Outward Foreign Direct Investment from India: An Investigation of the Determinants

Munmi Saikia

A thesis submitted to Indian Institute of Technology Guwahati in partial fulfilment of the requirements for the degree of

Doctor of Philosophy

Department of Humanities and Social Sciences
Indian Institute of Technology Guwahati
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Dedicated to

My family

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Declaration

The thesis entitled "Outward Foreign Direct Investment from India: An Investigation of the Determinants" is the presentation of my original research. Wherever, the contributions of others are concerned, every effort is made to report that clearly with due references to the literatures and acknowledgement of the research work and discussion.

The work is done in the department of Humanities and social sciences at Indian Institute of Technology Guwahati under the guidance of Prof. Saundarjya Borbora, Department of Humanities and Social Sciences, IIT Guwahati.

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Certificate

This is to certify that the thesis entitled "Outward Foreign Direct Investment from India: an Investigation of the Determinants", submitted by Ms. Munmi Saikia for the degree of Doctor of Philosophy in Economics in the Department of Humanities and Social Sciences of Indian Institute of Technology Guwahati, carried out under my supervision.

The present thesis or any part thereof has not been submitted to any other institution for award of any degree or diploma.

All assistance received by the researcher has been duly acknowledged.

(Prof. Saundarjya Borbora)
Thesis Supervisor

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Abbreviation

ADF	:	Augmented Dickey Fuller Test
ADR	:	American Depository Receipt
AIC	:	Aikaike Information Criteria
ASEAN	:	Association of Southeast Asian Nations
BIT	:	Bilateral Investment Treaties
BOP	:	Balance of Payment
CBM&A	:	Cross Border Mergers and Acquisition
CEPII	:	Centre d'Études Prospectives Et d'Informations Internationales
CES	:	Constant Elasticity of Substitution
CMIE	:	Centre for Monitoring Indian Economy
CMMI	:	Capability Maturity Model Integration
DTT	:	Double Taxation Treaties
ECT	:	Error Correction Term
EEFC	:	Exchange Earner's Foreign Currencies
FEMA	:	Foreign Exchange Management Act
FEVD	:	Forecast Error Variance Decomposition
FIIA	:	Foreign Investment Implementation Authority
FIPB	:	Foreign Investment Promotion Board
GDP	:	Gross Domestic Product
GDPPC	:	Gross Domestic Product Per Capita
GDR	:	Global Depository Receipt
GFCF	:	Gross Fixed Capital Formation
ICC	:	Intra Class Correlation
ICT	:	Information and Communication Technologies
IDP	:	Investment Development Path
IFDI	:	Inward Foreign Direct Investment
IMF	:	International Monetary Fund
IRF	:	Impulse Response Function
JV	:	Joint Ventures
KBV	:	Knowledge Based View
LDC	:	Less Developed Countries
LLL	:	Leverage Linkage and Learning

Abbreviation

LP	:	Levinson and Petrin Method
LR	:	Log likelihood Ratio
MNC	:	Multinational Corporations
MNE	:	Multinational Enterprise
MRTP	:	Monopolies and Restrictive Trade Policies
NIC	:	National Industrial Classification
OECD	:	Organization For Economic Co-Operation And Development
OFC	:	Offshore Financial Centre
OFDI	:	Outward Foreign Direct Investment
OLI	:	Ownership Location and Internationalization
PBDITA	:	Profit Before Depreciation Interest Tax and Amortization
PP	:	Phillips- Perron Test
R&D	:	Research and Development
RBI	:	Reserve Bank of India
RBV	:	Resource Based View
SIA	:	Secretariat for Industrial Assistance
SIC	:	Swartz Information Criteria
SME	:	Small and Medium-Sized Enterprises
SOE	:	State-Owned Enterprises
TFP	:	Total Factor Productivity
TFP	:	Total Factor Productivity
UNCTAD	:	United Nations Trade and Conference
USA	:	United State of America
VECM	:	Vector Error Correction Modelling
VIF	:	Variance Inflation Factor
WIR	:	World Investment Report
WOS	:	Wholly Owned Subsidiaries
WTO	:	World Trade Organization

