johansen Cointegration test and Pedroni Residual cointegration test, we find that when OFDI is the dependent variable then the long run relationship between OFDI, Export and GDP is present for the select Asian countries.

Table No. 6.5: Johansen Fisher Panel Cointegration test results (Exports as Dependent variable)

Hypothesized no. of CE(s)	Fisher stat (from trace stat)	Fisher stat (from max-eigen test)
None	92.85 (0.0000)***	74.98(0.0000)***
At the most I	41.09 (0.0080)***	35.74 (0.0323)**
At the most 2	36.36 (0.0278)**	36.36 (0.0278)**

Notes: (i) Values in parenthesis show the p-values (ii) (***) and (**) show that values are significant at 1 percent and 5 % level of significance respectively (iii) Null Hypothesis: There is No Cointegration between variables.

Table No. 6.6: Pedroni Residual Cointegration Test Results (Exports as Dependent variable)

	Panel Cointegration Statistics	Group Mean Panel Cointegration Statistic
Variance Statistics	-1.136330 (0.9431)	---
Rho-statistics	-1.261302 (0.1036)	0.225200 (0.5891)
PP-statistics	-1.973846 (0.0242)**	-1.233139 (0.1088)
ADF-Statistics	-0.055852 (0.4777)	-0.436749 (0.3311)

Notes: (i) Values in parenthesis show the p-values (ii) (**) shows that values are significant at 5 % level of significance (iii) Null Hypothesis: There is No Cointegration between variables.

Table no. 6.5 elucidates the results of Johansen-Fisher panel cointegration test (when Export is the dependent variable) both from the coefficients and probability values of trace test and max-Eigen test statistics. Here the null hypothesis of no cointegrating equation is rejected at one percent level of significance by both trace test and by max-eigen test statistics, which show that the variables are cointegrated. In the same way the null hypothesis of at the most one cointegrating equation was also rejected at one percent level of significance by trace test results and at five percent level of significance by the max-eigen test results. Similarly the null hypothesis of at the most two cointegrating equations was also rejected by trace test and max-eigen test at 5 percent level of significance. The overall results of Johansen-Fisher panel cointegration test provides the existence of cointegartion among OFDI, GDP and Exports, when Exports are the dependent variable.

Table no. 6.6 provides the results of Pedroni Residual panel cointegration test, when exports are the dependent variable. In the Pedroni test, which is Engle-Granger based, seven test statistics are used for testing the existence of cointegartion among the variables. The table elucidates that in the six out of seven test statistics (Panel variance statistics, panel rho-statistics, panel PP statistics, group rho-statistics, group PP-statistics and group ADF statistics) the probability value associated with their coefficients, is more than 10 percent, that means in all these six test statistics, we fail to reject the null hypothesis of no cointegartion among the variables. Only the probability value of Panel PP-statistics is significant at 5 percent level of significance, that means only in Panel PP-statistics we can reject the null hypothesis of no

cointegartion among these three variables. Since, six out of seven tests of Pedroni cointegartion test provide the evidence of no cointegartion, so we can conclude that when exports are dependent variable, there is no cointegartion among the variables.

Table No. 6.7: Johansen Fisher Panel Cointegration test results (GDP as Dependent variable)

Hypothesized no. of CE(s)	Fisher stat (from trace stat)	Fisher stat (from max-eigen test)
None	92.85 (0.0000)***	74.98 (0.0000)***
At the most I	41.09 (0.0080)***	35.74 (0.0323)**
At the most 2	36.36 (0.0278)**	36.36 (0.0278)**

Notes: (i) Values in parenthesis show the p-values (ii) (***) and (**) show that values are significant at 1 percent and 5 % level of significance respectively (iii) Null Hypothesis: There is No Cointegration between variables.

Table No. 6.8: Pedroni Residual Cointegration Test Results (GDP as Dependent variable)

	Panel Cointegration Statistics	Group Mean Panel Cointegration Statistic
Variance Statistics	0.818293 (0.2066)	----
Rho-statistics	-6.803014 (0.0000)***	-6.416719 (0.0000)***
PP-statistics	-7.959378 (0.0000)***	-11.72610 (0.0000)***
ADF-Statistics	-6.344731 (0.0000)***	-7.854846 (0.0000)***

Notes: (i) Values in parenthesis show the p-values (ii) (***) and (**) show that values are significant at 1 percent and 5 % level of significance respectively (iii) Null Hypothesis: There is No Cointegration between variables.

Table no. 6.7 shows the Johansen-Fisher Panel cointegration results, when GDP is the dependent variable. As per the results of the test, the null hypothesis of no cointegartion among the variables is rejected at 1 percent level of significance by both trace test and by max-eigen test, showing that there exists long run association among these three variables. Moreover, the null hypothesis of at the most one cointegarting equation is also rejected by both trace test and by max-eigen test (at 1 percent by trace test and at 5 percent by max-eigen test). In the same way, the null hypothesis of at the most two cointegarting equations is also rejected by both the tests at 5 percent level of significance. Thus, overall results of Johansen-Fisher panel cointegartion test provides

that when GDP growth rate is the dependent variable, then the possibility of cointegartion among the variables is not ruled out.

Table No. 6.8 provides the results of Pedroni Residual panel cointegation test. This test uses seven tests for examining the existence or non existence of cointegartion among the variables. As per the results shown in the table no. 18, six out of seven tests show that the null hypothesis of no cointegarting equation is rejected at 1 percent level of significance by both trace test and by max-eigen test. Only one test i.e. panel variance statistic has the probability value of greater than 0.5, so this test does not provide the evidence of existence of cointegartion among these variables. Since most of the tests of Pedroni residual test, provide the evidence of existence of cointegartion among the variables, so we can conclude that when GDP is the dependent variable, there exists long run association among OFDI, GDP and exports.

One important point to note in the cointegration results is that in all the three cases (when OFDI is the dependent variable, when export is the dependent variable and when GDP is the dependent variable) the cointegration test of Johansen gave the same results. But Pedroni Residual test gave the unique results in all the three situations. So in our analysis, when there was conflict in the results by these two methods, the decision of existence or non-existence of cointegartion was taken on the basis of Pedroni test as it contains seven cointegartion tests in itself.

Table No. 6.9: Final Results of Cointegartion tests (All Compiled)

Dep.Var./Ind. Var.	Johansen-Fisher test	Pedroni Cointegration test	Final Findings
OFDI/GDP,Exp	Cointegration Exists	Cointegration Exists	Cointegrating
GDP/OFDI,Exp.	Cointegration Exists	Cointegration Exists	Cointegrating
Export/OFDI,GDP	Cointegration Exists	Cointegration does not Exist	No-Cointegrating

Source: Author's compilations based on the results in table nos. 6.3 to 6.8

Table no. 6.9 compiles the overall results of cointegartion test results for three types of equations (i) When OFDI is the dependent variable (ii) When GDP is the dependent variable and (iii) When exports is the dependent variable. It is clear that in

two cases (when OFDI is D.V. and when GDP is D.V.) both the Johansen-Fisher test and Pedroni Residual test provides the evidence of existence of cointegartion, but in one case (when Export is the D.V.) only the Johansen-Fisher test show the existence of cointegartion but six out of seven tests of Pedroni cointegration tests show the non-existence of cointegartion. So, to conclude that when OFDI is D.V. and GDP is D.V. then cointegration among the variables exists but when Export is the D.V. then cointegartion among the variables does not exists.

6.4.3: Panel Auto Regressive Distributed Lag (ARDL) Model

After having ensured from the unit root test results that our variables are the mixture of I (0) and I(1), and none of the variable is I(2), we went for applying Panel ARDL model. The panel ARDL model is the OLS based model which is used to explore long run and short run cointegration correlation between the variables and also to identify the short run dynamics. Our data is also heterogeneous panel where N is large but N<T.

Model Specification

The generalized ARDL (p, q, q … q) model is specified as:

$$Y_{it} = \sum_{j=1}^{p} a_{ij} Y_{i,t-j} + \sum_{j=0}^{q} b_{ij} X_{i,t-j} + \delta_i + e_{it} \quad \text{---------(i)}$$

'Where Y_{it} is the response variable , (X_{it})` is a K_{x1} vector that are permitted only to be I(0) or I(1) or cointegrated, a_{ij} is the coefficient of the lagged dependent variable called scalars, b_{ij} are K_{x1} coefficient vectors, δ_i is the unit specific fixed effects; I = 1,2,….N, t= 1,2 ----T; p,q are the optimal lag orders : e_{it} is the error term'.

The re-parameterized ARDL (p,q,q---q) Error Correction Model can be specified as :

$$\Delta Y_{it} = \theta[Y_{i,t-1} - \beta_i X_{i,t}] + \sum_{j=1}^{p-1} \xi_{ij} \Delta Y_{i,t-j} + \sum_{j=0}^{q-1} bq_{ij} \Delta X_{i,t-j} + \delta_i + e_{it} \quad \text{-------} \ (ii)$$

Where $\delta_i = -(1- a_i)$ group-specific speed of adjustment coefficients (expected that δ_i <0)

β_I = Vector of long run relationship

ECT = $[Y_{i,t-1} - \beta_i X_{i,t}]$ the Error Correction Term

ξ_{ij}, b_{ij} are the short run dynamic coefficients.

ARDL Model Results

As the long-run relationship between the variables is established for the variables with OFDI as the dependent variable, in the next step we estimate the long run coefficients using panel ARDL (2,2,2) specifications. For selecting the lags of dependent and independent variables, the automatic lag selection criterion (AIC) of ARDL model is adopted.

Table No. 6.10: Estimated long run coefficients using Panel ARDL approach (when OFDI is the dependent variable)

Panel ARDL (2,2,2) selected on the AIC criterion. Dependent variable is OFDI

Variables	Coefficients	Std. Error	t-statistics	p-value
Exports	0.014953	0.003019	4.952694	0.0000***
GDP	-0.043241	0.043416	-0.995967	0.3200

Note: (***) represent significant at 1 percent

Can outward FDI be fostered by the impact of exports and GDP in the selected Asian economies? The table no. 6.10 reports the estimation results of Panel ARDL model. The results of the model provide that exports have a positive and significant impact on outward FDI from the selected Asian economies. On the other hand GDP has a negative but insignificant impact on FDI outflows. The table elucidates that in the long run, if other things remain the same, then one percent increase in exports leads to 1.4 percent increase in outward FDI from Asian economies. These findings of our study are in line with the findings of Lan Gao (2005), Gill and Singh (2012), Surendra Singh (2017), Pradhan (2006), Rodriguez & Bustillo (2011), Thomas & Narayanan (2013), who also found empirical evidences of positive impact of exports on outward FDI. But the results of the present study are not in line with the findings of Dasgupta (2009) about India economy who found that exports tend to reduce outward FDI.

The estimated long run coefficient of GDP has a negative sign with coefficient of -0.043241 and prob. Value of 0.3200, which shows that impact of GDP on outward FDI is negative but insignificant. It is clear that if GDP growth rate is increased by one percent hen, OFDI will fall by 4.3 percent in these Asian economies.

These results are quite similar to the results of studies conducted by Saime Suna (2009), Wei & Alon (2010) and Surendra Singh (2017), who also found negative impact of GDP on outward FDI. Surendra singh (2017) used the data of Indian economy for the period 1980 to 2014 and applied ARDL approach and found the empirical evidences of negative impact of GDP on OFDI. Similarly, Saime Suna (20090 applied Fixed Effect Estimation technique on the panel data of 65 developing economies and concluded that OFDI is negatively affected by GDP level. But at the same time the findings are not in line with the results of Herzer, D. (2008 & 2010); Chen & Zulkifi (2012); Wong K. (2014); and Ciesielska & Koltuniak (2016), who found a positive impact of GDP on the outward FDI. Koi Nyon Wong (2014) studied the Malaysian data and found that there is unidirectional relationship between outward FDI and GDP, running from GDP to OFDI. Ciesielska & Koltuniak (2016) examined the relationship between OFDI and GDP for Poland by taking the data for the period 2004 to 2015 and found positive and bidirectional relationship between OFDI and GDP.

Short Run Relationship (when OFDI is the dependent variable)

The results of short run dynamic coefficients related with the long run relationship derived from Error Correction Model (ECM) are shown in the table no. 6.11.

Table No. 6.11: Error Correction Representations for the selected ARDL model

Panel ARDL (2,2,2) selected on the AIC criterion. Dependent variable is OFDI

Variable	Coefficients	Std. Error	t-statistics	p-value
COINTEEQ01	-0.25655	0.039698	-6.462624	0.0000***
D(OFDI (-1))	-0.095443	0.058071	-1.643571	0.1012
D(Exports)	-0.025567	0.013618	-1.877437	0.0613*
D(Exports)	0.001114	0.021081	0.052843	0.9579
D(GDP)	0.038409	0.009926	3.869573	0.0001***
D(GDP(-1))	0.012398	0.019881	0.623609	0.5333
C	-0.059875	0.059041	-1.014125	0.3113

Note : (***) and (*) show that values are significant at 1 percent and 10 percent levels respectively.

The short run results of ARDL model when OFDI is the dependent variable are quite different from the long run results. In the long period, the effect of exports on outward FDI was positive and significant but in the short period, the effect of exports on outward FDI is mix. The first lag of exports is having negative but second lag of exports is having positive impact on OFDI. But the effect of both the lags of exports on outward FDI in not significant with p-values of 0.0613 and 0.9579 respectively. That means the null hypothesis of insignificant impact of exports on outward FDI in short period is not rejected. Thus in short period, OFDI is not significantly affected by exports. These results of short run ARDL model are different from long run results.

As regard the impact of GDP on OFDI is concerned, again the short run results and long run results are different. In long run impact of GDP on OFDI was negative and significant. But in long run the effect of GDP on OFDI is positive in both the lags. The effect of first lag of GDP on OFDI is positive and highly significant but the effect of second lag of GDP on OFDI is positive and insignificant.

Moreover in the short period, the lagged value of OFDI is also affecting the current outward FDI. But this effect in negative and insignificant.

The equilibrium correction coefficient is -0.2565, with prob. Value of 0.000, which is highly significant at 1 percent level of significance. It implies that if in the long run equilibrium is disturbed then the system will revert back to the equilibrium at the speed of 25.65 percent. Literature suggest that to ensure the existence of long run relationship among the variables the coefficient of Error Correction Term (ECT) must be negative (and must not be less than -2) and the probability value should be less than 0.05 (Loayza & Ranciere, 2006). This condition is satisfied in our case, so it provides evidence of long run relationship between the variables when OFDI is the dependent variable. The cointegartion results in table no 6.3 & 6.5 also give the same results that give robustness to the analysis.

Table No. 6.12: Estimated long run coefficients using Panel ARDL approach (when Exports is the dependent variable)

Panel ARDL (2,1,1) selected on the AIC criterion. Dependent variable is Exports

Variables	Coefficients	Std. Error	t-statistics	p-value
OFDI	-2.045837	1.962158	-1.042647	0.2978
GDP	0.117216	0.059370	1.974326	0.0487**

Note: Null Hypothesis: Insignificant effect of independent variable(s) on dependent variable

Can exports be fostered by the impact of outward FDI and GDP in the long run for the selected Asian economies? The explanation for this question is provided through the long run ARDL results in the table no. 6.12. This table reports that OFDI has a negative but insignificant impact on exports, with probability value of 0.2978, which is more than 0.05, that means we fail to reject the null hypothesis of insignificant impact of OFDI on exports in long period. On the other hand, the effect of GDP on exports is positive and significant with coefficient of 0.117216 and probability value of 0.04879. This value is less than 0.05, showing that the null hypothesis of insignificant impact of GDP on exports is rejected. The coefficient of GDP is 0.117216 that implies that other things remaining the same, if GDP is increased by one percent in the long run then exports will increase by 11.72 percent.

As far as the relationship between exports and OFDI is concerned, the results of our study are not in line with many studies. There are many studies that indicate positive impact of OFDI on exports, like studies conducted by Blomstrom et al., (1988); Grubert & Mutti (1991), Clausing (2000); Dritsaki et al., (2004); Chen et al., (2012); Dritsaki & Dritsaki (2012). But the results are in line with the results drawn by Mundell (1957); Sveson (1966); Vernon (1966); Foneseca et al., (2002); Helpman et al., (2004); Head & Rise (2004); Dasgupta (2009); etc. who also came with the empirical evidences of negative impact of OFDI on exports.

As regard the relationship between exports and GDP, our results are in line with the results drawn by Bhagwati (1988), Grossman & Helpman (1991), Chen, S.W. (2007), who also found the evidences of positive and significant impact of GDP on exports.

Table No. 6.13: Error Correction Representations for the selected ARDL model (when Export is the dependent variable)

Panel ARDL (2,1,1) selected on the AIC criterion. Dependent variable is Exports

Variable	Coefficients	Std. Error	t-statistics	p-value
COINTEEQ01	-0.140132	0.072148	-1.942285	0.058*
D(Exports)	0.157527	0.064723	2.433866	0.015**
D(OFDI)	-0.137020	0.444636	-0.308163	0.758
D(GDP)	0.003250	0.155034	0.020966	0.983
C	5.465409	2.580881	2.117652	0.034**

Note: (**) & (*) show significant at 5 percent and 10 percent levels of significance respectively

The results of short run ARDL model for exports as dependent variable are not much different from the results of long run ARDL model.

As regards the short run impact of OFDI on exports is concerned, it is negative and insignificant with coefficient of -0.137020 and probability value of 0.758. These results are similar to the long run results, that also found a negative and insignificant impact of OFDI on exports. The effect of GDP on exports is positive (same as in long run), but insignificant with coefficient of 0.003250 and probability value of 0.9833. If we examine the short run impact of lag value of exports on exports then we find that effect is positive and significant. That means in the short run exports are significantly affected by its own lagged value. But the effect of OFDI and GDP on exports is insignificant in short run. As the coefficient of lag value of exports is 0.157527, it means, other things remaining the same if in short run exports are increased by one percent then it will cause exports in the next period to increase by 15.75 percent.

As far as the equilibrium correction coefficient is concerned, its coefficient is -0.140132 with the probability value of 0.05819, which is insignificant at 5 percent level of significance. The negative value of equilibrium correction coefficient show that if the long run equilibrium between the variables is disturbed then the system will revert back to equilibrium position at the speed of 14.01percent, but that correction process is not significant. That implies that when export is the dependent variable, there is no long run association between the variables. These results are also in line with the results of cointegration test. When export is the dependent variable then the

results of Pedroni cointeration also showed that there is no cointegartion among the variables (see table no. 6.6).

Table No. 6.14: Estimated long run coefficients using Panel ARDL approach (when GDP is the dependent variable)

Panel ARDL (1,2,2) selected on the AIC criterion. Dependent variable is GDP

Variables	Coefficients	Std. Error	t-statistics	p-value
Exports	-0.019375	0.012431	-1.5585	0.1200
OFDI	0.320702	0.159260	2.0137	0.0471**

Note: (**) represent significant at 5 percent

Table no. 6.14 clearly gives the answer to the research question, Can GDP in select Asian economies be fostered by exports and outward FDI in the long period. The table provides that the effect of exports on GDP is negative with coefficient of 0.019375 but this effect of exports on GDP is not significant as the probability value is 0.1200, which is greater than 0.05. Meaning that in the long run exports are negatively but insignificantly affecting GDP in the Asian countries. As regard impact of OFDI on GDP is concerned, our study found the empirical evidences that GDP is positively affected by outward FDI in the long run for the selected Asian economies. The coefficient of OFDI is 0.320702 with the probability value of 0.0471, which is significant at five percent level of significance. Our results are different from the results of studies conducted by Feldstein (1994), Herzer & Schrooten (2008), Ahmad et al., (2015), Wong & Goh (2013). All of these studies have found empirical evidences of negative impact of outward FDI on GDP. On the other hand our results are in line with the results drawn by many studies in which positive impact of OFDI on GDP was found (Dritsaki et al., 2004; Knoerich, 2014; Kokko, 2006; Lee, 2010; Chen & Zulkifi, 2012; Ciesielska & Koltuniak, 2017).

It is clear from the table no. 6.15 that the short run results of panel ARDL model with GDP as dependent variable are not much different from the long run results. Like in long run, in short run also the effect of exports on GDP is insignificant but with negative coefficient.