Abstract

The rapid growth of outward FDI from the developing nations is a very emerging issue of international business studies. India has also been experiencing a high growth of outward FDI from the country since the last decade. High growth of outward FDI along with the increase in inward FDI has led the change in the foreign direct investment position of the country. A rise in the number of overseas participating firms has also been witnessed together with the increasing magnitude of outward FDI. In addition, the geographical distribution of outward FDI of the country has also undergone a remarkable shift. Initially, the developing countries were the ultimate domicile of Indian overseas investors, but, recently, the presence of foot print of the Indian firms in the developed countries evinces the changing geographical preference of the overseas investors. With this backdrop, the current research aims at exploring three related issues of internationalization, first, to examine the parameters that can describe the dynamics of foreign direct investment position of the country at the macro-level, second, to conceptualize the drivers of the decision and intensity of the internationalization of Indian firms, and third, to explore the role of motives, and both the firms-level and country-level determinants on the location distribution of Indian multinationals.

The present study is based on the secondary data. The data have been collected from different sources such as World Development Indicators (World Bank), Reserve Bank of India (Handbook of Statistics on Indian Economy), IMF, UNCTAD, PROWESS (CMIE), and CEPII Gravity Dataset to carry on the statistical and econometric analysis.

The first objective of the study is to examine the role of home country-macroeconomic factors such as trade-openness, exchange rate along with GDP per capita on explaining the dynamics of foreign direct investment position[1] of India. The study brings into account the 'Dynamic or Developmental approach' of international production to build the analytical framework of the study. The study is based on multivariate time-series data for the time period 1980-2014. The focus of the study is to investigate the short-run dynamics and long-run relationship that present between net foreign direct investment (considered as a proxy to represent foreign direct investment position) and other system variables employing vector

[1]"A country's net foreign direct investment position is the sum of direct investment by its own enterprises outside its national boundaries minus the direct investment of foreign owned enterprises within its boundaries", (Dunning, 1981: p. 30). Foreign direct investment position and net outward foreign direct investment have been used interchangeably in this study.

error correction modeling (VECM). The research concludes that all the macroeconomic variables of the system have long-run impact on net foreign direct investment of India although no causality has been witnessed in the short-run during the study period. Dynamic analysis such as impulse response function (IRF) and the forecast error variance decomposition (FEVD) are also derived from the estimates provided by VECM to draw the long-run time path of the system variables and to see the endogenous structure of the variables respectively.

India constitutes a largest share of outward foreign direct investment from the emerging nations, so, India can be considered as the paragon of the emerging economy context to explain the drivers of internationalization. In the recent study, the impact of a several important parameters, such as, firm's resource, nature of competition within the industry, prior knowledge and dynamic capabilities that act as the source of firms' ownership advantage to drive the internationalization of Indian firms has been examined. The empirical analysis is done for the period from 2008-09 to 2011-2012 using firm-level panel data. Two-stage regression modeling is employed for the econometric analysis. The study unfolds the dynamics of prior knowledge on the basis of two associated aspects, namely, depth and length of prior knowledge captured by intensity of exporting and length of FDI experience. Study reveals that depth of prior knowledge is a must influential parameter in comparison to length, to explain the internationalization of Indian firms. Further, the study also shows that two aspects of dynamic capabilities such as market capability and innovative capability have insignificant impact on outward internationalization of Indian firms, which have been significant drivers of internationalization of firms from the developed countries. Moreover, nature of competition within the industry does not have significant impact on internationalization of Indian firms. The present study is a novel attempt to conceptualize the parameters of ownership advantage that can explicate the growth of internationalization from Indian multinationals over all sectors. A meticulous investigation of four important approaches, namely, resource-based, knowledge-based, dynamic capability-based and industry-based approach is made to conceptualize the drivers of internationalization of Indian firms. In addition, findings of the study may help in theorizing the internationalization of Indian firms.

The third objective of the current research is to investigate the simultaneous act of the firm-level and country-level determinants on the location-distribution of Indian multinationals. The empirical analysis is done for the period of 2008-09 to 2011-12 using firm-destination

data and firm-specific information to examine the location determinants of Indian multinationals. Since Indian multinational firms are nested within the host countries. Therefore, in our study, mixed multilevel model is employed to capture the effect of the variance in each level of hierarchy. The study finds that both firm-level and country-level determinants act simultaneously on the location distribution of Indian multinationals.