Table No. 6.15: Error Correction Representations for the selected ARDL model (when GDP is the dependent variable)

Panel ARDL (1,2,2) selected on the AIC criterion. Dependent variable is GDP

Variable	Coefficients	Std. Error	t-statistics	p-value
COINTEEQ01	-0.619107	0.64017	-9.670912	0.0000***
D(Exports)	0.008226	0.113189	0.072676	0.9421
D(Exports(-1))	-0.108782	0.110358	-0.985716	0.3249
D(OFDI)	1.769669	0.793213	2.231013	0.0263**
D(OFDI(-1))	0.137257	0.554485	0.247539	0.8046
C	4.111983	0.712649	5.76998	0.0000***

Note: (***) & (**) show that values are significant at 1 percent and 5 percent levels respectively

The coefficients of lag one of exports on GDP is positive with coefficient of 0.008226 and probability of 0.9421, the coefficient of lag two of exports is -0.108782 with probability value of 0.3249. That means like long run, in short run also GDP is not significantly affected by exports. If we examine short run effect of OFDI on GDP, then we find that the coefficient of lag one of OFDI is 0.137251 with probability value of 0.0263, which is less than 0.05, showing that the null hypothesis of insignificant effect of OFDI on GDP is rejected at 5 percent level of significance. But the probability value of second lag of OFDI is 0.8046 that implies that second lag of OFDI is insignificantly affecting GDP.

The equilibrium correction factor for GDP as dependent variable is -0.619107 with highly significant probability value of 0.0000, that means if the long run equilibrium is disturbed then the system will revert back to equilibrium at the speed of 61.91 percent. This also shows the existence of long run relationship between the variables when GDP is the dependent variable. The results are also endorsed by the results of cointegartion test (see table no. 6.17 & 6.18).

The ARDL model in our analysis also passes through the test of normality with the Jarque-Bera value of 6.18339 and probability value of 0.051102, which is more than 0.05, that means the null hypothesis of normality of residuals is not rejected at five percent level of significance. Therefore, it proves that the residuals of this model are normally distributed.

Table No. 6.16: Final Results of Long run ARDL model (All Compiled)

Dependent Variable	Independent Variable		
	Outward FDI	**Export**	**GDP**
Outward FDI	----	Positive and Significant	Negative and Insignificant
Export	Negative and Insignificant	-----	Positive and Significant
GDP	Positive and Significant	Negative and Insignificant	----

Source: Author's compilations based on the results in table nos. 6.10, 6.12 & 6.14

Table no. 6.16 compiles the overall results of the three long run ARDL models used in the present study. The overall results of long run ARDL model has provided that there exists long run causal relationship between OFDI, GDP and exports, in which higher GDP leads to higher export and higher export leads to higher OFDI and higher OFDI leads to higher GDP. The long run ARDL results between these three variables can be summarized with the help of following figure (see the figure no. 6.2)

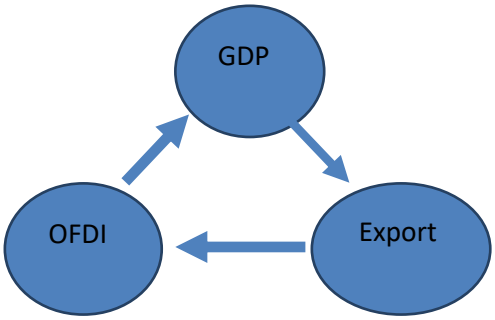


Figure No. 6.2: Long run relationship between OFDI, export and GDP

The positive impact of outward foreign direct investment on economic growth, found in the study is applicable for all types of OFDI. If the OFDI is horizontal (or market –seeking OFDI), there are some services or intermediate products that are firm-specific and are produced only at the headquarters of the firm and then supplied to foreign subsidiaries of the firms (even if final products are produced both at home and abroad). In this way average cost of production falls and returns to production at home increases. This type of market-seeking OFDI help firms to improve their

competitiveness by assessing new markets and due to all these things there is increased productivity at home. In case of vertical OFDI, firm tries to take the advantage of difference in factor prices in the two different markets. The firm divides its production process into different stages and distribute these stages of the product to different locations, where production costs are minimum possible. Moreover, in this type of OFDI, firm also tries to get access to the cheaper intermediate products (costly in the home markets) of the host country. In this way vertical OFDI helps to improve competitive strength of the firm, which in turn helps to raise production at home in the long run. Similarly, when OFDI is technology or efficiency-seeking, the firm tries to acquire or copy the better technology and marketing techniques of the advanced countries and transfer back the same to the parent company. This will favorably affect economic growth at home. These positive benefits of OFDI are enjoyed not only by the firms investing abroad, rather other domestic firms also try to copy that advanced technology and management practices and in this way overall productivity at home improves. Moreover, it is quite possible that foreign investing firm is producing goods at lower prices and these goods are used as intermediate products by the local firms. This will help to reduce the production costs of domestic firms. All these things show that there will be positive spillover effects of OFDI on the home economy and as a result economic growth at home improves.

In the study, the positive impact of export on outward foreign direct investment has been obtained. It implies that as exports from country increases, OFDI from that country also increases. This result is due to the fact that in the initial stages of internationalization, when the product is also not matured, firms enter foreign markets by the way of exports. But after some time when demand for the product in the foreign markets reaches a high level then firms starts thinking to produce that product in the foreign markets where it is to be sold. Higher export orientation of a firm improves the international competiveness of firms. Moreover due to high export orientation, it becomes easier to obtain information about foreign markets and hence easier to make investments abroad. In this way high level of export from a country is an outward FDI promoting factor.

The positive impact of high GDP level of country's export implies that GDP is helpful in promoting exports. This positive impact of GDP on export may be due to the fact that high level of GDP implies high production capacity at home. After meeting domestic demand, some surplus production is left. If this surplus production is not exported to foreign markets then that may lead to recessionary forces in the economy, which may lead to several macro-economic problems at home. So, when growth rate of GDP is higher than the growth rate of domestic demand, then exports are bound to increase to maintain the equality between aggregate demand and aggregate supply. In this way higher GDP promotes exports.

6.4.4: Individual Country-wise Co-integrating Coefficients

One important feature of Panel ARDL model is that it also provides information about individual cross country results with coefficients of long run Error correction term and also the coefficients of short run ARDL model for each country separately. From these individual cross country results, the existence or non-existence of long run relationship between the variables can be known for each of the selected country separately. Moreover the coefficient of ECT also shows the speed of adjustment.

The results in the table no. 6.17 elucidate that when outward FDI is the dependent variable then for all the select countries (except Japan and Korea), the coefficients of Error Correction Term are negative and significant at one percent level of significance. It implies that in each of the select Asian country, if the equilibrium is disturbed then the system will revert back to equilibrium in the long run. It also gives the evidence that if OFDI is the dependent variable then, for all the countries (except Japan) there exist long run relationship between the variables. For Korea the coefficient of ECT is negative but insignificant with probability value of 0.1680, that means for Korea, there is no cointegration between the three variables (when OFDI is dependent variable).

Table No. 6.17: Individual Country-wise Co-integrating Coefficients

When Outward OFDI is the Dependent Variable				
Country	**ECT Coefficient**	**S.E.**	**t-stat**	**p-value**
China	-0.186710	0.003687	-50.64043	0.0000***
HongKong	-0.74687	0.014443	-12.09482	0.0012***
India	-0.512329	0.021147	-24.22738	0.0002***
Indonesia	-0.586620	0.038478	-15.24561	0.0006***
Japan	0.049580	0.009943	4.986608	0.0515*
Korea	-0.010469	0.005783	-1.810232	0.1680
Malaysia	-0.178180	0.006459	-27.58802	0.0001***
Saudi Arabia	0.590399	0.051238	11.52277	0.0014***
Singapore	-0.421833	0.023753	-17.75904	0.0004***
Thailand	-0.072855	0.015437	-4.719509	0.0180**
UAE	-0.487433	0.022719	-21.45479	0.0002***
When Export is the Dependent Variable				
Country	**ECT Coefficient**	**S.E.**	**t-stat**	**p-value**
China	-0.067560	0.002199	-30.72411	0.0001***
HongKong	-0.059067	0.002429	-24.31839	0.0002***
India	-0.037520	0.000955	-39.27313	0.0000***
Indonesia	-0.037563	0.006194	-6.064608	0.0090***
Japan	-0.146237	0.007359	-19.87092	0.0003***
Korea	-0.0464460	0.002172	-21.39221	0.0002***
Malaysia	-0.064554	0.001602	-40.29529	0.0000***
Saudi Arabia	-1.096925	0.054521	-20.11936	0.0003***
Singapore	-0.152277	0.008265	-18.42505	0.0003***
Thailand	-0.057238	0.000965	-59.30309	0.0000***
UAE	-0.014952	0.001789	-8.358102	0.0036***
When GDP is the Dependent Variable				
Country	**ECT Coefficient**	**S.E.**	**t-stat**	**p-value**
China	-0.386874	0.015166	-25.50951	0.0001***
HongKong	-0.818853	0.025485	-32.13027	0.0001***
India	-0.864492	0.030326	-28.50644	0.0001***
Indonesia	-0.510897	0.014080	-36.28567	0.0000***
Japan	-0.325763	0.009774	-33.32894	0.0001***
Korea	-0.447072	0.022211	-20.12865	0.0003***
Malaysia	-0.601549	0.023664	-25.42041	0.0001***
Saudi Arabia	-0.661536	0.014783	-44.74876	0.0000***
Singapore	-0.953041	0.021990	-43.33965	0.0000***
Thailand	-0.391495	0.017849	-21.93355	0.0002***
UAE	-0.754334	0.022803	-33.08091	0.0001***

Note: (***), (**) & (*) show that values are significant at one percent, five percent & ten percent levels respectively.

However, in case when export is the dependent variable and also when GDP is the dependent variable, the coefficients of ECT are negative and significant for all the

countries, it implies that in both the cases, there exists long run relationship between the variables for each of the select Asian country.

6.4.5: Granger Causality Test

Once it has been established that there exists long run relationship between the variables of interest, the next step is to examine the Granger-causal relationship between them. The ARDL model tells about the existence or absence of long run relationship between the variables. But it does not give any idea about the direction of causal relationship between the variables. For knowing the nature of causal relationship, we have to apply the causality tests. The causality tests provide that there can be three types of causal relationship between them (neutral, uni-directional or bi-directional causal relationship). The Granger causality is basically based on the assumption that a variable Y Granger causes variable X, if X can be predicted in a better way using the histories of both Y and X than it can be predicted using the histories of X alone. The Granger-Causality relationship between the variables can be bidirectional (feedback) or unidirectional. If the relationship is bidirectional, then it means that both the variables are causing each other or there is a feedback effect between the variables. On the other hand if the causality is unidirectional then it means that feedback between them is absent or only one variable (say variable Y) is causing the other variable (say variable X) and not vice-versa. But if none of the variable is causing the other then, both the variables are said to be independent. As discussed earlier in our study that there exists long run relationship between OFDI and Exports (when OFDI is dependent variable), there must be at least one directional Granger Causality between these two variables. The results of Granger Causality tests are shown in the table no. 6.18:

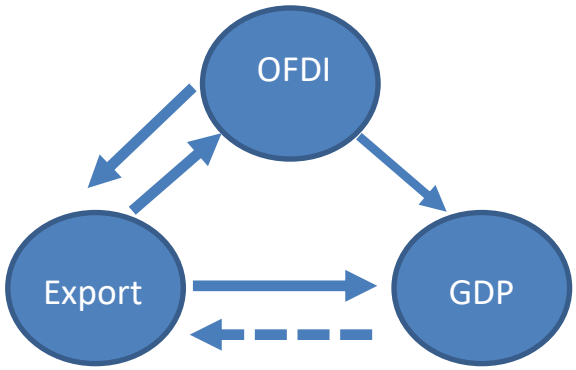
The results of Granger Causality test in table no. 6.18 elucidates that the null hypothesis of exports does not granger cause GDP growth rate is rejected at one percent but the null hypothesis of GDP growth rate does not granger cause exports is not rejected at five percent level of significance. So, there is unidirectional causal relationship between exports and GDP running from exports to GDP and not otherwise.

Table No. 6.18: Pair-wise Granger Causality Test Results

Null Hypothesis	F-Statistics	Probability
Export is not granger causing GDP	6.21822	0.0022***
GDP is not granger causing Exports	2.54425	0.0798*
OFDI is not granger causing GDP	5.59925	0.0022***
GDP is not granger causing OFDI	0.76486	0.4661
OFDI is not granger causing Exports	4.50997	0.0016***
Export is not granger causing OFDI	10.4322	0.0000***

Note: (***) & (*) show that values are significant at one percent and ten percent levels respectively.

The GDP granger causes exports only at ten percent level and not at five percent, showing weak causal effect of GDP on exports. In the same way for the causal relationship between OFDI and GDP, the null hypothesis of OFDI is not granger causing GDP is rejected at one percent level of significance but the null hypothesis of GDP is not granger causing OFDI is not rejected. So, between OFDI and GDP also there in one-directional relationship running from OFDI to GDP and not from GDP to OFDI. As regard the causal relationship between OFDI and export is concerned, the null hypothesis of OFDI is not granger causing exports is rejected and the null hypothesis of exports is not granger causing OFDI is also rejected. Therefore, it shows that between OFDI and exports there is bidirectional relationship running from exports to OFDI and from OFDI to exports. The pair-wise causal relationship between OFDI, export and GDP can be summarized with the help of figure no. 6.3



Notes: → shows significant at one percent and ------→ shows significant at ten percent.

Figure No. 6.3: Granger cause relationship between OFDI, export and GDP

These conclusions are in line with the conclusions drawn by Surender Singh (2017), who also came with the empirical evidence of the same type of causal chain relationship between OFDI, GDP and Exports for the Indian economy. Goh, S.K. et al., (2017) also conducted the study to find causal relationship among exports, GDP and FDI for eleven Asian economies by taking time series data for the period 1970-2012. They also found the similar causal relationship among the variables for four (Indonesia, Japan, Korea and Taiwan) out of eleven Asian countries.

6.5: Summary:

The issue of relationship among GDP, Exports and OFDI is an important subject that requires special attention of academicians, researchers and policy makers. Many empirical studies have suggested mix results about the causal relationship among these three variables. The evidences provided by theoretical and empirical literature make this relationship a puzzle. To overcome this ambiguity, the present study applied a superior methodology that provides robust results. With the purpose of examining how outward FDI, Exports and GDP interact with each other, panel ARDL approach to cointegartion has been proposed in the study. For this purpose the panel data of three variables: OFDI as percentage of GDP, Exports as percentage of GDP and GDP growth rate for the select Asian economies, which contribute a major portion of Asian FDI, is taken for the period of 39 years. To carry out the process of examining relationship between these variables various econometric techniques like descriptive statistics, correlation analysis, panel unit root, panel cointegartion, panel ARDL approach both for short run and long run relationship (with AIC lag length specifications) and pair-wise Granger causality test are used in the study. The correlation results provide for positive and significant relationship between OFDI and exports, positive and significant relationship between GDP and exports and negative and insignificant relationship between GDP and OFDI. The results of panel cointegartion analysis suggest that all the three variables are cointegrated when we use GDP growth rate as dependent variable and also when we use OFDI (% of GDP) as dependent variable. But when export (% of GDP) is taken as dependent variable, the cointegartion analysis did not provide evidences of long run association among these three variables.

The long run relationship between OFDI, GDP and Export was explored on individual cross-country basis also and for that the coefficients of Error Correction Term (ECT) are examined. The association between variables is said to exists, if the coefficients of ECT are negative and significant. In the study the coefficients of ECT are examined in three parts: (a) When OFDI is the dependent variable (b) When Export is the dependent variable and (c) When GDP is the dependent variable. The results provided that in two cases i.e. when export is the dependent variable and when GDP is the dependent variable, the coefficients of ECT for each of the select Asian economy is negative and significant at one percent level of significance. It implies that in both the cases there exists long run relationship between OFDI, GDP and export in each of the select Asian economy. But when OFDI is the dependent variable, then the long run relationship between these three variables do not exist for Japan and Korea, but for each of the other country, the evidences of long run relationship among these variables were obtained.

The long run results of panel ARDL model suggest that exports are helpful in determining the long run movements in outward FDI and exports significantly affect outward FDI from Asia, as the probability value of exports is less than 0.01. Moreover, the effect of exports on OFDI is positive. The positive and significant value of exports shows that there is complementary relationship among these two variables, when OFDI is taken as dependent variable. The results also prove that in the long run GDP is negatively affecting OFDI movement, but this effect is insignificant. Although the results are contradictory with the results provided by many studies but they are also consistent with many empirical findings. These results of panel ARDL model are also supplemented by panel cointegartion analysis that also provides the evidences of strong long run association among the variables, when OFDI is the dependent variable. Even the Error Correction term also suggest the long run stable equilibrium between them, as the coefficient of Error correction representative is negative and significant. Out of exports and GDP, the effect of exports on OFDI is more powerful than the impact of GDP on OFDI. This strong impact of export on OFDI is provided by correlation analysis, panel cointegration analysis, and panel ARDL model and also by pair-wise Granger Causality analysis.

In case when exports are the dependent variable, the results of long run ARDL model suggest that the effect of GDP on exports is significant at five percent. On the other hand the long run effect of OFDI on exports is negative and insignificant. The results proposed by short run ARDL model are also not different from the long run ARDL results. The coefficients of short run ARDL model and the probabilities associated with them suggest the similar insignificant effect of GDP and OFDI on exports. The associated equilibrium correction term is not found to be significant at five percent level confirming the non-existence of long run relationship among these three variables, when export is taken as the dependent variable. Even the cointegration test gave the similar results (table no. 8.11).

In case when GDP growth rate is the dependent variable, the long run ARDL results suggest that OFDI is positively and exports are negatively affecting the movement in GDP growth rate. The probability value of the coefficients of OFDI is less than 5 percent, implying significant and positive effect of OFDI on GDP. But the long run effects of exports on GDP are negative and insignificant. Thus, one important conclusion drawn in this chapter is that in the long run there is causal chain relationship between OFDI, GDP and exports in which, higher GDP leads to higher exports, higher exports lead to higher level of OFDI and higher level of OFDI leads to higher GDP.

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CHAPTER 7
INVESTMENT DEVELOMENT PATH IN SELECT ASIAN ECONOMIES

During 1980, Dunning gave a new Investment Development Path (IDP) within the Eclectic Paradigm. The IDP theory which is based on Eclectic paradigm of international production is regarded as a very important analytical framework among all the theories of international business which are focused on foreign direct investment. This IDP theory has been considered as the basic foundation in the subject of Outward Foreign Direct Investment. This paradigm hypothesizes a relationship between a country's level of economic development (for which GDP per capita is used as proxy) and its international investment position (Net FDI stock i.e. outward minus inward FDI stock). As an economy develops, the conditions for domestic and foreign companies change, which will affect FDI inflow and outflows. Changes in inward and outward FDI in turn affect the economic structure or economic growth and that explains a dynamic interaction between Net OFDI and economic growth. Later on, this theory was revised several times by Dunning and other researchers (Dunning, 1986, 1988 & 1997; Dunning & Narula, 1996; Duran & Ubeda, 2005), but still the original version of IDP is preserved.

The Eclectic Paradigm, popularly known as OLI (ownership- location-Internalization) theory has explained the growth of OFDI of multinationals through the realization of three types of advantages, namely Ownership, Location and internalization. The ownership advantages are firm specific advantages, location specific advantages are the advantages that exist in host country and internalization advantages are generated through imperfect market conditions. The ownership or competitive advantages to MNCs over their rivals are necessary as they enable MNCs to compete in the unfamiliar environment in the host country. According to Dunning, these competitive advantages can be of two types, one due to the ownership of unique intangible assets and the other due to the ownership of complementary assets.

Secondly, the location specific advantages in the host country also significantly influence investment decision of MNCs. If there were no location

specific advantages in the host country then the MNCs shall not go for investments in that country. Thirdly, the internalization advantages explain how the imperfect market conditions (externalities and transaction costs) make internalization of activities significant. The OLI paradigm stressed that a firm will engage itself in outward FDI only at that time when three basic conditions are satisfied. i.e. the firm must have ownership advantages, Locational advantages and internalization advantages at the same time.

The possession of ownership advantages enable the firms to neutralize the high operational costs in foreign market and also the disadvantages of operating in the unfamiliar environment. The possession of ownership advantages also helps the firms to counteract the advantages of domestic firms. Generally, the ownership advantages are intangible and it includes the privileged access to inputs, markets, better knowledge of firm's human resources, raw material and better access to financial markets (Fonseca et al., 2007).Secondly, for international production, firms must have some locational advantages. These advantages help firms to make decision about the locations where they will make investments. It includes access to lower costs of transportation and communication, access to markets with high incomes, access to the factors that are scarce in home market etc. In the absence of such locational advantages, firms will not go for outward FDI. Thirdly, firms must possess internalization advantages. These advantages explain that if the external markets are imperfect (due to externalities and transaction costs), then firms will go for foreign production instead of exporting the product.

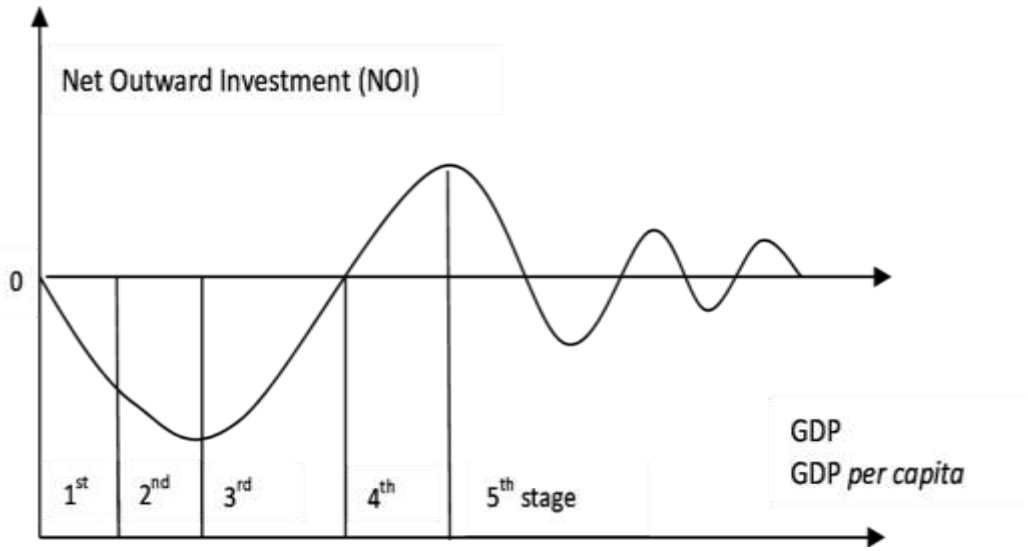
As per the IDP framework, the Inward FDI is influenced by four different motives (explained in the table no. 1.1 &7.1). These four motives are: Resource-seeking, Market-seeking, Efficiency-seeking and Strategic-Assets seeking. All these four motives come from locational advantages (Dunning & Narula, 2000).

In the resource-seeking FDI, MNCs aim at exploiting locational advantages of the host country, which are in the form of natural resources and low wage rate.

The host country may be having a sufficient stock of some scarce resources or having lower wage rate or good infrastructure. These locational advantages may attract FDI (Dunning & Narula, 2000). But when FDI comes with the motive of serving foreign market then it is called as market-seeking FDI. Extent of market-seeking FDI depends upon the size of market in the host country. Whenever MNCs think that producing commodities at home and then exporting to the host country is costlier than producing the same in the foreign country then, it goes for this type of FDI. In this case generally, the trading costs are higher, therefore MNCs resort to producing abroad. Thus, market-seeking FDI is mainly influenced by the production costs and trading costs (Dunning & Narula, 2000).

When motive of MNCs is to improve the production efficiencies, then they go for efficiency-seeking FDI. This type of FDI is mainly related to the production costs. Important factors in host economy that influence efficiency-seeking FDI are functioning of labour markets, level of technological development, training and health condition of labour force, and level of financial development. Moreover, the efficiency-seeking FDI also depend upon agglomerative economies because they can provide the benefits of scale economies. Along with these factors, this FDI is also driven by various incentives in host and home countries like subsidies and tax-breaks (Dunning and Narula, 2000).In case of Strategic-asset seeking FDI, MNCs aim to get ownership advantages by taking access to the strategic assets of the host country. The magnitude of this FDI depends upon the fact that by how much ease MNC can have access on the assets of the host country. Thus, when a host country is having large locational advantages then it will attract large amount of asset-seeking FDI (Dunning & Narula, 2000).

Out of these four types of FDI, the first three i.e. resource-seeking, marker-seeking and efficiency-seeking FDI are mainly the ‘asset-exploiting FDI’ by nature, as MNCs aim to exploit the existing assets of the host economy. But the strategic-asset seeking FDI is ‘Asset-Augmenting FDI’ by nature, in which MNCs aim to augment their existing assets (Narula, 2014). In this way, most of the FDI to developing economies is of the nature of asset-exploiting and to the advanced economies is of the nature of “asset-augmenting’.



Source: Dunning and Narula (1996)

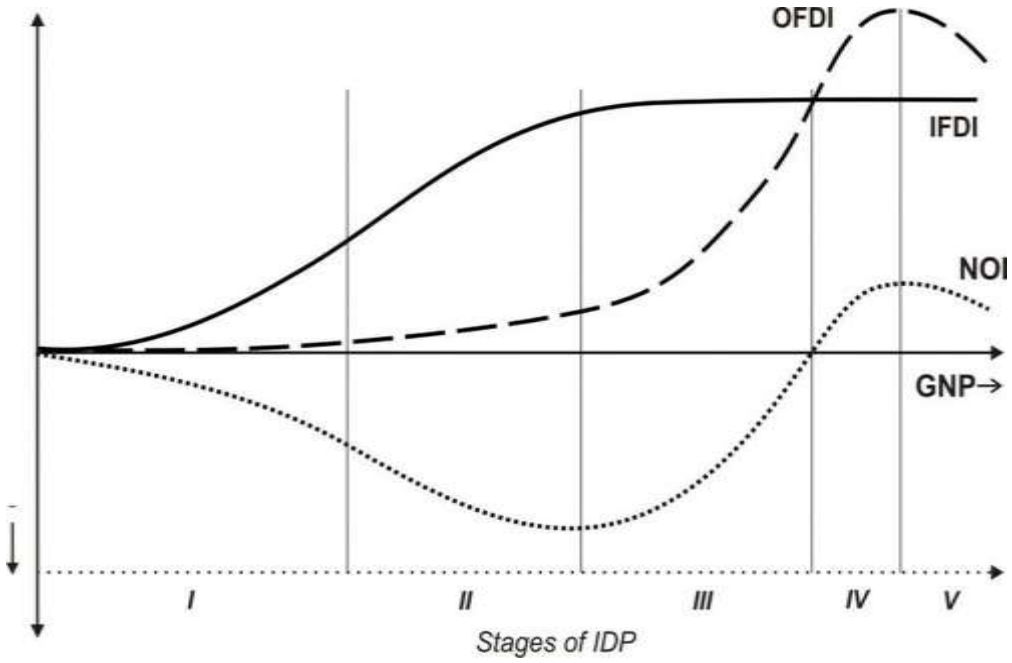
Graph. No. 7.1: Pattern of Investment Development Path in terms of Net Outward Investment

7.1: Stages of Investment development Path

Accfording to theoretical framework of IDP, a country passes through five stages of investment development (see graph no. 7.1). Along with these five stages, there are changes in the ownership, Locational and internalization advantages- of a country's firms in comparison to the firms of other countries. Due to these changes, there is shift in the NOI position of the country from the net importer of FDI to the net exporter of FDI.

The first stage of IDP is mainly related to the least developed economies. In the first stage (pre-industrialization stage) FDI flows (both inward and outward are almost negligible), due to small size of market, poor infrastructure, uneducated and untrained labour force and undeveloped commercial framework. In the first stage only a limited Inward FDI is taking place (with the purpose of taking advantage of country's natural resources). The locational advantages of the country ate insufficient because of low per capita income level (and hence small size of market), uneducated and untrained workforce, poor infrastructure and economic instability. Due to all these reasons, both IFDI and OFDI are low. MNCs of other countries reach these countries either through trade or through entering into non-equity relationships with

domestic firms. The Net Outward Investment (NOI) in this stage is zero (due to negligible FDI outflows and inflows). Absence of location specific advantages do not encourage firms to invest in that country and also due to insufficient ownership advantages available to domestic firms they do not go for outward FDI. Only resource-seeking inward FDI (to a limited extent) take place in the first stage.



Source: Narula and Dunning (2010) "Multinational Enterprises, Development and Globalization: some clarifications and Research Agenda,

Graph No. 7.2: Investment Development Path in terms of NOIP, Outward FDI and Inward FDI

In this pre-industrialization stage, the government plays its role by providing infrastructural facilities and upgrading the human capital of the country through training programs and adopting policies of export promotion and import substitution. All these things influence the industrial structure of local market.

In the natural development of first stage, there comes the second stage of IDP. Home market access is provided to foreign MNCs, due to which there is increased integration of domestic firms with foreign MNCs and domestic firms get the benefits of knowing and learning foreign technologies and production processes. These things lead to the creation and up-gradation of ownership advantages of domestic firms and

they also start making investments in geographically close countries (with market seeking purpose) and a very small amount of asset seeking outward FDI (in countries with high incomes) also starts. Thus, in the second stage, both inward and outward FDI are generated but inflows are much more than the outflows. Due to the existence of some location specific (L) advantages, like availability of natural resource and cheap labour, growth of inward FDI becomes faster than the growth of outward FDI. But on the other hand, due to the lack of ownership specific (O) advantages, there is negligible amount of FDI outflows. Consequently, Net Outward Investment (NOI) position of the country becomes increasingly negative.

The third stage of IDP consists of emerging economies. In this stage there is gradual fall in inward FDI and at the same time there is gradual growth of outward FDI, which leads to improvement in NOI position of the country. In the third stage, there is increase in per capita income in the country which leads to higher standard of living (reflected by increase in demand for better quality products), and also acceleration in the speed of industrialization. The ownership advantages of the domestic firms improve in this stage. As more expenditure is incurred by the government on the training of workforce and also on Research & Development activities, the competiveness of domestic firms improves. Moreover, due to greater knowledge transfers by MNEs, there is further improvement in the competitive strength of the local firms.

The ownership advantages of the local firms are mainly related to the intangible assets, which are not affected by government policies. Even then government plays its role in reducing market failures and inefficient industries also in promoting the integration of local firms with foreign firms, that minimizes the risk of localization. In this stage, government provides incentives (mainly fiscal incentives) to foreign companies so as to attract foreign capital in the sectors in which local firms are having competitive disadvantage. Through various schemes, government tries to encourage local companies to utilize their own advantages in the foreign markets by investing abroad. Thus in the third stage, due to the occurrence of ownership advantages to domestic firms (more firm-specific and less country-specific), growth rate of outward FDI exceeds that of inward FDI. Despite net FDI stock remains

negative for some time. MNEs start going for resource-seeking outward FDI in less developed countries and for strategic asset-seeking outward in more developed economies. As a result, the rate of negative NOI falls. In this stage, negative but increasing NOI is observed.

As per the basic IDP theory, in the fourth stage the NOI position of the country improves and it becomes positive from being negative due to the excess of the outward FDI stock over Inward FDI stock. The ownership advantages of the local firms in this stage have reached to the level that now they can not only compete locally with the foreign firms but they have also attained the ability to expand their production activities in foreign countries. So, firms are motivated to shift their subsidiaries in those markets which have cheap labour force (Efficiency-seeking OFDI in the countries which are at lower stages of development) and also in the countries which have more strategic assets with them (Strategic-asset seeking OFDI in the countries which are at higher stages of development). For acquiring access to strategic assets, firms generally go for mergers & acquisitions or for strategic alliance with the firms of high income countries. In the fourth stage there is also a shift in the locational advantages of the country. Initially the country was having locational advantages in the form of abundant natural resources and cheap labour but now they began to have locational advantages in their created assets like skilled labour force, sophisticated markets, greater technological base in dynamic sectors etc. The production processes in the country became more capital-intensive, that mean, capital cost is falling more rapidly in comparison to labour cost.

As far as Inward FDI is concerned, in the fourth stage much of the foreign investment comes from the countries which are at the identical stages of development and are making investments in search of strategic assets. However, some Inward FDI also comes from the countries which are at lower stages of development and that Inward FDI is mainly in the form of market-seeking FDI. In this stage, government tries to ensure that there is healthy competition among the domestic and foreign companies and the government also tries to minimize market failures. Besides, government also starts making interventions for protecting infant industries (Fonseca et al., 2007). Thus, in the fourth stage of IDP, the rate of growth of FDI outflows

increases because of the importance of firm specific ownership advantages to domestic firms. The generic location advantages of the country disappear. In this stage, it is observed that the country's OFDI stocks equals or exceeds its IFDI stocks and the growth of OFDI still exceeds that of IFDI.

In the fifth and final stage, which is related to most advanced countries, like USA, UK or Japan, country's net positive FDI stock falls and it fluctuates near zero, with very high levels of IFDI and OFDI. It implies that, in this stage, the relationship between international investment and economic development does not remain significant. In other words, in this stage, the NOI position becomes irrelevant because of the increasing similarities among developed economies in terms of labour skills, technological and factor endowments. The NOI position of the developed economies fluctuates around zero and it depends upon the business cycles, exchange rate fluctuations and firm's own strategies. Thus in this stage, the FDI position of the country is not much affected by the features of host and home economies (because they are alike). Rather it is mainly affected by the localization strategies of MNCs. So, the outward and Inward FDI position of the country is more influenced by the endowment of created assets (not by the endowment of natural resources) and therefore the NOI position changes in accordance with the organizational and technological capabilities of each country.

Table no. 7.1 gives an overview about the type of FDI which are attracted during different stages of IDP. In the first stage of IDP only the resource-seeking FDI comes with the objective of exploiting the rich natural-resource base of the country. However, at the end of the first stage, when GDP per capita and hence purchasing power in the host country improves, some market-seeking FDI also starts coming (Narula & Dunning, 2000). But when the domestic market grows further because of higher GDP per capita, the size of market-seeking FDI also improves. During initial period, the market-seeking FDI is in the form of Import-substituting manufacturing type.

Table No. 7.1: Overview of the Development of FDI motives during different stages

	Stage I	Stage II	Stage III	Stage IV	Stage V
FDI	Resource Seeking	Resource Seeking	Resource Seeking		
		Market Seeking	Market Seeking	Market Seeking	
			Efficiency Seeking	Efficiency Seeking	Efficiency Seeking
			Strategic asset seeking	Strategic asset seeking	Strategic asset seeking

Source: Willem Jan Lammers (2017)

This type of FDI requires a large population size and also a high purchasing power in the host economy. Moreover the factors such as quality of institutions, infrastructure, communication facilities, availability of skilled and unskilled labour etc. also determine the size of market-seeking FDI as these factors decide how successfully MNCs can construct and manage their production base in the host economies (Dunning & Narula, 1996). The size of market-seeking FDI also depend upon the extent to which the host country can provide the locational advantages to MNCs. Moreover, it also depends upon the various import restriction, because higher import restrictions in the form of tariff and non-tariff barriers make local production more profitable for MNCs.

In the third stage of IDP, resource-seeking FDI also comes. In this stage, the comparative advantages in form of labour-richness and resource-richness start shrinking. In this stage, Inward FDI is mainly affected by size of markets, because through it MNCs can get economies of scale. If greater technology-intensive production processes are adopted then greater resource-seeking FDI will be attracted.

At the fourth stage of IDP, the FDI mainly comes with the objective of market-seeking and strategic-asset seeking. Because the labour costs have grown high so, resource-seeking FDI do not come in this stage. Lastly in the fifth stage, FDI is

even more directed for acquiring efficiency and strategic assets of the host country. As the economies in the fifth stage are the knowledge-based economies therefore, the important factors that decide the level of inward FDI is innovations (Narula, R., & Pineli, A. (2019).

Different characteristics of host and home countries of FDI are explained by Boudier-Bensebaa, F. (2008) in the form of following table:

Table No. 7.2: IDP Framework in terms of characteristics of host and home economies in different stages

Stage	Inward FDI	Outward FDI	NOIP
1	Location-Specific(L) advantages are insufficient → So, No FDI Inflows except natural resource-seeking FDI	Absence of domestic firms' Ownership advantages →So, No outward FDI	Nearly zero
2	Development of 'generic' L -advantages → Inward FDI grows faster than of GDP	Emergence of domestic firms' country-specific O-advantages → Little outward FDI	Increasingly negative
3	Erosion of L-advantages in labour-intensive activities and development of created-asset L-advantages → Growth rate of IFDI falls	Growth of country-specific O-advantages → Growth rate of OFDI increasesd	Negative but increasing
4	L-advantages entirely based on created assets → OFDI exceeds IFDI	Firm-specific O-advantages more important than country-specific O-advantages	Positive
5	Theoretically, NOI falls and then it moves around zero but actually there is no conclusive evidences about the nature of relationship between a country's level of economic development and its Net Outward Investment Position		

Source: Boudier-Bensebaa, F. (2008)

Dunning, J. H., Van Hoesel, R., & Narula, R. (1996) have classified all the five stages of IDP in the form of three waves, in which the most important features of FDI outflows by MNCs like Destination, motives, types etc. in different stages of IDP have been summarized in the form of a table, listed below:

Table No. 7.3: Important characteristics of FDI outflows in different stages of Investment Development Path

	First Wave (Stage II)	**Second Wave (III stage)**	**Conventional MNCs (iv & V Stage)**
Destination	Regional FDI: Only in other developing countries and neighboring countries)	MNCs starts expanding on global basis, but majority still on regional basis	Global Basis
Motivation	To explore resources and markets in developing countries	In addition to exploring of resources and markets of developing countries, they also seek to assets in industrial countries	Efficiency seeking (To optimally use each country's competitive and comparative advantages)
Type of FDI outflows	Natural-asset intensive, small scale production in light industries (Hecksher-Ohlin moving towards undifferentiated Smithian industries)	Natural asset intensive sector in developing countries and In industrial countries (a) Asset-seeking in Schumpeterian industries (b) Assembly-type, market seeking in Smithian industries	Capital and knowledge intensive (Schumpeterian industries)
Ownership advantages	Mainly country of origin specific (only fundamental Oa and no Ot)	Both firm and country specific	Mainly firm specific advantages (both Oa and Ot)
Examples of ownership advantages	1. Conglomerate group ownership 2.Technology (mainly adapted) 3.Management adapted to third world countries 4.Low cost inputs (including managerial & technical personnel) 5. Ethnic advantages	1. Conglomerate group ownership 2. Management adapted to third world countries 3. Low cost inputs (including managerial & technical personnel) 4. Ethnic advantages 5. Some product differentiation 6. Vertical control over factor/product market 7. Subsidized capital 8. Limited marketing skills	1. Economies of large scale 2. Access to capital markets 3. Technology 4. Product differentiation 5. Market Know-how 6. Cross-country management skills 7. Globally-efficient intra-firm activity 8. Vertical control over factor/product market

Source: Dunning, H.L., Narula, R., & Van Hoesel, R. (1996)

As from the previous table no (7.2 & 7.3), it is clear that the outward FDI activity mainly starts in the second stage of IDP. In this stage, MNCs mainly invest in developing countries and neighboring countries, which are either similar or earlier stages of their development. This type of priority about their destinations is due to the lack of international experience. When a country enters into the third stage of IDP, then its outward FDI starts expanding on global basis but much of the foreign investments are on regional basis. In the fourth and fifth stage of IDP, they completely cross the regional limits and expand on global basis.

As regard motivation on outward FDI is concerned, in the second stage of IDP, MNCs mainly aim to explore markets and natural resources of developing countries. In the third stage, when they start making investments in industrial countries also, asset-seeking too become their motive. In the fourth and fifth stage, MNCs mainly seek to improve their efficiency and also to optimally utilize the competitive and comparative advantages of each country.

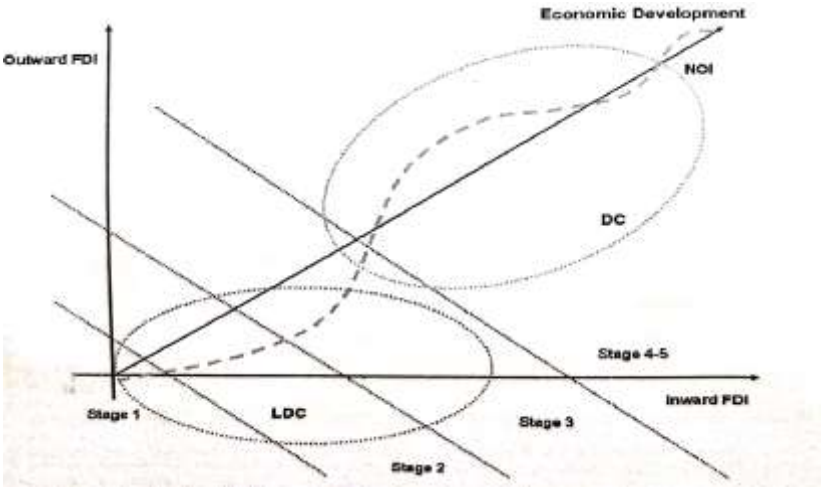
In the second stage all the FDI outflows are in natural-assets intensive sectors and in light industries, where they go for small scale production. When these MNCs get some experience and enters in the third stage of IDP, then in addition to natural asset intensive sectors, they also invest in asset-seeking Schumpeterian industries and assembly-type market-seeking Smithian industries. When they enter in the fourth stage, the main type of their outward FDI becomes capital and knowledge intensive industries.

Moreover in the first wave or second stage of IDP, MNCs have only the basic asset type ownership advantages (Oa) and no transaction type ownership advantages (Ot). These are just country specific advantages. In the second wave or third stage of IDP, they have both firm specific and country specific advantages. Again in the fourth and fifth stage, they have firm specific advantages (both Oa and Ot).

The fundamental hypothesis of this IDP theory is that as a country grows, the advantages that its own firms investing abroad and that foreign owned firms that might invest in that country, undergo changes (Dunning, 2001). Changes in these advantages lead to changes in their Net Outward Investment Positions.

7.2: Positioning of countries in the Investment Development Path

Duren and Ubeda (2005) have tried to explain with the help of the following graph that the countries that are at different levels of their development are at different stages of Investment Development Path. The countries that are at the first two stages of IDP are situated near the axis representing Inward FDI. Whereas the countries with high levels of development are situated away from the axis and are in the fourth or fifth stage of IDP. Just as clear from the following figure no. 7.3.



Source: Miguel Fonseca, Antonio Mendonca and Jose Passs (2007)

Graph. No. 7.3: Positioning of countries in the Investment Development Path

7.3: Model selection for IDP

To estimate the IDP theory empirically, different forms of estimation models like, Quadratic form, Cubic form and Polynomial form have been used in the literature. Dunning (1981) suggested that for the empirical analysis of the relationship between Net Outward Investment Position (NOIP) and Economic Development, the quadratic form regression equation of NOIP on GDP should be applied. The use of quadratic form non-linear regression equation of NOIP on PGDP and square of PGDP is expected to give the U-shaped relationship between these two variables. The quadratic form equation uses the following model:

$$NOIP = \alpha_0 + \beta_1 PGDP + \beta_2 PGDP^2 + e \quad \text{---------- (i)}$$

Many studies have estimated the IDP theory or estimated the relationship between NOIP and Per Capita GDP for time-series and cross-section data of a number of developing and developed countries using this quadratic form regression equation (Tolentino, 2010; Dunning & Narula, 1996).

However, some studies have used different models for this purpose. Like Buckley & Castro (1998) used the data of Portuguese economy and found that for studying the relationship between NOIP and GDP of Portuguese economy, the quadratic function is not fit. Instead, they used the equation is the following form:

$$NOIP = \alpha_0 + \beta_1 PGD P^3 + \beta_2 PGDP^5 + e \quad \text{----------} \quad \text{(ii)}$$

However, Bellak (2000) studied the IDP model for Austrian economy and for this purpose he used polynomial function in the form of following equation:

$$NOIP = \alpha_0 + \beta_1 PGDP + \beta_1 PGDP^2 + \beta_1 PGDP^3 + \beta_2 PGDP^4 + e \text{ ---------- (iii)}$$

But as the model in quadratic form is used in many studies relating to IDP of developing and developed economies, so, we will also be using the model in quadratic form (equation i) for this purpose.

Data and Variables

Following the IDP theory, the NOI is chosen as the main dependent variable, which is measured as the difference between outward FDI stock and Inward FDI stock. Whereas, GDP Per capita in real terms and its orders are chosen as the independent variables or this model. In literature, stock of FDI outflows and stock of FDI inflows have been given more validity and explanatory power than flows, therefore, FDI stock (not FDI flows) have been used for empirically analyzing the IDP theory for time series and cross section data of many developed and developing countries (Katherin Marton & Cornelia McCarthy, 2007). The data relating to OFDI stock and IFDI stock has been taken from online sources of UNCTAD and data of Per Capita GDP in real terms is taken from world Development Indicators. The following table represents the country statistics;

Table No. 7.4: Country Statistics (1981-2019)

Country	Variable	Mean	S.D.	Min.	Max.
China	NOI	-96531.7	22569.45	-300941	320364.3
	PGDP	2430.98	468.27	247.44	9529.83
Hongkong	NOI	-109094	11011.59	-189733	-1267.23
	PGDP	24562.44	2001.61	5825.66	49232.8
India	NOI	-46496.3	10238.6	-222111	-463.6
	PGDP	742.68	89.7	270.07	2029.5
Indonesia	NOI	-59388	11864.35	-211499	-4687.4
	PGDP	1632.03	192.9	515.2	3891.9
Japan	NOI	396910.4	61808.04	20591	1451446
	PGDP	31984.0	1738.3	9485.5	48302.76
Korea	NOI	8146.5	8367.6	-66586.5	156182.1
	PGDP	13989.8	1481.5	1876.2	31656.7
Malaysia	NOI	-14542.5	2044.6	-36869.9	19277.6
	PGDP	5354.9	529.9	1728.6	11319.2
Saudi	NOI	-53368.1	10110.4	-171210	-180.1
Arabia	PGDP	12985.7	1039.5	5848.5	25243.6
Singapore	NOI	-102220	20974.1	-459909	-6206.7
	PGDP	28037.9	2867.2	5837.4	60322
Taiwan	NOI	76301.9	12718.1	8302.5	238735
	PGDP	13549.1	1081.6	2681.3	24759.8
Thailand	NOI	-47344.7	7494.5	-133388	-1144.6
	PGDP	3016.2	316.3	747.24	7271.9
UAE	NOI	-5137.9	1150.4	-21250.1	868.7
	PGDP	33886.0	1124.5	22586.4	45575.5

Notes: (i) NOI is the Net Outward Investment defined as the difference between stock of outward FDI US $ million and Inward FDI US $ million. (ii) PGDP is the per capita GDP in real terms.

The country statistics in the table no. 7.4 reveals that for three Asian economies namely Japan, Korea and Taiwan the average net outward investment (NOI) for the period of 1981-2019 is positive. The average NOI for Japan is US $ 396910.4 million, for Korea US $ 8146.5 million and for Taiwan, it is US $ 76301.9 million. It implies that the average OFDI stock in these three Asian economies is more than the average IFDI stock. For China, Hongkong, India, Indonesia, Malaysia, Saudi Arabia, Singapore, Thailand and UAE, the average NOI during 1981-2019 is found to be negative. It implies that the average OFDI stock in these nine Asian countries is less than the average IFDI stock.

7.4: Results and discussion:

As we are dealing with panel data, the possibility of unit root can not be ruled out. If the series are not stationary or have unit root then, the standard regression techniques may produce spurious results of regression analyses. If the regression results are spurious, then the relationship between the dependent and independent variables may be significant but will be of no use as, they only show a contemporaneous relationship. Thus before going for empirical estimation of our data, unit root test are applied. Levin, Lin & Chu W-stat, Im, Pesaran & Shin stat, Augmented Dickey Fuller test and Phillips Perron tests of unit root are applied on the data of NOI, PGDP and $PGDP^2$. The results of unit root test are shown in the following table no. 7.5:

Table No. 7.5: Panel Unit root test results

Panel Level Series			
	NOIP	PGDP	$PGDP^2$
LLC	5.53480 (1.0000)	4.64646 (1.000)	12.0030 (1.0000)
IPS	6.22148 (1.000)	6.22148 (1.0000)	10.2099 (1.0000)
ADF- Fisher Chi Square	16.8089 (0.8567)	16.8089 (0.8567)	14.7709 (0.9273)
PP- Fisher Chi Square	4.1885 (0.0204)	40.1885 (0.0204)	59.8130 (0.0000)
Panel First Difference series			
	NOIP	PGDP	$PGDP^2$
LLC	-4.772 (0.000)***	-4.74272 (0.000) ***	0.27425 (0.6081)
IPS	-10.10 (0.000) ***	-10.1023 (0.000) ***	-6.49230(0.0000)***
ADF- Fisher Chi Square	160.13 (0.000) ***	160.123(0.000) ***	122.367)(0.0000)***
PP- Fisher Chi Square	208.71(0.000) ***	208.713(0.000) ***	150.746 (0.000)***

Notes: (i) The values in parenthesis depicts p-values (ii) (***) shows 'significant at 1 % level of significance' (iii) Null Hypothesis : Series are non-stationary (iv) LLS indicates "Levin, Lin & Chu W-stat, IPS shows Im, Pesaran & Shin stat, ADF shows Augmented-Dickey Fuller stat and PP shows Phillips-Perron stat".

On applying unit root test on the level form of NOIP, PGDP and $PGDP^2$, we fail to reject the null hypothesis of presence of unit root in all the series. But for the first difference of the two series we can reject the null hypothesis of unit root by the

Im, Pesaran & Shin stat, Augmented Dickey-Fuller test and Phillips-Peron tests. It implies that all the series are stationary at their first difference.

Given that the null hypothesis of unit root was rejected, we proceed to estimate regression equation of NOIP on PGDP and square of PGDP by OLS estimate. The results of OLS regression of relationship between NOIP and PGDP for the selected Asian economies are presented in the following table no. 7.6:

Table No. 7.6: IDP Model Summary

Variable	**IDP Model**			
	Coefficients	**S.E.**	**t-value**	**p-value**
PGDP	-0.25508	0.068316	-3.73388	0.0002***
$PGDP^2$	3.83E-06	9.83E-07	3.90189	0.0001***
Constant	-11.3471	1874.9	0.19371	0.1937
R^2	0.3202			
Adjusted R2	0.2730			
F-statistic	7.69227			0.00051***

Note (***) significant at one percent level of significance

Source: Author's own calculations using on e-views software

Thus the above model yields the following regression equation:

$$NOIP = -11.3471 - 0.25508\ PGDP + 3.83E\text{-}06\ PGDP^2$$

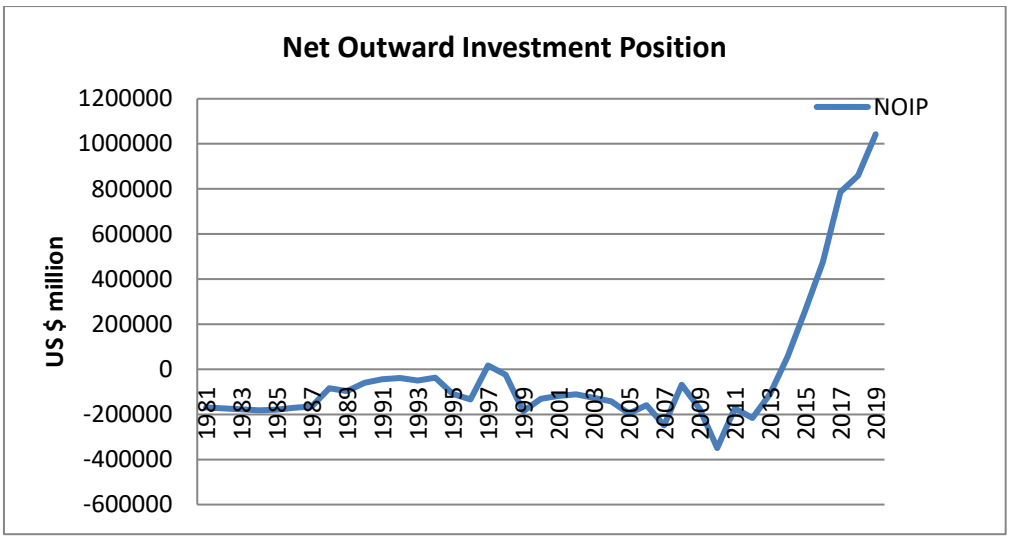
As per the model summary in table no. 7.6, the coefficient of PGDP is negative and the coefficient of square of PGDP is positive and highly significant at one percent level of significance that signifies the quadratic function which shows a U-shaped relationship (which initially slopes downward at low levels of PGDP but takes upward slope with higher values of PGDP) between PGDP and NOIP for the panel data of selected twelve Asian economies. This pattern is consistent with the IDP pattern which is proposed by Dunning. But in the model, value of R^2 is 0.3202, which shows that about 32 percent variations in NOIP is due to PGDP and rest 68 percent are due to the factors which have not been discussed in the model.

7.5: IDP Framework in select countries of Asia

Graph nos. 7.4 & 7.5 show how the total Outward FDI stock and Inward FDI stock in the select Asian countries have developed during the period 1981-2019. The total annual OFDI stock in these twelve economies increased from US $ 39559.4 in the year 1981 to US $ 8412393 in the year 2019 (World Investment Report, 2020). In the year 2018, out of the top twenty investor economies of the world, nine economies were from these twelve Asian economies. Even in the year, 2019, six Asian economies are in this list and in the year 2018, 52.29 percent of outward FDI of the world was contributed by these twelve Asian economies. Given the fact that eleven out of twelve economies are the developing economies (Japan is the only developed economy), this progress in outward FDI by these Asian economies is remarkable.

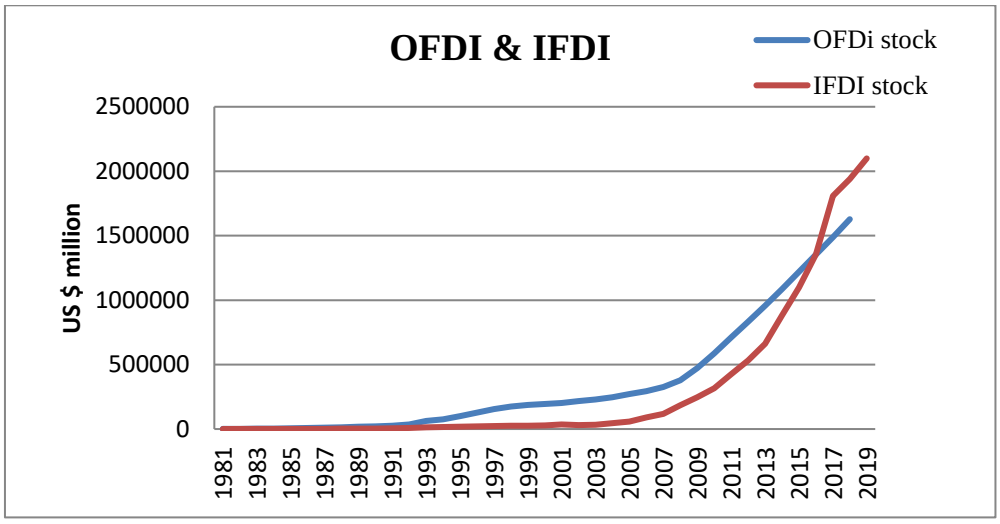
The graph no. 7.4 shows the evolution of Net Outward Investment Position (defined as the difference between outward FDI stock and Inward FDI stock) of the select economies for the period 1981 to 2019. The figures nos. 7.4 and 7.5 show that collectively these Asian economies are in the fourth stage of Investment Development Path (IDP). Although the OFDI stock and IFDI stock levels vary over the years, but the stock of inward FDI remained higher than the stock of outward FDI till 2014, as a result till that period, the NOIP was negative. Thus in 2014, these economies entered in the fourth stage of IDP, because outward FDI stock became higher than inward FDI stock in 2014.

It shows empirical results are in line with the expectations that at macro level Net Outward Investment Position (NOIP) of the select Asian economies are in line with the stages suggested by the IDP theory. The results of the study prove that by regressing Net outward investment position on per capita GDP, U-shaped model is obtained, which is in accordance with the hypothesis that NOIP and PGDP have quadratic relationship for the select Asian economies.



Source: Compiled by using data from UNCTAD (2020)

Graph No. 7.4: Net Outward Investment Position in the selected Asian economies (1981-2019)



Source: Compiled by using data from UNCTAD (2020)

Graph No. 7.5: Stock of Outward FDI and Inward FDI in select Asian Economies (1981-2019)

Thus by testing the IDP framework of Dunning on the Net Outward Investment Position (NOIP) of the select Asian economies, we found the evidences of relationship between the level of economic development and NOIP. There is significant rise in GDP and FDI outflows from Asian economies during the last two decades. The share of Asian economies in the world outward FDI which was just 16.5

percent in 2005, increased to 43.3 percent in 2019 and also touched the height of 54.3 percent in 2018. On the contrary, the developed European economies, which were contributing 73.6 percent share in world FDI, in 2018, contributed only 36.1 percent in world FDI flows. It shows that FDI in Asia is expanding and NOIP of Asian economies is also improving. If we talk about the share of select twelve Asian economies in world FDI outflows and Asian FDI outflows, then we found that these are 52.3 percent and 96.4 percent respectively As far as the share of these twelve economies in the world GDP and Asian GDP is concerned, these were 40.04 percent and 85.11 percent respectively in 2018. It proves the expansion of both the level of economic development and outward FDI position of the Asian economies that also give a rough idea of the relationship between level of economic development and NOIP.

7.6: Individual country-wise analysis of Investment Development Path

Table no. 7.7 gives the results of analysis of Investment Development Path on individual country basis. In the earlier section of the chapter, the IDP analysis is performed on aggregate basis (i.e. by using panel data of twelve select Asian economies) and not on the individual country basis. But for better analysis of the IDP paradigm, the study should be country-specific. Dunning & Narula (1996) have also mentioned that the relationship between Net Outward Investment Position (NOIP) and economic growth should not be statistically evaluated on aggregate basis (i.e. on the panel data of group of countries) because IDP theory speaks for a pattern which is country specific (differ from country to country) and idiosyncratic. For this reason country-by-country statistical evaluation will give more robust results.

As already stated in the earlier section of this study that to analyze the IDP model, when quadratic regression equation of NOIP on PGDP and $PGDP^2$ data is applied then the coefficient of PGDP should be negative and the coefficient of $PGDP^2$ should be positive. If it happens then it indicates that their plot will be ‘U-shaped’ or ‘J-shaped’ and will indicate that the NOIP of the country is following the IDP path.

Table No. 7.7: Linear Regression equations for NOI with GDP based on quadratic relationship on country-by-country basis

Independent Variable : Net Outward Investment							
Country	**Independent Variable**	**Coeff.**	**S.E.**	**t-Stat.**	**p-value**	**F-Stat. (p-value)**	**R-Square**
CHINA	**Intercept**	27589.08	17906.61	1.54	0.13	67.60	0.79
	PGDP	-173.350	15.66	-11.06	0.00***	(0.00)***	
	PGDP^2	0.021	0.001	11.59	0.00***		
HONGKONG	**Intercept**	-184	229150.4	-0.80	0.42	1.95	0.10
	PGDP	-2.213	19.742	-0.11	0.91	(0.15)	
	PGDP^2	0.002	0.0003	0.60	0.54		
Taiwan	**Intercept**	39418.61	8676.35	4.54	0.00***	539.51	0.96
	PGDP	-10.842	1.45	-7.44	0.00***	(0.00)***	
	PGDP^2	0.00081	0.00	14.95	0.00***		
India	**Intercept**	25272.34	34572.53	0.73	0.46	3.21	0.15
	PGDP	-101.319	95.61	-1.05	0.29	((0.00)**	
	PGDP^2	0.028	0.04	0.60	0.54		
Indonesia	**Intercept**	43817.74	32428.42	1.35	0.18	14.13	0.44
	PGDP	-77.042	42.92	-1.79	0.08*	(0.00)***	
	PGDP^2	0.009	0.00	0.97	0.33		
Japan	**Intercept**	-23445.6	312283	-0.07	0.94	10.36	0.37
	PGDP	-1.850	24.44	-0.07	0.94	((0.00)***	
	PGDP^2	0.004	0.000	0.96	0.34		
KOREA	**Intercept**	37490	12173.84	3.07	0.00***	0.76	0.76
	PGDP	-11.467	1.90	-6.01	0.00***	(0.00)***	
	PGDP^2	0.004	0.00	7.95	0.00***		
Malaysia	**Intercept**	3236.381	8047.50	0.40	0.69	5.15	0.22
	PGDP	-8.65	3.18	-2.71	0.00***	(0.00)***	
	PGDP^2	0.0007	0.002	2.97	0.00***		
Saudi Arabia	**Intercept**	65699.57	50961.29	1.28	0.20	11.48	0.39
	PGDP	-11.502	8.04	-1.43	0.16	(0.00)***	
	PGDP^2	0.001	0.00	0.73	0.46		
Singapore	**Intercept**	-49665.2	17806.09	-2.78	0.00***	272.97	0.93
	PGDP	5.330	1.36	3.89	0.00***	(0.00)***	
	PGDP^2	-0.0001	0.00	-8.91	0.00***		
Thailand	**Intercept**	28525.63	8590.22	3.32	0.00	155.62	0.89
	PGDP	-28.929	5.88	-4.91	0.00***	(0.000)***	
	PGDP^2	0.008	0.00	1.134	0.06*		
UAE	**Intercept**	15016.01	27119.08	0.55	0.58	10.72	0.37
	PGDP	-0.556	1.62	-0.34	0.73	(0.00)***	
	PGDP^2	-0.003	0.00	-0.04	0.96		

Note: (***), (**) & (*) significant at 1%, 5% and 10% respectively

Source: Author's calculations based on UNCTAD database and MS Excel software

The results of regression analysis in the above table no. 7.7 show that for all the countries (except Singapore and UAE) the coefficients of PGDP are negative and the coefficients of square of PGDP are positive. These result give the evidence of 'U-shaped relationship between PGDP and NOIP on country-by-country basis also. Thus

these results show that the growth of foreign direct investment in the select Asian economies is consistent with IDP framework.

7.7: Summary

Given the theoretical base of IDP model, which hypothesizes relationship between a country's level of economic development (measured by GDP per capita) and its international net outward investment position (measured by OFDI stock minus IFDI stock), an attempt has been made to analyze the IDP paradigm in the select Asian economies by taking the annual data for the time span of 1981-2019. For this purpose various statistical and econometric techniques like descriptive statistics, panel unit root test, quadratic regression equation (on panel data and time series data) are applied. The results of quadratic regression analysis on panel data of twelve select Asian economies provided that the pattern of growth of OFDI is following the IDP path suggested by Dunning and the plot of NOIP is 'U-shaped' or 'J-shaped'. The results of quadratic regression equation of NOIP on PGDP and $PGDP^2$ on country-by-country basis reveal that the growth pattern of NOIP in China, Hongkong, Taiwan, India, Indonesia, Japan, Korea, Malaysia, Saudi Arabia and Thailand is following Dunning's IDP pattern. Whereas for Singapore and UAE, their NOIP growth pattern is not in line with Dunning's 'U-shaped' IDP pattern.

In the literature one can find different studies that have evaluated the development of foreign investment in different countries with respect to Dunning's IDP paradigm (Gorynia, et al., 2010; Bellak, C., 2000; Buckley & Castro, 1998; Fonseca et al., 2007; Marton & McCarthy, 2007; Truffin, 2015). Marton & McCarthy (2007) applied the IDP framework on Chinese economy and also came with the conclusion that there is strong relationship between a China's level of economic development and its Net Outward FDI position. In his work on MINT (Mexico, Indonesia, Nigeria and Turkey) economies' IDP structure, Satoglu (2017) also found the evidences that the growth of these economies is in line with the IDP framework suggested by Dunning and these countries are in the last of second stage of IDP and are transforming to the third stage of IDP. Verma & Brennan (2011) also tested the IDP hypothesis on the growth of India's outward FDI in the recent years. They also

found the support that India's NOIP has followed the IDP framework to some extent but they also found the evidences that there are some aspects related to India's IDP, which may result in slight deviation from the stylized IDP model.

Gorynia et al. (2010) applied this paradigm on the development of Poland and found that Poland is at the end of second stage of Investment Development Path and it is behind the position that its GDP would justify. This slow progress of Poland in outward foreign investment is due to domestic factors like weak competitive strength of firms in the international market, pull of large internal market, government's reluctance to adopt more active, firm specific advantage stimulating policies towards OFDI

This Investment Path Theory of Dunning was widely accepted by researchers and academicians all over the world for a long time. But during the last few years some criticism was also raised against this theory. The most important drawback of IDP theory is that in this theory the level of economic development (measured by GDP per capita) alone was considered as the determinant of FDI outflows. But other factors also influence the level of outward FDI from a country (Liu et al., 2005; Verma & Brennan, 2011). Even in the present study on regressing NOIP on PGDP and $PGDP^2$, very low value of R^2 is obtained that also implies that Net Outward Investment Position of countries is not affected by Per Capita GDP alone, rather other factors (that are not included in IDP paradigm) also significantly affect the NOIP of countries. Thus, regressing the Net outward FDI on Per Capita Income alone is only a naive aspect of the process of economic development (Liu et al., 2005). There may be some genuine appeal in explaining the relationship between GDP per capita and FDI outflows, but it will fail to explain the process of internationalization of some countries and it is quite possible that many countries will not pass through the prescribed five stages of Dunning's IDP theory (Bellak, 2000; Verma & Brennan, 2011). Bellak (2000) does not treat IDP framework as a normative model. He stated that in many countries the growth of their NOIP is not in accordance with the stylized path suggested by Dunning, rather to a large extent it is Quirky in many countries. Therefore, A number of studies tried to modify the IDP theory by incorporating the

factors such as trade, institution, technology and other variables (Liu, et al., 2005; Wang, et al., 2012; Dunning, et al., 2001; Bellak,C., 2000).

As per the views of researchers there are many firm-level and country-level factors that affect the net outward position of the firms. In the firm level determinants several factors like Age of the firm (Pradhan, 2006; Gill A. & Singh, H., 2012), Export intensity of the firm (Saad et al., 2014; Gill & Singh, 2012), Firm Size (Pradhan, 2006), Research and Development intensity of the firm (Pradhan, 2006), Cost effectiveness (Gill & Singh, 2012) have been given place in literature.

Calvo, Leiderman & Reinhart (1996) are of the opinion that the decisions of the firms to invest abroad are influenced by many country-level factors that can be classified as "Push factors and Pull factors" of outward FDI. The "Push Factors" are the home country determinants which are present in the investing country itself that encourage firms to go for outward FDI, whereas "Pull factors" are the host country factors that attract foreign firms to invest there. In the literature many home country macro level factors are discussed by many researchers like level of GDP at home (Yamori, 1998; Saad et al., 2014; Bano & Tabbada, 2015), Exchange rate (Yamori, 1998; Das, 2013; Kolstad & Wiig, 2012), Trade openness (Yamori, 1998; Das, 2013), Level of exports (Kolstad & Wiig, 2012; Bano & Tabbada, 2015), Saving rate (Bano & Tabbada, 2015), level of Inward FDI (Saad et al., 2011; Bano & Tabbada, 2015). These home level factors influence the FDI decisions of the firms.

In this way, various researchers have suggested different factors along with per capita GDP that need to be incorporated as explanatory variables for explaining the outward FDI position of countries. The outward FDI position of a country or a group of countries thus depends upon multiple factors and not on Per capita GDP alone. This thing may have many policy implications. Besides, from the prospective of policy implications, instead of studying different stages of IDP, the factors contributing in the FDI outflows should be given more importance. This requires that

the basic IDP theory should be extended to account for multiple factors that contribute in a country's OFDI position. Accordingly in the present research work (chapter no.8) an attempt has been made to explore various home-side determinants of OFDI.

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CHAPTER: 8
DETERMINANTS OF OUTWARD FOREIGN DIRECT INVESTMENT IN SELECT ASIAN ECONOMIES

There exists voluminous literature that has explored various factors that determine the outward FDI behavior of firms from different countries. Different factors suggested by these studies can be broadly classified as 'Pull factors' and 'Push factors' (Calvo et al., 1996; Fernandez & Montiel, 1996). The pull factors are those factors that are there in the host countries (like availability of assets, technology, cheap labour etc.) that attract the firms to expand their production activities in the foreign countries. On the other hand, push factors are mainly the factors that are available within the firm itself or in the source country and encourage firms to make investment in foreign countries.

The present study aims to explore the home country variables (push factors) that induce the domestic firms to go for outward FDI. From the theoretical framework and empirical literature, one can find a large number of factors, present in the source country, that influence in driving investment or production units out of their home economies to other economies. Besides, these push factors can be either firm level or macro level. Some studies have given importance to firm-specific push factors that can determine the outward FDI decisions of the firm. In case of firm-specific push factors, various factors like age of the firm (Pradhan, 2006; Gill & Singh, 2012), Size of the firm (Pradhan, 2006), R&D intensity of the firm (Pradhan, 2006; Gill & Singh, 2012; Level of export intensity of the firm (Saad et al., 2011; Gill & Singh, 2012), Cost effectiveness (Pradhan, 2004; Gill & Singh, 2012), Skill intensity (Pradhan, 2004), Product differentiation and profit level of the firm play an important role in affecting the outward FDI decision of the firm. Considerably large body of literature exists that has examined the firm level determinants (ownership advantages) that influence the outward FDI flow by firms (Armutlulu & Porterfield, 2011; Gill & Singh, 2012; Pradhan, 2004 and 2006). But still there is a research gap in the literature regarding the home-country determinants that motivate firms to internationalize their operations. In this study, we have tried to fill this gap by examining various macro

level determinants that induce firms to invest abroad. We have tried to explore the macro level determinants of OFDI because macro level data is helpful in establishing long run econometric relationship among variables (Nandeesha, 2014). Going by the previous theories and research work, we can propose a model and test different hypothesis which are related to macro-level home country variables to explain Asian OFDI. These variables include GDP level at home, interest rate, level of technology, openness of the economy, domestic savings, and foreign exchange reserves. The data used shall cover the period from 1981 to 2019.

8.1: Variable Description

8.1.1: Dependent Variable

In our study the dependent variable is FDI outflows from the select Asian countries during the period 1981 to 2019.

8.1.2: Independent Variables

Level of Economic Development/GDP level at home:

As per the IDP literature, the level of development (measured by GDP) at home significantly and positively contributes in country's FDI outflows. High and rising GDP level of a country is accounted for by expanding manufacturing and service sector. Due to higher growth of GDP, capital intensity in production rises, pattern of demand changes in a way that differentiated goods are consumed and thus market grows. Through specialization, scale economies are also realized and higher output level is achieved (Kyrkilis and Pantelidis, 2003). In this process, firms also start developing their ownership advantages e.g. the sophisticated and improved pattern of domestic demand (especially in consumption of differentiated goods and services) improves the marketing expertise of firms. That may, in turn, provide competitive advantage to firms in setting up subsidiaries abroad, mainly in those countries where demand conditions require adaption of local products (Caves 1971; Lall 1980; Grubaugh, 1987). With the accumulation of ownership- specific advantages of firms, the capability of establishing production units abroad increases (Dunning, 1993). High level of GDP is an indicator of high wealth and productivity

and also saving and investment potentials of the country. Higher the GDP, faster will be the rate of economic growth and greater will be the services available for investment at home and at abroad. High GDP and rapid economic growth cause propensity to save and propensity to invest to increase and this also proves to be push factor for investing in foreign markets. Thus, higher GDP level at home can be hypothesized as a positive contributor to outward FDI (Anwar et al., 2008; Banga, R., 2007; Wong et al., 2010; Kamal et al., 2014; Bano and Tabbada, 2015).

Table No. 8.1: Description of Variables

Category	Variable	Explanation	Symbol	Database
Dependent Variable	Outward FDI flows	Log of outward FDI	LOFDI	World Investment Report, UNCTAD
Independent Variables	Level of Economic Development (proxy used is Gross Domestic Product at current prices	Log of GDP	LGDP	World Development Indicators published by World Bank
	Gross Domestic Savings at current prices	Log of GDS	LGDS	
	Level of Domestic Demand (proxy used is Per Capita Gross Domestic Product at current prices)	Log of GDP per capita	LGDPpc	
	Gross Capital Formation at current prices	Log of Gross Capital formation	LGCF	
	Inward Foreign Direct Investment at Current Prices	Log of Inward FDI	LIFDI	
	Openness (measured by export % of GDP plus imports % of GDP)	Log of Openness	LOPENNESS	
	Inflation rate (proxy used CPI)	Log of CPI	LCPI	
	Exchange rate	Log of exchange rate	LEXRATE	
	Foreign Exchange Reserves	Log of Foreign exchange Reserves	LRESERVES	

Market demand/GDP per Capita

As per Dunning's IDP theory, there is a significant association between the market demand at home and FDI outflows. This association between market demand (proxy used GDP per capita) and outward FD can be positive or negative. There are

empirical evidences that support both the hypothesis. Many empirical evidences have endorsed this view point (Barry et al., 2003; Bellak, 2001; Buckley & Castro, 1998; Dunning & Narula, 1996; Liu et al., 2005; Stoian, 2013; Kyrkilis & Pantelidis, 2003). Stoian (2013) conducted the study on the OFDI behavior of European countries and found positive and significant impact of GDP per capita on outward FDI. In their study for Chinese economy, Liu et al. (2005) also found that higher GNP per capita was the main factor behind higher levels of Chinese OFDI. Higher domestic demand provides ownership advantages to domestic firms and improves their ability of investing abroad. Due to these ownership advantages that arise from higher demand, there comes greater availability of capital, higher productivity, more R&D activities and specialized knowledge (Duran & Ubeda, 2005). On the other hand the other view point is that if market demand (that shows the buying capacity of the countrymen) is not sufficient, then the economies of scale can't be realized. In this situation, the firms may try to escape home market by investing abroad with the objective to optimize production and realize economies of scale. Hence there seems to be negative relationship between market demand and outward FDI. We also support the later view point of negative relationship.

Domestic Savings:

High saving rate at home is an important push factor for high investment both at home and in abroad (Bano & Tabbada, 2015). With high saving rate at home, the cost of borrowings falls and hence the opportunity cost of capital falls and firms can manage more funds for outward FDI (Bhasin & Jain, 2015; Kyrkilis & Pantelidis, 2003). The large and rapidly growing economies of Asia that have high levels of FDI outflows are also the economies with high saving rate. During the period of 1960s to 1980s, Japan was having a very high rate of domestic savings and at the same time it experienced a high rate of FDI outflows. Similarly, Singapore is having one of the highest domestic saving rate of the world (almost 50 percent) and it is also contributing a big share in world outward FDI. Current example for the positive relationship between domestic saving rate and outward FDI is of China that also has the combination of high savings and high levels of outward FDI.

Level of Inward Foreign Direct Investment

With higher levels of inward FDI in a country, the competiveness of domestic firms improves. Due to higher IFDI, there can be two types of contradictory impacts on domestic firms. Firstly, some domestic firms gain experience, improve their competitiveness and also gain knowledge about how to internationalize their operations. On the other hand, some domestic firms find it difficult to operate in such competitive environment in their country and try to escape from it by investing in other countries. But both types of impacts cause OFDI to increase.

There is vast literature which supports the version that IFDI promotes OFDI through economic growth. The Investment Path Theory (Dunning, 1998; Dunning and Narula, 1996) also found that inward FDI fosters the rate of economic growth and due to which domestic firms starts enjoying ownership advantages, which is a pre-requisite for expanding operations abroad.

There are examples of many countries which were previously the host countries of FDI, but now are the important source of FDI. Inward FDI is an important driver of outward FDI. It is due to this reason that IFDI along with it brings not only the foreign capital but also bring modern technology, management expertise and organizational skill. All these things help the domestic firms to prepare themselves as the overseas investors (Bano and Tabbada, 2015). In this way high level of inward foreign direct investment can be hypothesized as a push factor of OFDI (Saad et al., 2011; Chen et al., 2012; Tan et al., 2016; Stoian, 2013).

Trade Openness of the economy:

Liberalization of economic transactions of a country is supposed to influence outward FDI activities of firms in a positive manner. Free flow of capital between countries provides base for funding of foreign investments (Scaperlanda, 1992). Besides, if a country's economy is export-oriented then, firm can acquire more information about foreign markets, more knowledge about organization and management of foreign operations and it also helps firms in marketing of their products abroad. All these things may work as base for changing the mode of internationalization from exporting to outward investment (Kogut, 1983; Buckley et

al., 2007; Goh and Wong, 2014; Kyrkilis and Pantelidis, 2003). Openness to trade gives more exposure to firms about foreign markets. Exporting firms get scope to serve host markets by establishing production units there (due to cost advantage). Similarly, to combat imports competition, the firms may try to shift to the source country of import (Das, 2013). Higher exports may guarantee market and thus lower the risk associated with outward FDI (Das, 2013). Improvement in the degree of trade openness is expected to improve the level of FDI activity (Lall, 1996). If a country is having openness to trade (imports and exports) then the capacity of the country to respond to the opportunities coming from global economic integration will be more (OECD, 1998). The economies which are highly export oriented, the firm of those countries can get reliable and quick information about foreign markets and therefore can organize their overseas operations in a better way (Kogut, 1983). Thus higher the trade openness of an economy, higher will be the level of OFDI (Kyrkilis & Pantelidis, 2003; Banga, 2007; Buckley et al., 2007; Goh & Wong, 2014).

Foreign Exchange Reserves:

High levels of reserves of foreign exchange not only show its capability to finance imports but also its ability to invest in foreign countries. If a country has huge reserves of foreign currency, the government of that country will support the companies going abroad and will also provide financial loans to these companies (Bano & Tabbada, 2015)There are examples of many countries like China, Taiwan and Singapore, which have huge foreign exchange reserves and also high levels of FDI outflows. Therefore, positive relationship between foreign exchange reserves and OFDI can be hypothesized (Goh & Wong, 2014).

Inflation Rate:

High inflation rate at home is an indication of macro-economic instability and it is the result of poor economic policies at home like improper management of exchange rate, excess money supply (Calvo et al., 1996; Buckley et al., 2007; Kamal et al., 2014). A high level of inflation raises the cost of production and hence causes the shift of capital to abroad whereas the low inflation rate at home lowers the cost of production and hence is not an inducement to OFDI (Kayam S.S., 2009; Kamal et al.,

2014). The proxy used for inflation rate is Consumer Price Index (CPI). CPI at home indicates the inflationary pressure and it explains the impact of inflation on capital erosion and hence escapes from home market.

Exchange Rate

A strong relationship exists between a country's exchange rate and outward FDI (Yamori, 1998; Kolstad & Wiig, 2012; Das, 2013; Verma & Brennan, 2011). The firms from countries, whose currencies are strong, are in better position to arrange funds for outward investments than the firms from countries having weak currencies. With fall in value of domestic currency, exports are encouraged but imports and OFDI are discouraged (Kohlagen, 1977; Stevens, 1998). When currency of a country appreciates then the capital requirements for overseas investment in terms of domestic currency units are reduced and the firm investing abroad find it easier to raise capital than in case, when a country's currency depreciates. Moreover, when home country's currency appreciates, the competitiveness of export falls and the firm finds it better to substitute FDI for export. Kyrkilis & Pantelidis (2003) in their study relating to nine economies (five member economies and four non-member economies of European Union), found mix evidences of relationship between exchange rate fluctuations and FDI outflows. They found that for UK, Singapore, Brazil and Germany, exchange rate played a significant role in determining the FDI outflows, whereas for Netherlands and Korea, the role of exchange rate in influencing outward FDI was insignificant. With the appreciation of a country's currency, outward FDI becomes more profitable as the assets which are foreign-currency-dominated become cheaper and the transactional costs fall, this thing motivates firms to invest abroad. According to Buckley et al. (2007) "A rapid appreciation of exchange rate, from a undervalued position will increase OFDI in greater proportion". Thus positive correlation between exchange rate and FDI flows can be hypothesized.

Gross capital Formation

Significant amount of capital is required for establishing a production unit in a foreign country, especially when it is in highly capital intensive sector, in which there are extensive economies of scale (normally in most FDIs). It means abundance of

capital at home is the pre-requisite for establishing large production unit in a foreign country. With abundance of capital at at home, rate of interest falls and thus opportunity cost of capital also falls, that improves the profitability on foreign investment (Krykilis & Pantelidis, 2003; Banga, 2006; Bhasin & Jain, 2015).

8.2: Model Specification

The general form of our model is as follow:

OFDI = f (GDP, GDPpc, GDS, IFDI, OPENNESS, RESERVES, INFLATION, EXCHANGE RATE, GROSS CAPITAL FORMATION)

8.3: Methodology and data

The data related to some variables was not available for Taiwan and UAE. So, in our analysis of determinants of Outward FDI in select Asian countries, these two countries were excluded. Accordingly, for exploring the determinants of Outward FDI, ten Asian countries namely, China, Hongkong, India, Indonesia, Japan, Korea, Malaysia, Saudi Arabia, Singapore and Thailand are included. The study covers the time period of 1981 to 2019. The period of study is chosen mainly on the basis of availability of data. All the variables have been converted into natural logarithms. Along with the primary variables of interest, a dummy variable has also been added to encompass the effect of worldwide financial crisis of 2007, 2008 & 2009. The dummy takes the value of 0 for the time period preceding 2007 and succeeding 2009 and 1 for the periods of 2007, 2008 and 2009. The countries that have been selected in the sample accounts for more than 90 percent of the OFDI from the Asian region. For studying the determinants of OFDI the following regression model is applied:

$$LOFDI_{it} = \alpha_{it} + \beta_1 LGDP_{it} + \beta_2 LGDPpc_{it} + \beta_3 LGDS_{it} + \beta_4 LIFDI_{it} + \beta_5 LOPENNESS_{it} + \beta_6 LRESERVES_{it} + \beta_7 LINFLATION_{it} + \beta_8 LEXRATE_{it} + \beta_9 LGCF_{it} + \beta_{10} dummy_{it}$$

Table No. 8.2: The variable description and their expected signs

S. No.	Variable	Variable Description	Expected Sign
1.	LGDP	Log of Gross Domestic Product	Positive
2.	LGDPpc	Log of Per Capita GDP	Negative
3.	LGDS	Log of Gross Domestic Savings	Positive
4.	LIFDI	Log of Inward FDI (flow)	Positive
5.	LOPENNESS	Log of Openness	Positive
6.	LRESERVES	Log of Foreign Exchange Reserves	Positive
7.	LCPI	Log of inflation (CPI)	Positive
8.	LEXRATE	Log of Exchange Rate	Positive
9.	LGCF	Log of Gross Capital Formation	Positive

8.3.1: Correlation Analysis:

To test the hypothesized relationship, Correlation analysis and regression analyses are performed on the data. Karl Pearson's correlation coefficient technique was performed to study degree and direction of relationship between outward FDI and GDP, outward FDI and GDP Per capita, OFDI and Gross domestic savings, OFDI and Inward FDI, OFDI and Openness, OFDI and Foreign Exchange Reserves, OFDI and CPI, OFDI and Exchange rate, OFDI and Gross Capital Formation for the year 1981 to 2019. The results are presented in the following table no. 8.3.

Table No. 8.3: Country-wise Correlation Results

	OFDI & GDP	OFDI& GDPpc	OFDI & GDS	OFDI & IFDI	OFDI & Openness	OFDI & Reserves	OFDI & CPI	OFDI & Exrate	OFDI & GCF
China	0.974 (0.00)***	0.972 (0.00)***	0.966 (0.00)***	0.856 (0.00)***	0.248 (0.13)	0.908 (0.00)***	0.716 (0.00)***	0.126 (0.32)	0.96 (0.00)***
Hongkong	0.758 (0.00)***	0.823 (0.00)***	-0.743 (0.00)***	0.849 (0.00)***	0.177 (0.356)	0.829 (0.00)***	0.754 (0.00)***	0.217 (0.258)	0.810 (0.00)***
India	0.697 (0.00)***	0.709 (0.00)***	0.736 (0.00)***	0.834 (0.00)***	0.804 (0.00)***	0.797 (0.00)***	0.649 (0.00)***	0.573 (0.00)***	0.777 (0.00)***
Indonesia	0.410 (0.014)**	0.425 (0.01)**	0.355 (0.036)**	0.643 (0.00)***	0.161 (0.354)	0.388 (0.021)**	0.402 (0.016)**	0.362 (0.032)**	0.392 (0.019)**
Japan	0.572 (0.00)***	0.565 (0.00)***	-0.746 (0.00)***	0.461 (0.00)***	0.671 (0.00)***	0.879 (0.00)****	0.496 (0.00)***	-0.516 (0.00)***	0.341 (0.03)**
Korea	0.951 (0.00)***	0.944 (0.00)***	0.85 (0.00)***	0.75 (0.00)***	0.463 (0.00)***	0.956 (0.00)***	0.897 (0.00)***	0.522 (0.00)***	0.934 (0.00)***
Malaysia	0.837 (0.00)***	0.864 (0.00)***	-0.004 (0.97)	0.817 (0.00)***	0.089 (0.56)	0.906 (0.00)***	0.748 (0.00)***	0.308 (0.05)**	0.820 (0.00)***
Saudi Arabia	0.766 (0.00)***	0.663 (0.00)***	0.194 (0.234)	0.095 (0.561)	0.415 (0.00)***	0.667 (0.00)***	0.815 (0.00)***	0.199 (0.223)	0.746 (0.00)***
Singapore	0.913 (0.00)***	0.907 (0.00)***	0.767 (0.00)***	0.902 (0.00)***	-0.260 (0.109)	0.914 (0.00)***	0.894 (0.00)***	-0.752 (0.00)***	0.895 (0.00)***
Thailand	0.861 (0.00)***	0.857 (0.00)***	0.149 (0.371)	0.473 (0.002)***	0.505 (0.001)***	0.853 (0.00)***	0.713 (0.00)***	0.061 (0.71)	0.821 (0.00)***
All countries	0.726 (0.00)***	0.442 (0.00)***	.666 (0.00)***	0.616 (0.00)***	0.129 (0.005)**	0.729 (0.00)***	0.432 (0.00)***	-0.105 (0.038)**	0.673 (0.00)***

Notes: (***) significant at 1 percent (**) Significant at 5 percent & (*) Significant at 10 percent

The results of correlation analysis are generally in accordance with the hypothesized relationship with only a few exceptions. For all countries individually and as a group, the variables of GDP, GDP Per Capita, Foreign Exchange Reserves, CPI and Gross Capital Formation are showing significant relationship with outward FDI. The other variables are also having significant relationship with outward FDI for most of the countries. Gross Domestic Savings are showing insignificant relationship with outward FDI only for four countries Korea, Malaysia, Saudi Arabia and Thailand and for the other eight countries, there is significant relationship between OFDI and GDS. Inward FDI is having insignificant relationship with OFDI only in case of Saudi Arabia and for the other countries individually and as a group there is significant relationship between OFDI and GDS. Openness is having insignificant relationship with OFDI only for China, Hongkong, Indonesia, Malaysia and Singapore and for the rest of the countries this relationship is significant. As far as correlation between OFDI and Exchange rate is concerned, it is significant in case of all countries except for China, Hongkong, Malaysia, Saudi Arabia and Thailand. The correlation analysis clearly indicates that there is fairly strong or very strong relationship of OFDI with GDP, GDP Per Capita, Exchange rate, CPI, and GCF for each country individually and as a group.

8.3.2: Unit Root Test:

Before applying the regression analysis for finding the determinants of outward FDI, it was necessary to test the statioanrity of all the series of the panel data. If non-stationary data is used in the regression analysis, then there may arise the problem of spurious regression and the results obtained may be misleading. Different types of panel unit root tests are available like tests given by “Levin, Lin & Chu (2002), Im, Pesaran & Shin (2003) and Fisher type tests that uses Augmented-Dickey Fuller test and Phillips-Perron tests”. In the present study, we have applied four different types of panel unit root tests and the results are given in the table no. 8.4.

Table No. 8.4: Panel Unit Root Results:

Variables	Unit Root at	LLC	IPS	ADF	P.P.	Final Results
LOFDI	Level	-4.31637	-1.34919	32.4710	42.7742	
		(0.0000)***	(0.0886) *	(0.1157)	(0.0106)	I(1)
	First Difference	-11.0099	-14.8985	222.974	343.535	
		(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***	
LGDP	Level	2.19905	1.52585	22.4884	19.3337	
		(0.9861)	(0.9365)	(0.4311)	(0.6248)	I(1)
	First Difference	-15.1610	-10.9049	132.234	143.799	
		(0.0000)***	(0.0000)***	(0.0000)***	(0.000) ***	
LGDPpc	Level	-1.9283	1.83902	22.0953	17.1658	
		(0.9731)	(0.9670)	(0.4542)	(0.7545)	I(1)
	First Difference	-13.7657	-6.75593	95.1722	134.336	
		(0.000) ***	(0.000)***	(0.000) ***	(0.000) ***	
LIFDI	Level	-10.1091	-4.13713	96.7498	59.6851	I(0)
		(0.0000)***	(0.0000)***	(0.0000)***	(0.0001)***	
	First Difference	-----	-----	-----	-----	
LOPENNESS	Level	-59.4514	0.50747	18.2087	17.4418	
		(0.0000)***	(0.6941)	(0.6935)	(0.7385)	I(1)
	First Difference	-9.9337	-19.2861	288.101	296.432	
		(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***	
LCPI	Level	-50.4645	-13.0589	33.3818	48.9657	
		(0.0000)***	(0.0000)***	(0.0963)	(0.0019)***	I(1)
	First Difference	-46.6329	-18.3548	76.9661	108.862	
		(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***	
LEXRATE	Level	-8.07502	-22.7263	82.2523	121.054	
		(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***	I(0)
	First Difference	-----	-----	-----	-----	
LRESERVES	Level	-0.08338	1.10864	11.6515	10.9361	
		(0.4668)	(0.8662)	(0.9276)	(0.9479)	I(1)
	First Difference	-3.00925	-6.30447	89.1432	133.929	
		(0.0013)***	(0.0000)***	(0.0000)***	(0.0000)***	
LGCF	Level	-0.24400	1.02102	20.0243	35.6673	I(1)
		(0.4036)	(0.8464)	(0.5815)	(0.0330) **	
	First Difference	-7.38471	-8.71510	117.473	186.796	
		(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***	

Notes: (i) Panel data includes eleven countries. (ii) The values in parenthesis depicts p-values (iii) (***) shows "significant at 1 % level of significance" (iv) Null Hypothesis : Series are non-stationary (v) LLS indicates "Levin, Lin & Chu W-stat, IPS shows Im, Pesaran & Shin stat, ADF shows Augmented-Dickey Fuller stat and PP shows Phillips-Perron stat".

The results of panel unit root test in the above table no. 8.4 show that the null hypothesis of presence of unit root is not rejected for LOFDI, GDP, PDPpc, Openness, CPI, Reserves and GCF at their levels, but at the first difference, the null hypothesis is rejected. Whereas, for two series i.e. Exrate and IFDI we can reject the null hypothesis of presence of unit root at level. So, it shows that Exrate and IFDI are stationary at level but all other variables are stationary at their first difference.

8.3.3: Regression Analysis:

In this study a panel data of ten countries (one developed country Japan and nine developing countries) of Asia is used to estimate Fixed Effect model of outward FDI based on the selected macro-economic source country independent variables for the time period of 1981 to 2019. Before applying the regression model on the panel data, the data was tested for the absence of multicollinearity.

8.3.4: Test of Multicollinearity

While applying a regression model on a set of dependent and independent variables, it is always good to be sure that the data is free from the problem of multicollinearity. If there exists the problem of multicollinearity in the data, then the regression model results will not be regarded as good. Multicollinearity occurs when some explanatory variables overlap in such a way that it is not possible to distinguish their effect on the dependent variable. Actually regression analysis aim to measure the impact of each independent variable separately on the dependent variable.

Table No. 8.5: Correlation coefficients among all independent variables

	GDP	**GDPpc**	**GDS**	**IFDI**	**OPENNESS**	**CPI**	**EXRATE**	**RESERVES**	**GCF**
GDP	1.00								
GDPpc	0.193	1.000							
GDS	0.006	0.280	1.000						
IFDI	0.397	0.394	0.412	1.00					
OPENNESS	-0.52	0.533	0.367	0.392	1.000				
CPI	0.400	0.675	0.318	0.640	0.390	1.000			
EXRATE	0.325	-0.13	-0.24	-0.12	-0.453	-0.16	1.000		
RESERVES	0.771	0.531	0.261	0.761	0.0789	0.714	-0.041	1.000	
GCF	0.985	0.180	0.064	0.434	-0.492	0.415	0.318	0.766	1.00

Source: Author's own calculations based on eviews.

The coefficients in a regression model are interpreted in way that if one independent variable is changed by one unit (keeping all other independent variables

constant), then how much change in dependent variable will take place. But if there exists correlation among any two or more independent variables then it means changes in any one independent variable are associated with the changes in the other independent variables. In such a situation, the unique effect of each independent variable on the dependent variable cannot be correctly estimated because independent variables are changing in unionism. Thus this type of correlation (or multicollinearity) between regressors is a problem because regressors should be independent of each other. For a good regression model, this multicollinearity should be identified and removed. One way to identify this problem is by looking at correlation coefficients among all the independent variables. Literature suggests that if the absolute value of bivariate correlation coefficient between any two independent variables is very high (more than 0.80) then there exists the problem of multicollearity in the model. To fix this problem, one method is to remove any one of the highly correlated variables. The rule of the thumb is that the variable having higher p-value should be removed.

Table No. 8.6: Variance Inflation Factor Test results

Variable	Coefficient Variance	Un-centered VIF	Centered VIF
Constant	0.796611	1450.27	NA
LGDP	0.083621	390.31284	4.3624
LGDPpc	0.098265	318.3426	8.39426
LOPENNESS	0.074915	3.836523	2.611895
LCPI	0.05249	310.897	7.39921
LRESERVES	0.063924	245.8826	5.18793
LEXRATE	0.057234	135.1834	4.37289
LGDS	0.068075	290.1324	1.235216
LIFDI	0.004828	124.6087	4.313578

Source: Author's calculations based on eviews software

As per the above table no. 8.5, the correlation between all the independent variables (except between GDP and GCF) is less than 0.80. But the correlation between GDP and GCF is very high at the level of 0.9857. There exists the problem of multicollearity in the model. So, any one of these two variables is to be removed.

For this we calculated Fixed Effect regression model to know about the p-values of the coefficients of all the independent variables. The p-value associated with GCF is 0.8328 and the p-value associated with GDP is 0.0029. So, accordingly we removed GCF from our regression model and thereafter the Variance Inflation Factor (VIF) test was performed on the remaining variables to know whether the model is now free from the problem of multicolliearity or not. The results of VIF test are presented in the table no. 8.6. The results in the table no. 8.6 show that all the values of VIF (centered) are less than ten, therefore no severe multicollearity exits in the model. So we can proceed further.

8.3.5: Choice between Pooled OLS, Fixed Effect and Random Effect Models

The Polled OLS model should be applied only if different sample is selected for each year or month or period of the panel data. Whereas if the same sample of countries/states/cities are taken then, Fixed Effect or Random Effect models are to be used (Wooldridge, 2010; Scarpioni, Bruna. 2018). Accordingly, in our analysis we did not applied OLS model. The selection between Fixed Effect and Random Effect models is made on the basis of Hausman test. i.e. to identify the presence of Fixed or Random Effect in the model, we applied Hausman (1978) specification Test. In Hausman test the Chi-Square value of 132.6964 with probability value of 0.0000, shows that we can reject the null hypothesis of appropriation of Random Effect model and the alternative hypothesis of appropriation of Fixed Effect model is not rejected. Accordingly, in the present study the Fixed Effect model is applied. The results of both Fixed Effect and Random Effect regression models are presented in the following table no. 8.7.

The results of the performed Fixed Effect model performed indicates that out of the eight selected independent variables, the most significant factors that affect outward FDI are GDP, GDP per capita, GDS, Openness to trade, CPI and Exchange Rate. As hypothesized, the sign of impact of GDP on OFDI is positive and its coefficient is 2.3303, it means that if GDP at home increases by one percent (others independent variables remaining constant), then outward FDI increases by 2.33 Percent.

Table No. 8.7: Fixed Effect and Random Effect Regression Model results

Independent Variable	Fixed Effect Model		Random Effect Model	
	Coefficient	p-value	Coefficient	p-value
LGDP	2.3323	0.0000***	1.9085	0.000***
LGDPpc	-1.8886	0.0000***	0.3986	0.000***
LGDS	0.6195	0.0183**	-0.2928	0.155
LIFDI	0.0944	0.1755	0.2587	0.000***
LOPENNESS	1.8240	0.0000***	1.8184	0.000***
LCPI	2.5190	0.0000***	0.0156	0.927
LEXRATE	-1.7725	0.0003***	0.0240	0.395
LRESERVES	0.0789	0.5954	-0.3774	0.004***
Dummy	0.0342	0.7006	0.0488	0.579
C	-6.6552	0.0000***	-5.8696	0.000***
R-Square	0.8776		0.8276	
Adj. R-square	0.8708		0.8230	
F-Statistic	129.481	0.0000***	178.216	0.000***
D-W Stat	1.81511		0.9104	
Hausman Test	Chi-square value: 132.69643, P-value: 0.0000***			

Note: (***), (**) & (*) shows significant at 1 %, 5% and 10 % respectively.

Similarly, in our study we hypothesized negative impact of market demand (for which GDP per capita is used as proxy) on OFDI. The empirical test also came with the similar results. The coefficient of GDP per capita is -1.88867, showing that if GDP per capita increases by one percent, then OFDI falls by 1.88 percent. The coefficient of GDS is + 0.619535, which shows that if gross domestic savings increases by one percent, then OFDI also increases by 0.62 Percent. Similarly the coefficient of openness is 1.824013, which implies that other variables remaining constant, if in home country openness increases by one percent then OFDI increases by 1.82 percent. Similarly the coefficient of the independent variable inflation (for which CPI is used as proxy), is also positive, which means that with the increase in inflation rate at home, cost of production increases and it results in flight of capital from home. In our analysis, if inflation increases by one percent, OFDI increases by

2.51 percent. In the same manner, as in a country exchange rate appreciates, OFDI falls. Our analysis indicates that if exchange rate depreciates by one percent, then outward FDI falls by 1.77 percent. On the other hand two out of eight independent variables namely, Foreign Exchange Reserves and Inward FDI are having positive but insignificant impact on outward FDI. The results of the fixed effect model in the above table no. 8.7 also show that the estimated coefficient of the dummy that was added to analyze the impact of Worldwide Financial Crisis of 2007-2009 is positive but highly insignificant. It means, though this Worldwide Financial Crisis have a positive influence in determining the outward FDI from the select Asian economies, the effect is statistically insignificant. Thus although this financial crisis has affected the performance of companies all over the world, but its impact on the competitiveness of the firms of select Asian economies to invest in the real productive activities overseas is not significant. Moreover, the value of R-square in the model is 0.877620 that can be regarded as a good value for any regression model. This shows that about 88 percent variations in the outward FDI are explained by the these eight independent variables and only 12 percent variations in outward FDI are explained by the variables that are not included in the model. Besides, the F-value of the model is 129.4810 with probability value of 0.0000. That shows that the model is a fit.

8.3.6: Diagnostic Tests

The regression for Fixed Effect model also passes through the diagnostic tests against non-normality and serial correlation. The results of the diagnostic tests are presented

Table No. 8.8: Diagnostic Test results

Testing Against	Diagnostic Test applied	Statistics
Non-Normality	Jarque-Bera Test	4.38 (0.07219)**
Serial Correlation	Durbin-Watson Stat	1.815113
Heteroscedasticity	Breusch-Pagan LM Test	2.3845(0.3018)

Note: figures in parenthesis show p-values

in the table no. 8.8. The results in this table show that the model is free from the problem of non-normality, as the probability value of Jarque-Bera test is 0.07219, which is more than 0.05, that means the null hypothesis of normality is not rejected.

Similarly, the value of Durbin-Watson test is 1.815, which is near to 2, so the model is also free from the problem of serial correlation. To check heteroscedasticity in the model, we performed Breusch-Pagan LM test. The probability value of this test is 0.3018, which is more than 0.05 that means we fail to reject the null hypothesis of homoscedasticity in our model. In this way, the above model passes the diagnostic tests of normality, homoscedasticity and absence of serial correlation. So, the model is fit for the estimation.

8.4: Summary

This study was conducted with the objective to empirically analyze various macro level push factors of outward FDI in the select Asian economies. For this purpose the panel data of twelve Asian economies for the period of 39 (1981-2019) years was taken. The results of the study show that most of the evidences are in line with the theorized relationship between outward FDI and other macro level independent variables.

The results show that GDP level at home is a significant push factor that put a positive impact on FDI outflows. These results of the study are perfectly in line with the results of the studies conducted by many researchers (Dunning, 1988; Dunning & Narula, 1996; Anwar et al., 2008; Wang et al., 2012; Kamal et al., 2014; Bano and Tabbada, 2015). All these studies have also come with the empirical findings of positive and significant impact of GDP level at home on the outward FDI. In this way this results of the present study support the results of several studies that economic development is an engine of FDI flows (Dunning, 1988; Dunning & Narula, 1996).

Along with GDP level at home, other factors that positively and significantly influence outward FDI are Gross Domestic savings, Trade Openness and Inflation rate. There are examples of many Asian economies like Japan, Singapore, China that have high rates of domestic savings and also a high rate of FDI outflows. Results of present study confirm this positive relationship between savings and outward FDI. But results are not in line with the results of the study conducted by Bano & Tabbada (2015), who found the empirical evidence of negative relationship between domestic savings and outward FDI. The positive role of Inward FDI levels in determining

outward FDI is also envisaged by many studies (Dunning, 1988; Dunning & Narula, 1996). As higher levels of inward FDI also brings with itself modern technology, expertise and organizational skills that may help domestic firms in their preparations for making investments in other countries. But this effect is found to be insignificant. As regards trade openness, our results support many studies (Buckley et al., 2007; Goh & Wong, 2014; Kyrkilis & Pantelidis, 2003) that affirm the hypothesis that higher the level of trade openness, higher will be the exposure available to domestic firms about foreign markets, that reduces the risk associated with making outward investments and thus positively influence outward FDI. Therefore, one important conclusion drawn by this study is that openness of the economy in the form of high levels of exports and imports is an important precondition for the outward FDI. Along with that the positive and significant effect of inflation rate on FDI outflows as found in the present study was also endorsed by the empirical findings of the study conducted by Kayam, S. S. (2009), who also found the evidence in support of the hypothesis that if inflation rate in the domestic market is high, then firms will try to escape from the rising production costs by shifting their production base to foreign countries with lower rates of inflation.

Apart from the above factors that positively influence outward FDI decisions, there are some factors like per capita GDP and exchange rate that significantly but negatively affect outward FDI. The findings of the study of negative impact of exchange rate depreciation on outward FDI is consistent with the results of the studies of Kohlagen (1971); Stevens (1998) and Buckley et al. (2007). As domestic currency appreciates in comparison to foreign currency, domestic firm's competitiveness in the export market falls and the firms in such a situation try to protect their market share in foreign countries by making FDI. Our study also came with the result of negative impact of per capita GDP on outward FDI. This type of negative relationship between per capita GDP and outward FDI is also envisaged by many studies (Gao, 2008; Anwar, Hassi & Rabbi, 2008; Lee et al., 2010). As if the size of domestic market is sufficiently high, then the firms can realize scale economies by producing at home then there will be no inducement to make outward investments. On the other hand if

domestic demand is low then firms try to escape home market by shifting its production unit abroad.

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CHAPTER 9
SUMMARY AND CONCLUSION

During the last two decades, outward foreign direct investment has become an important strategy for the firms that want to operate globally or to internationalize their operations. Although export can also be an important way through which some degree of internationalization can be achieved. But firms generally prefer to internationalize by the way of making investments in foreign countries rather than by depending on exports only. By making direct investments in host economies (having cheaper sources of raw material and superior technology) firms can save additional transportation costs and can also save money by supplying back the finished products to sell in their domestic markets. Along with this, by producing the product in the country where it is to be sold, firms can have their fingers on the pulse of the host market trends. Moreover, by establishing manufacturing units abroad, companies that face saturations in their home markets can explore new markets in foreign countries. By shifting production units abroad, the production department and marketing department are brought together, that helps in producing proper products for the foreign market customers. OFDI makes it possible to have access over the foreign resources, markets, technology and managerial expertise of foreign countries. Besides, firms can enjoy greater economies of scale due to larger markets. Going by these motives, firms prefer outward FDI. But the other side of the story is that outward FDI can also be a negative factor for the growth of the firm and also for the home economy. When companies invest abroad, they actually shift their production capabilities towards foreign country and that adversely affect their domestic performance. Actually, when a company invests at different locations, the scarce funds are distributed in these locations, which imply that outward FDI substitutes foreign activities for domestic activities (Herzer, 2007). Thus the general perception on this subject is mixed and ambiguous. Thus the subject needs empirical investigation. Therefore in the study, an attempt is made to explore the trend in the growth of outward foreign direct investment in the select Asian economies and also to estimate how outward FDI can affect different efficiency

parameters of the home economy. The study highlights the changing role of Asian economies in the global FDI movement and international production system. It explores the growth of Asian economies as an important source of FDI and also explores various home-country level push factors that determine the growth of OFDI as well as the macro level effects of such FDI outflows.

9.1: Main Findings

- During the last two decades the world economy has witnessed an upsurge in global FDI flows with stock of FDI inflows increasing from US $ 341.5 billion in 1995 to US $ 36470.1 billion in 2019 and stock of FDI outflows increasing from US $ 3993.2 billion in 1995 to US $ 34571.1 billion in 2019, showing almost ten times increase in both the stock of FDI inflows and outflows during the last twenty four years.
- At the beginning of the present century i.e. in the year 2000, more than 92 percent of the world OFDI was contributed by the developed economies and the share of developing and transition economies was just 7.9 percent. But this situation has totally changed. The idea about the changed situation can be known from the fact that in the year 2018, share of developed economies in the world OFDI decreased to 55.1 percent and that of the developing and transition economies increased to 44.9 percent in the same year.
- In the developed economies, the outward FDI has increased at a lower rate than the rate of increase in inward FDI. This is clear from the ratio of OFDI to IFDI. In the year 1985, the ratio of OFDI to IFDI for developed economies was 1.4 and that declined to 1.0 in 2018 and to 1.1 in 2019. But for the developing economies, the same ratio has doubled from 0.26 in 1985 to 0.54 in 2019. It implies that for the developing economies the outward FDI has increased in a greater extent than inward FDI. Moreover, in each of the select Asian economy, the ratio of outward to inward FDI has improved.
- In Japan, since 1985 the OFDI has always remained more than IFDI. The ratio of OFDI to IFDI for Japan was 10.58 in 1985 that reached to 15.57 in 2019. This ratio also touched the height of 45.79 in the year 2015. The OFDI to IFDI ratio of 45.79 implies that OFDI was 45 times higher than IFDI.

- Like Japan, in Korea also the OFDI has always remained more than its IFDI. In the year 1985, the OFDI to IFDI ratio for Korea was 1.71 that increased to 3.36 in the year 2019.
- In China, no doubt the IFDI has remained more than OFDI during the entire period of study, but in terms of growth rates, OFDI is growing at a higher rate than IFDI. The ratio of OFDI to IFDI in China improved from 0.32 in 1985 to 0.82 in 2019.
- In case of India, the growth rates of OFDI and IFDI are found to be almost equal. But its OFDI has always remained less than its IFDI. Consequently the ratio of OFDI to IFDI has been less than one throughout the period of study.
- For Thailand and UAE, during the last two decades the growth rate of OFDI has exceeded the growth rate of IFDI. In 1985, the OFDI to IFDI ratio for Thailand was very low at 0.016 that became 1.69 in 2018 and 2.86 in 2019. In the same way for UAE the same ratio was just 0.05 in 1985 and in 2019 it became 1.15. This shows that these two Asian economies have now started paying more attention to FDI outflows than inflows.
- The CAGR of OFDI for the world as a whole during 2011-19 has become negative. The CAGR for the world OFDI was 21.7 percent during 1991-2000, but it declined during the last two decades. During 2001-10, the CAGR of OFDI in the world fell to 8.0 percent and during 2011-19, it became negative to -0.2 percent.
- For the developed economies the CAGR of OFDI, which was positive till 2000, became negative during 2001-10 and 2011-19. During 2001-10, the CAGR of OFDI for developed economies was -1 percent and during 2011-19, it declined further to -2.5 percent.
- The growth index of outward FDI in absolute terms (with base year of 2000) for developed economies decreased from 100 basis points in 2000 to 85.55 basis points in 2019 and in percentage terms the growth index of OFDI for developed economies declined from 100 percent points in 2000 to 75.78 percent points in 2019.

- For developing economies, the growth index of OFDI in absolute terms increased from 100 basis points in 2000 to 420.25 basis points in 2019 and in percentage term that increased from 100 percent points to 372.21 percent points during the same period.
- It has been found in the study that the Asian economies have emerged as an important contributor in the world FDI outflows. In the year 2005, contribution of Asian economies in the world FDI outflows was just 16.5 percent and that of European economies during the same year was 73.6 percent. But over the period of time the situation has not only changed rather reversed and the Asian economies are now contributing larger share in world OFDI than European economies. In the year 2018, out of the total world OFDI, share of Asian economies was 54.3 percent and that of European economies was 41.6 percent. In the year 2019, Asian economies contributed 43.3 percent and European economies contributed 36.1 percent share in world OFDI. Besides, in the year 2018, out of top 20 investing economies of the world, nine economies were from the Asian region (WIR, 2019).
- Asian region accounts for the major share in the developing economies OFDI. In the year 2018, share of all developing economies in the world OFDI was 41.9 percent, out of which the share of developing economies of Asia was 39.59 percent. It means more than 96 percent of the OFDI of developing economies was contributed by the developing economies of Asia. Whereas, during the same year, the share of developing economies of America in the world OFDI was just 0.6 percent and that of developing economies of Africa was 1.0 percent. It implies that developing economies of Asia are the largest contributors in terms of the contribution of developing economies in world OFDI and their share is continuously increasing.
- The share of developing economies of Asia in the world OFDI has always remained more than the share of developed economies of Asia. In the year 2018, the developed economies of Asia contributed 14.7 percent share in world OFDI and the developing economies of Asia contributed 39.6 percent share in world OFDI.

- In the Asian region, the economies of East Asia (which includes economies like China, Japan, Hongkong and Taiwan) are dominating the world FDI outflows. In the year 2019, out of the total share of developing economies of Asia, the economies of East Asia contributed 68 percent share. After that economies of South-East Asia, which includes economies like Indonesia, Malaysia, Thailand, Singapore etc. contributed 17.08 percent share in the developing Asian OFDI. Share of the economies of Western Asia (Saudi Arabia, UAE, Iraq etc.) was 10.83 percent and the economies of South Asia, which includes countries like India, Pakistan, Srilanka, Bhutan etc. contributed only 3.77 percent share in the developing Asian OFDI.
- The Index of Rank Dominance revealed that during the period of 2013 to 2019, six Asian economies are found to dominate the pattern of OFDI. The five OFDI dominating countries namely Japan, China, USA, Hongkong and Germany together control 40 percent share of the world OFDI during the period of 2013 to 2019. Besides, the top ten OFDI dominating countries dominate the international flow of capital in such a way that together they represent more than 68 percent of the world capital outflows.
- While evaluating the pattern of rank dominance, the study also found that out of the top five OFDI dominant economies of the world, three economies namely China, Japan and Hongkong are from the Asian region. Two Asian economies namely Japan and China are respectively at first and second positions in terms of the dominance pattern of OFDI.
- The decadal growth rate of OFDI in 2001-2010 was higher than that during the decade of 2011-19. Moreover, the growth rate of OFDI for developed economies was negative during the previous two decades with -1.0 percent and -2.5 percent levels respectively. But for developing countries, the growth rate was positive during the same decades with the levels of 22.0 percent and 0.5 percent respectively.
- The compound annual growth rate of OFDI during 2011-2019, for the developed economies of Asia was higher than that for the developing economies of Asia. Developed economies of Asia achieved the OFDI growth

rate of 9.2 percent whereas the developing economies of Asia achieved the growth rate of 0.2 percent during 2011-19.

- The growth index of OFDI in absolute terms (with base year of 2000) is found to be high for developing economies and very high for the transition economies. Whereas the growth index of OFDI for developed economies decreased from 100 basis points in 2000 to 85.55 basis points in 2019 and were lowest at 49.83 basis points in 2018. Similarly, the growth index of OFDI in proportionate terms (with base year of 2000) for developed economies has decreased from 100 percent points in the year 2000 to 75.78 percent points in the year 2019. The same index for developing economies improved from 100 percent points to 372.21 percent points and for transition economies improved from 100 percent points to 670.83 percent points during the same period.
- In the year 2018, 52.29 percent of the world OFDI was contributed by the select twelve Asian economies. It also implies that more than 96 percent of the Asian OFDI was contributed by these twelve Asian economies. Moreover during the same year, nine out of these twelve select Asian economies were in the list of 'Top 20 investing economies'.
- No causal relationship was found between outward foreign direct investment and domestic investment. Both are guided by different factors and neither of the two is going to substitute the other or compliment the other. The study also found that in the long run OFDI and domestic investment are more affected by their own past lags. The effect of past lags of DI on OFDI is almost negligible. Similarly, the effect of the past lags of OFDI on DI is also very small. Even the joint effects of past lags of OFDI on DI and the joint effect of past lags of DI on OFDI are also not found in the study.
- In China, Hongkong, India, Korea, Malaysia, Singapore, Thailand and UAE, the study did not find the evidence that outward foreign direct investment is at the expense of domestic investment. In this way, the 'No causal relationship' between OFDI and DI was found not only on aggregate basis but also on individual country basis for most of the select economies.

- For Japan and Saudi Arabia, the uni-directional causal relationship between OFDI and DI was found. In Japan, DI is causing OFDI and not otherwise. In Saudi Arabia, DI is causing OFDI and not otherwise.
- The correlation between OFDI and export is very high and significant with t-statistic of 21.07 and p-value of 0.0000, which show that correlation between OFDI and exports is highly significant.
- The correlation between OFDI and GDP growth rate is negative and insignificant with absolute value of t-statistic of 0.0405715 and p-value of 0.6852.
- The correlation between Exports and GDP is found to be positive with t-value of 1.936152 and p-value of 0.0535, which is significant at ten percent level of significance.
- While analyzing the relationship between OFDI, export and GDP, the study found that long run effects of export on OFDI is positive and significant, whereas the long run effect of GDP on OFDI is negative and insignificant.
- As far as the long run effect of OFDI and GDP on export is concerned, OFDI is negatively and insignificantly affecting export but GDP is positively and significantly affecting export.
- On evaluating long run effect of OFDI and export on GDP, study found the evidence of positive and significant effect of OFDI on GDP but negative and insignificant effect of export on GDP.
- The study found an interesting long run causal chain relationship between OFDI, export and GDP in which higher GDP leads to higher exports, higher exports lead to higher OFDI and higher OFDI leads to higher GDP. Thus the study obtained the following type of chain relationship between these three variables.

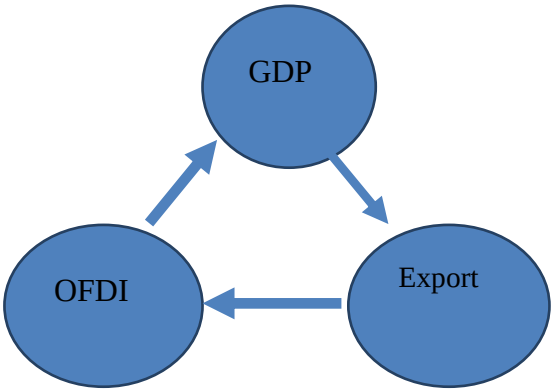

Figure No. 9.1: Long run relationship between OFDI, export and GDP

- While exploring the long run association between OFDI, GDP and Exports on individual country basis, it was found that the coefficients of Error Correction Terms for each of the select Asian economy were found to be negative and significant, showing that on individual country basis also there exists long run association between the three variables.
- For three Asian economies namely Japan, Korea and Taiwan the average net outward investment (NOI) for the period of 1981-2019 is found to be positive. The average NOI for Japan is US $ 396910.4 million, for Korea US $ 8146.5 million and for Taiwan, it is US $ 76301.9 million. It implies that the average OFDI stock in these three Asian economies is more than the average IFDI stock.
- For China, Hongkong, India, Indonesia, Malaysia, Saudi Arabia, Singapore, Thailand and UAE, the average NOI during 1981-2019 is found to be negative. It implies that the average OFDI stock in these nine Asian countries is less than the average IFDI stock.
- While applying the IDP framework on the panel data of twelve select Asian economies, the study found that the net outward investment pattern on aggregate basis is in line with the pattern suggested by Dunning in his IDP paradigm and is showing a 'U-shaped' relationship between NOIP and per capita GDP.
- On applying quadratic regression equation of NOIP on PGDP and $PGDP^2$, the study found that for China, Hongkong, Taiwan, India, Indonesia, Japan, Korea, Malaysia, Saudi Arabia and Thailand, their NOIP is following the IDP framework as the plot of their NOI is found to be 'U-shaped'.

- For Singapore and UAE, the plot of regression equation of NOIP on PGDP and $PGDP^2$ was not found to be of 'U-shape'. It implies that in these two countries, the growth of NOIP is not following the hypothesized IDP framework of Dunning.
- On exploring various home country level push factors that determine the level of outward foreign direct investment from the select Asian economies, the study found the empirical evidences of significant effect of GDP level at home, Per Capita GDP, gross domestic savings, level of trade openness, inflation rate and exchange rate on the FDI outflows. Out of these six factors effect of GDP, GDS, trade openness and inflation rate on GDP is positive, whereas GDP per capita and exchange rate depreciation are negatively affecting OFDI. The effect of dummy that was added to estimate the effect of worldwide financial crisis of 2007 to 2009 is found to be insignificant on OFDI.

9.2: Conclusion and Policy Implications

In the recent times, outward foreign direct investment has become an effective strategy for the firms and economies that want to grow globally. During the initial periods of globalization, only the developed economies were going for this kind of internationalization. During the decades of 1970s and 1980s, developed economies were rapidly growing. But the growth rate of their domestic demand was less than the growth rate of production. This type of situation could lead to recessionary trends in the home economies. To tackle this situation, they started to export their excess production to other countries, because by selling their excess production to other countries, they can keep the effective demand at sufficiently high level. Their increasingly export-orientation helped them to obtain information about the host countries and they came to know about the cheaper sources of raw-materials in other countries. At the same time, competition from other developed countries in the export market was increasing. So, in order to retain their share in the host markets, they were to improve their competitive strength by lowering their production costs. Keeping this motive in their mind, these countries opted for vertical type of outward FDI in other countries, which are having cheaper sources of raw materials. So, all these developments led to transformation of international production pattern. Firms instead of producing and exporting from home economies, found it more effective if they

produce the product at some other location, where the production costs are lowest possible. This thing caused rapid expansion of outward foreign direct investment from developed economies (mainly European economies) and also rapid expansion of inward FDI to developing economies.

But during the last two decades, the situation has changed significantly. In the beginning of the present century, the developing economies (especially the developing economies of Asia) have entered the similar stage at which, the developed economies were there during the decades of 1970s and 1980s. During the last two decades, the developing economies of Asia have grown by leaps and bounds. The economies of Asia have shown miracles on economic fronts and many Asian economies like China, Taiwan, Japan, Hongkong, Singapore and India have become powerhouses of the global economy. Various policy measured adopted by the governments of these Asian economies have improved the competitive strength of their domestic companies and these companies are going beyond their domestic markets. These economies have now adopted OFDI as a strategy for their economic development; as such strategy will help them to have better resource allocation and also to diversify the risks caused by economic shocks in any one region. But since OFDI is a composite package, researchers and academicians are having some fears and hopes about the potential effects of these cross-border activities on the efficiency parameters of home economies. But the study did not found evidence of any adverse effect of OFDI on home economies. The fears of negative effect of FDI outflows on home economy were found to be ambiguous. Rather, it was found that these outward FDI activities of MNCs can have positive spillover effects on domestic economy.

The study found that such type of capital movements have offered new avenues for Asian economies to connect to the global markets and international production system. If such global investment activities are successfully managed then, it will help domestic firms to acquire access to the foreign capital, markets, natural resources, advanced technology and also other intangible assets that are required to enhance their competitiveness but are not readily available in their own countries. However, some risks and costs are also associated with outward foreign direct

investments. So there is a need to frame appropriate policies so that opportunities arising from OFDI could be seized and the risks associated can be mitigated.

From the view point of host economies, the growth of TNCs from Asian economies will increase the potential sources of finance, technology and managerial skills for them. This thing is especially important for the low-income host economies. Therefore it becomes important how such international investment movements can boost mutual development gains. No doubt, with the growth of FDI from developing economies of Asia, the MNCs of developed economies of Europe and USA will face more competition for various resources and assets but on the other hand, they can also find new avenues for economic collaborations. In this way the growth of new sources of FDI have vast implications for the world economic relations. This dynamic international activity has opened new investment corridors that will have positive prospects for advancing development. To get maximum gains from such international investment movements, the governments and policy makers are required to gear themselves into action, and for that, they should have insight knowledge and analysis of such outflows, so that associated risks and costs can be avoided and opportunities can be seized. Broadly, Government can provide two types of policies to promote outward FDI:

(a) General Policies or competiveness policies

(b) Policies specific to OFDI.

(a) General Policies or competiveness policies

General policies means the policies that provide large number of measures that enhance the competitive strength of domestic firms, which in addition to promoting economic development also enhance ability of local firms for outward FDI. These policies aim at enhancing the industrial and international competitiveness of domestic firms. For improving the international competitiveness of domestic firms, governments should develop a favorable business environment in which the factor markets and product markets are properly functioning. Besides, government should

provide stable social, political and economic conditions, sound regulatory conditions (like tax, IPRs and other regulatory services) and good infrastructure.

(b) Policies specific to OFDI.

Policies specific to outward FDI include the measures that are specially designed for promoting outward FDI and also to maximize gains associated with outward FDI. At the early stages of development, there may be little attention on specific policies but as country develops and its competitive strength improves, need for specific policies on outward FDI also grows. The following policies can be framed by the governments for specifically facilitating outward FDI:

- The governments should provide information regarding actual and potential investment opportunities to the interested investors through face-to-face contacts, publications, seminars and database that can help in promotion of OFDI. This type of information will be of great help for small and inexperienced potential investors.
- The governments should provide training services to outward investors (actual and potential). Along with training services, different types of technical services like consultancy services, feasibility studies, legal assistance and organization of 'investment missions' should also be provided.
- The provision of 'match-making' services provided by many economies like Korea, Singapore, Malaysia, Thailand and Mexico for promoting OFDI can also be a significant step in this direction. Through such services government should invite investors (actual and potential) to follow the official mission of the country to make investments to some targeted countries to explore investment opportunities and meet the high level officials of the targeted host countries. e.g. the government of Thailand has set up 'Thai Board of Investment' and this board has established country-desks that deal with various countries like USA, China, Japan etc. and these desks help the interested Thai investors to find partners in these host countries.
- Excessive controls and non-transparent regulatory procedures like lengthy approval procedure, foreign exchange controls, red-tapism and stringent

legalities may adversely affect international competitiveness of domestic firms and prove to be hindrance in the way of internationalization of firms through outward FDI. So, steps should be taken by the governments to reduce regulatory burden and stringent controls.

- The governments should also establish 'comfort zones' in different host countries that can help the investors to invest in these countries. These types of comfort zones will offer a one-step point of access to investors to all the legalities in the host countries. Such comfort zones will also promote bi-lateral investment flows.
- Different types of incentives should be provided to investors to reduce the costs of their outward investment projects. These incentives may be of various types like investment credit, equity finance, tax-incentives and preferential loans. These incentives can also influence the domestic firm's decisions of location of the host economies.
- Provision of different types of investment insurance schemes can also boost outward FDI. Insurances can be provided against political risks in host economy, war and civil disturbance, breach of contract and it may also include coverage of currency transfer restrictions.
- The policies precisely dealing with outward foreign direct investment are required to be thoroughly coordinated with other internationalization-promoting policies and also with other policies that aim at enhancing growth and upgradation of domestic industries. As Dunning (2005) has also maintained that "FDI policies are only as effective as are the general macroeconomic and microeconomic policies of which they are part".

From the view point of policy recommendations, it can be suggested that the investing countries should not be suspicious about the effects of outward foreign direct investments on domestic economic activities. Rising levels of FDI outflows are not at the cost of domestic economic activities. So, outward FDI should be encouraged. The governments of Asian economies should frame such policies relating to international investments that promote market-seeking, resource-seeking, strategic-

asset seeking and efficiency-seeking outward foreign direct investment from their economies.

The famous saying that ‘No size fits all’ is applicable on outward FDI also. It means governments and policy makers aiming at promotion of outward FDI, in addition to learning from the experiences of other countries, also require to tailor their own OFDI policies and approaches in accordance with their own prevailing conditions that must be a reflection of their level of development, geopolitical conditions, overall development strategy, capabilities of business sector as well as their comparative advantages.

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Appendix 1: Criterion for selection of Asian Countries (Figures as on 2018)

Country	OFDI in US $ bn.	Rank	IFDI in US $ bn.	Rank	Exports % of GDP	Rank	Imports % of GDP	Rank	EDB Ranking in world	Rank	GDP growth rate in %	Rank	GDPpc growth rate in %	Rank	GDS % of GDP	Rank	GCF % of GDP	Rank	Avg. of Ranks
Afghanistan	0.04	25	0.1	34	25.3	29	29.4	29	167	4	1.19	35	-1.2	35	5.3	37	7.3	40	29.78
Armenia	0.01	28	0.3	31	39.4	19	53.1	14	126	12	5.20	15	5.0	7	8.7	35	22.4	29	21.11
Azerbaijan	1.76	16	1.4	23	54.1	14	37.6	22	143	6	1.50	31	0.6	27	35.4	13	20.1	33	20.56
Bahrain	1.52	17	0.1	35	79.6	4	71.8	5	62	27	1.78	29	-3.1	39	44.1	6	36.4	9	19.00
Bangladesh	0.02	27	2.4	18	14.8	38	23.4	35	176	1	7.86	2	6.7	1	22.8	25	31.2	13	17.78
Bhutan	0.01	29	0.0	37	30.8	24	55.9	12	81	21	3.06	24	1.8	24	22.5	26	47.6	3	22.22
Brunei Darussalam	0.01	31	0.5	30	51.9	15	42.0	19	55	30	0.05	37	-1.0	34	56.3	2	41.1	5	22.56
China	143.03	2	235.4	1	19.1	36	18.3	38	46	32	6.75	7	6.3	2	44.9	5	43.8	4	14.11
Cyprus	-3.28	39	5.2	14	75.2	5	73.7	4	75	24	5.24	14	2.8	20	20.1	30	18.5	35	20.56
Georgia	0.29	20	1.2	26	50.6	16	61.2	10	98	17	4.87	17	4.9	9	17.5	31	28.1	17	18.11
Hong Kong	85.01	3	97.0	2	188.4	1	188.6	1	4	38	2.85	26	2.0	23	21.8	28	22.0	30	16.89
India	11.42	8	42.1	4	19.9	35	23.6	34	77	23	6.12	11	5.0	6	29.6	20	31.7	12	17.00
Indonesia	8.25	32	0.6	29	70.1	6	83.7	3	139	8	8.13	1	4.1	13	38.2	9	51.8	2	11.44
Iran,	0.07	23	2.4	19	33.2	22	31.8	25	128	11	-6.03	40	-7.3	40	39.2	8	35.1	10	22.00
Iraq	0.19	21	-4.9	40	44.0	17	35.9	23	171	2	-0.56	38	-2.8	38	20.9	29	12.9	39	27.44
Israel	6.09	10	21.5	6	29.8	27	29.1	31	49	31	3.45	21	1.5	25	22.4	27	21.7	31	23.22
Japan	158.36	1	24.6	5	18.5	37	18.3	39	2	40	0.32	36	0.5	29	24.6	22	24.3	24	25.89
Jordan	-0.01	36	1.0	27	35.2	21	53.4	13	13	35	1.93	28	0.1	30	0.7	39	18.9	34	29.22
Kazakhstan	-4.64	40	0.2	33	37.6	20	25.9	33	57	29	4.10	20	2.7	21	39.6	7	25.3	20	24.78

KOREA	3.85	12	9.9	11	30.2	26	41.9	20	124	13	6.34	9	4.9	10	15.4	34	27.2	18	17.00
Kuwait	2.97	15	0.0	38	56.7	12	43.8	18	97	18	1.25	32	-0.7	32	38.2	10	25.2	21	21.78
Lao PDR	0.01	32	1.3	24	20.2	34	29.3	30	154	5	6.25	10	4.6	12	4.3	38	15.2	37	24.67
Lebanon	0.61	19	2.7	17	20.7	33	47.4	15	142	7	-1.93	39	-2.5	37	-5.9	40	20.8	32	26.56
Maldives	6.40	9	18.9	7	21.0	32	22.0	36	73	26	5.17	16	4.0	14	34.0	16	34.6	11	18.56
Malaysia	5.72	11	8.6	12	68.6	7	61.9	9	15	34	4.77	18	3.4	18	30.6	17	23.9	26	16.89
Mongolia	15.08	7	10.4	10	93.0	3	66.7	6	11	36	1.19	34	-0.3	31	49.9	4	23.5	27	17.56
Myanmar	19.25	6	4.2	15	40.0	18	26.6	32	92	19	2.43	27	0.6	28	37.5	12	24.1	25	20.22
Nepal	0.01	32	0.1	36	8.9	40	46.2	16	110	15	6.70	8	5.0	8	16.6	32	53.9	1	20.89
Oman	0.72	18	5.9	13	58.1	11	44.2	17	78	22	1.76	30	-1.7	36	38.1	11	24.4	23	20.11
Pakistan	-0.02	37	1.7	21	9.0	39	20.1	37	136	10	5.84	12	3.7	16	6.2	36	17.3	36	27.11
Qatar	3.52	14	-2.2	39	55.9	13	35.9	24	83	20	1.23	33	-0.8	33	60.7	1	40.7	6	20.33
Singapore	37.14	4	91.0	3	177.7	2	149.3	2	3	39	3.44	22	3.0	19	55.2	3	25.5	19	12.56
Sri Lanka	0.07	24	1.6	22	22.9	31	30.3	27	5	37	3.31	23	2.2	22	23.0	24	30.4	15	25.00
Saudi Arabia	21.20	32	1.3	25	30.4	25	30.3	28	171	2	6.75	6	6.1	3	29.6	19	30.6	14	17.11
Taiwan	18.20	22	3.2	16	61.6	9	63.3	8	138	9	7.47	3	5.9	4	24.4	23	23.4	28	13.56
Thailand	17.72	5	13.2	8	64.9	8	56.0	11	27	33	4.15	19	3.8	15	34.9	14	25.2	22	15.00
Tajikistan	-0.03	38	0.2	32	24.3	30	15.3	40	115	14	7.30	4	4.7	11	15.7	33	14.6	38	26.67
Turkey	3.65	13	13.0	9	31.2	23	31.3	26	59	28	2.96	25	1.4	26	29.1	21	29.3	16	20.78
UAE	0.03	26	2.0	20	58.5	10	64.0	7	74	25	7.25	5	5.3	5	34.0	15	39.6	7	13.33
Uzbekistan	0.01	30	0.6	28	28.0	28	38.6	21	102	16	5.45	13	3.63	17	30.0	18	37.6	8	19.89

Source: Author's compilation from World Bank database

Appendix 2: Final Ranks of Asian countries

Country	Ranks (Highest to Lowest)	Ranks (Lowest to Highest)
Afghanistan	1	40
Armenia	16	25
Azerbaijan	19	21
Bahrain	25	16
Bangladesh	28	13
Bhutan	13	28
Brunei Darussalam	12	29
China	36	**5**
Cyprus	19	21
Georgia	27	14
Hong Kong SAR, China	**33**	**7**
India	**31**	**9**
Indonesia	**40**	**1**
Iran, Islamic Rep.	14	27
Iraq	3	38
Israel	11	30
Japan	7	**34**
Jordan	2	39
Kazakhstan	9	32
KOREA	31	**9**
Kuwait	15	26
Lao PDR	10	31
Lebanon	6	35
Maldives	26	15
Malaysia	33	**7**
Mongolia	29	12
Myanmar	22	**19**
Nepal	17	24
Oman	23	18
Pakistan	4	37
Qatar	21	20
Singapore	39	**2**

Sri Lanka	8	33
Saudi Arabia	30	**11**
Taiwan	37	**4**
Thailand	35	**6**
Tajikistan	5	36
Turkey	18	23
UAE	38	**3**
Uzbekistan	24	17

Source: Based on appendix 1

Appendix 3: Key Economic Indicators of Select Asian Economies (2019)

Country	Total land Area Km^2	Total population Million	GDP (current Prices) US $ Billion	GDP per Capita (current Prices) US $	GDP Growth (annual %)	GDP per capita growth (Annual %)	Exports US $ Billion	Imports US $ Billion	FDI Inflows US $ Billion	FDI Outflows US $ Billion
China	93,88,210	1397.72	14342.9	4461.9	6.11	5.73	26,41.2	2476.8	1,55.8	117.1
Hongkong	1106	7.24	368.7	48718.41	-1.24	-1.99	649.0	642.7.1	53.1	59. 2
India	29,73,190	1366.42	3059.9	2097.7	5.02	3.96	5,36.5	614.3	50.0	12.1
Indonesia	18,11,570	270.63	1134.8	12301.75	5.02	3.88	2,06.0	211.8	24.2	3. 3
Japan	377915	125.28	5092.6	40255.9	0.65	0.86	902. 9	897.2	37.1	226. 6
Korea, Republic	97,489	51.71	16,64.0	31762	2.03	1.83	6,54.0	605.6	10.5	35.5
Malaysia	3,28,550	31.95	3,66.8	11193.0	4.33	2.95	2,38.9	210.6	8.5	6.3
Saudi Arabia	2217949	35.46	768.4	23139.79	0.33	-1.33	285.7	207.2	4.5	13.1
Singapore	709	5.70	3,61.7	101375.8	0.73	-0.41	6,45.9	5,41.8	1,0.5	33.2
Taiwan	36193	23.54	612.4	25763	2.71	2.51	382.7	330.1	315.2	11.8
Thailand	5,10,890	69.63	5,43.6	19228.29	2.37	2.08	3,24.8	274.8	6.3	11.8
UAE	83600	10.75	410.6	43103.3	1.67	0.22	389.3	315.2	13.7	124.8

(Source: World Bank, www.dataworldbank.org, National Accounts Section, United Nations Statistics Division

Appendix 4: Outward Foreign Direct Investment Per capita in select Asian economies (1980-2019)

Region/Country	OFDI Per Capita in US $									
	1980	**1985**	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2018**	**2019**
China	..	0.5	0.7	1.6	0.7	9.2	50.2	103.5	100.1	81.6
HongKong	16.8	181.7	427.3	4108.9	8186	3989	1238	9994	11150	7971
Taiwan	2.34	4.09	256.02	139.67	305.0	265.4	499.1	624.3	761.09	498.9
India	2.3	4.1	256.0	139.6	305.1	265.4	499.1	624.3	761.1	498.9
Indonesia	0.005	0.003	0.006	0.12	0.48	2.6	12.9	5.8	8.4	8.8
Japan	0.04	0.2	-0.06	6.6	..	13.5	11.0	22.9	30.0	12.4
Korea	20.2	52.8	407.8	179.0	247.4	356.7	437.7	1064.5	1125.4	1786.
Malaysia	1.1	14.9	26.4	85.4	102.2	171.0	569.6	466.0	746.9	693.6
Saudi Arab	14.5	13.4	7.1	121.4	87.3	119.7	475.0	348.3	162.2	197.3
Singapore	21.8	3.3	-39.3	6.4	75.0	-14.7	142.4	169.9	682.0	384.7
Thailand	40.4	87.8	675.0	2065.5	1699.	2942.	6900.	8086.8	5169.	5734.
UAE	0.06	0.02	2.7	14.9	-0.3	4.7	118.1	24.5	265.6	170.1
Developing Economies	-1.9	8.1	-31.5	25.8	135.1	817.3	235.6	1801.9	1565.7	1627.
Developed Economies	1.7	1.2	3.6	13.2	22.4	23.3	69.1	71.6	71.5	63.6
Developing Asia	63.3	72.1	262.1	320.9	1103.	705.3	962.2	1215.4	503.4	861.7
Developed Asia	1.1	1.2	3.9	14.8	25.6	24.5	75.4	91.1	96.8	77.2
Total Asia	19.6	51.9	395.7	176.2	261.4	361.3	472.4	1082.7	1101.0	1737.
World	3.1	3.7	21.1	21.4	35.0	36.5	90.1	122.0	126.0	126.2

Source: Author's compilation from UNCTAD database

Appendix 5: Outward Foreign Direct Investment (Percentage of GDP) in select Asian economies (1980-2019)

Region/Country	OFDI Percentage of GDP									
	1980	**1985**	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2018**	**2019**
China	..	0.20	0.21	0.27	0.07	0.53	1.13	1.32	1.05	0.82
HongKong	0.28	2.69	3.18	17.28	31.50	14.87	37.72	23.21	22.66	16.07
Taiwan	0.09	0.12	3.14	1.06	2.02	1.61	2.60	2.75	2.96	1.93
India	0.002	0.001	0.001	0.032	0.11	0.36	0.95	0.35	0.41	0.39
Indonesia	0.007	0.032	-0.008	0.55	..	1.00	0.35	0.68	0.77	0.29
Japan	0.21	0.46	1.62	0.41	0.64	0.96	0.98	3.10	2.87	4.45
Korea	0.06	0.59	0.39	0.67	0.84	0.89	2.46	1.61	2.22	2.13
Malaysia	0.82	0.67	0.29	2.80	2.16	2.14	5.25	3.49	1.42	1.71
Saudi Arab	0.12	0.04	-0.54	0.08	0.81	-0.10	0.73	0.82	2.93	1.71
Singapore	0.80	1.28	5.22	8.28	7.14	9.85	14.97	14.76	8.24	9.20
Thailand	0.008	0.002	0.17	0.52	-0.01	0.16	2.32	0.42	3.65	2.18
UAE	-0.004	0.027	-0.11	0.09	0.40	2.05	0.69	4.66	3.64	3.87
Developing Economies	0.14	0.15	0.35	0.95	1.47	1.02	1.67	1.40	1.25	1.07
Developed Economies	0.60	0.60	1.28	1.24	4.14	1.99	2.34	2.92	1.08	1.83
Developing Asia	0.15	0.23	0.50	1.28	1.92	1.23	2.00	1.73	1.56	1.21
Developed Asia	0.21	0.45	1.60	0.41	0.69	0.99	1.08	3.13	2.79	4.29
Total Asia	0.187	0.35	1.15	0.75	1.24	1.13	1.75	1.98	1.76	1.71
World	0.51	0.51	1.12	1.17	3.60	1.77	2.13	2.30	1.16	1.51

Source: Author's compilation from UNCTAD database

Appendix 6: Outward Foreign Direct Investment (Percentage of GCF) in select Asian economies (1980-2019)

Region/ Country	OFDI Percentage of GCF									
	1980	1985	1990	1995	2000	2005	2010	2015	2018	2019
China	..	0.64	0.85	0.82	0.22	1.32	2.50	3.00	2.48	..
HongKong	0.88	12.83	12.13	57.20	118.8	69.50	173.2	103.63	105.34	..
Taiwan	0.32	0.59	12.69	3.90	7.69	6.63	10.99	12.81	13.65	..
India	0.01	0.005	0.006	0.12	0.40	1.06	2.69	1.16	1.35	..
Indonesia	0.03	0.16	-0.03	2.22	..	4.40	1.13	2.10	2.39	..
Japan	0.64	1.55	4.74	1.40	2.35	3.91	4.62	13.04	11.90	..
Korea	0.19	1.98	1.04	1.79	2.64	2.92	8.16	5.57	7.31	..
Malaysia	2.63	2.25	0.88	6.42	8.54	9.60	23.41	13.52	5.89	..
Saudi Arab	0.62	0.18	-2.87	0.43	4.71	-0.55	3.02	2.76	13.73	..
Singapore	2.04	3.13	16.48	24.99	22.30	42.69	57.32	53.64	33.68	..
Thailand	0.03	0.009	0.43	1.26	-0.07	0.59	9.70	1.71	15.98	..
UAE	-0.012	0.09	-0.514	0.38	1.99	11.27	2.81	19.90	18.74	..
Developing Economies	0.44	0.61	1.44	3.60	5.96	3.77	5.48	4.33	3.96	..
Developed Economies	2.34	2.531	5.15	5.42	17.68	8.87	11.73	14.07	5.10	..
Developing Asia	0.64	0.92	1.87	4.30	6.92	3.99	5.73	4.82	4.49	..
Developed Asia	0.63	1.56	4.71	1.42	2.55	4.07	5.09	13.33	11.6	..
Total Asia	0.63	1.28	3.71	2.54	4.53	4.01	5.68	5.88	5.35	..
World	1.91	2.13	4.52	4.98	15.25	7.51	9.05	9.13	4.61	..

Source: Author's compilation from UNCTAD database

Appendix 7: Outward Foreign Direct Investment (Percentage share in World OFDI) in select Asian economies (1980-2019)

Region/ Country	OFDI Percentage share in world OFDI									
	1980	**1985**	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2018**	**2019**
China	..	1.01	0.34	0.56	0.07	1.47	4.93	8.52	14.50	8.91
HongKong	0.15	1.54	1.00	7.00	4.64	3.24	6.17	4.20	8.33	4.51
Taiwan	0.08	0.12	2.15	0.83	0.57	0.72	0.83	0.86	1.83	0.90
India	0.007	0.004	0.002	0.03	0.04	0.35	1.14	0.44	1.16	0.92
Indonesia	0.011	0.05	-0.004	0.37	..	0.36	0.19	0.34	0.81	0.25
Japan	4.58	10.37	20.82	6.34	2.71	5.49	4.03	7.97	14.51	17.25
Korea	0.08	0.97	0.46	1.08	0.41	0.99	2.02	1.38	3.87	2.70
Malaysia	0.38	0.33	0.05	0.69	0.17	0.37	0.96	0.61	0.51	0.48
Saudi Arab	0.40	0.07	-0.26	0.03	0.13	-0.04	0.28	0.31	2.33	1.00
Singapore	0.18	0.38	0.83	2.04	0.588	1.50	2.53	2.64	3.01	2.53
Thailand	0.005	0.001	0.06	0.25	0.001	0.03	0.56	0.09	1.87	0.90
UAE	-0.003	0.017	-0.02	0.01	0.03	0.45	0.14	0.97	1.52	1.21
Developing Economies	5.23	6.00	5.37	14.61	7.62	13.26	25.57	23.44	42.04	28.4
Developed Economies	94.76	93.99	94.61	85.21	92.09	84.57	70.80	74.68	54.14	69.79
Developing Asia	2.28	4.79	4.54	12.73	6.78	10.74	20.89	21.80	41.23	24.93
Developed Asia	4.57	10.52	20.92	6.50	2.99	5.84	4.59	8.61	15.13	17.90
Total Asia	6.85	15.32	25.46	19.24	9.78	16.70	26.08	30.67	56.48	42.83
World	100	100	100	100	100	100	100	100	100	100

Source: Author's compilation from UNCTAD database