Based on the findings, the study concludes that macroeconomic environment of the home country can be a significant source of external driver to impact the dynamics of foreign direct investment position of India. The finding of the study also admits the simultaneous act of both the firm-level and the country-level determinants on the location distribution of Indian multinationals. Explaining the drivers of the decision and the intensity of internationalization, the study finds that the resource base of the firms and knowledge of the firms about the foreign market can be the important source of ownership advantage of Indian firms to drive the growth of internationalization of the country. But the aspects of dynamic capabilities such as marketing capability and innovative capability of the firms considered in the study are not the significant source of ownership advantage to influence the growth of internationalization of Indian firms. Furthermore, competitiveness within the industry is also not found having significant impact on the strategic decision of Indian firms. The finding of the study reveals the relevance of the Resource based view and Knowledge based view in defining the parameters of ownership advantage that explain the growth of internationalization of Indian firms.

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2018 'Location choice of emerging multinationals: interplay of ownership and location advantage', accepted for publication in the proceeding of 28th conference – International Trade and Finance Association, 2018, Beijing, China.

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2018 28th conference – International Trade and Finance Association, University of International Business and Economics, Beijing, China)
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Chapter 1
Introduction and Literature Survey

1. 1 Background

Dearth of domestic investible resources hamstrings the growth of an economy. International flow of investible resources can bridge the gap between the required amount of investible resources and domestically available investible resources. Amongst all the forms of international investment sources, foreign direct investment (FDI) is considered as the most preferable form of investment as its contribution to the process of growth of the economy is noteworthy. Moreover, the marginal contribution of FDI to the economic growth is more than the domestic investment (Lee and Tcha, 2004). Though portfolio investment can also serve as a substantial source of international financial resources but the high degree of uncertainty associated with it, portfolio investment is unable to assist the long-run growth of a country whereas FDI can drive the capital to the most desired and productive areas, so, can bestow the long run growth of the economy. It fetches knowledge capital and better management practices to an economy, contributes to the elevation of gross capital formation of a country and thus, can accelerate the process of growth of the economy through enhancing productivity and efficiency of production. To quote,

> "FDI is thrice blessed. It brings scarce capital where capital is needed and productive. It stimulates the domestic market for corporate control and hence serves to discipline managers. It is the bearer of knowledge to enhance productivity, potentially to the levels of international best practices." (Mody, 2007: p. 1)

Extant literatures on FDI reveal the importance of FDI on the growth of an economy. The importance of FDI in achieving high growth of real GDP and total factor productivity is broadly described in the empirical studies of (Lee and Tcha, 2004; Sohinger, 2005). Yao and Wei (2007) underlines that FDI can also play the dual role in stimulating economic growth through enhancing efficiency of production with the reduction of gap between the actual production frontier and the steady state frontier of a country and shifting the production curve upward. The study of Fan and Dickie (2000) finds the existence of correlation between FDI and growth of an economy and observes the contribution of FDI in averting the external shocks during the period of crisis in ASEAN countries. Mody (2007) says that FDI can also contributes to the promotion of global economic integration through the convergence of income across the globe, stimulating domestic investment and enhancing

productivity[2]. Therefore, FDI is considered to be the single most desirable form of international investment to fuel the long run growth process of the developing countries as well as the developed countries.

When outward FDI is made by the investors of a country, a part of the investible resources goes outside the national boundaries and it may impact the domestic investment position of the country directly or indirectly. From the theoretical viewpoint, outward FDI impacts the domestic economy through financial market and product market. Outward FDI, under the condition of an imperfect financial market, may raise domestic interest rate by shifting funds out of the home economy and make borrowing difficult for the domestic borrowers. Furthermore, firms shifting production abroad may reduce domestic export, which in turn will reduce domestic investment. However, if outward FDI complements the domestic export through forward and backward linkages, then outward FDI will complement the domestic investment. But the actual impact of outward FDI on the domestic economy is very unconfirmed whether it will serve for the benefit the domestic economy or transfers opportunities from the domestic economy to the foreign country. The empirical study of Hejazi and Pauly (2003) discloses that the impact of OFDI on domestic economy or domestic GFCF depends on the motives of investment not on the growing volume of OFDI relative to IFDI. Though a substantial amount of domestic capital flow out of the national economy in the short-run, it creates deficit in the balance of payment (BOP) but inflow of capital in the form of dividend, royalties in the long run, the overall BOP position is positive. The studies (Desai et al., 2005; Herzer, 2008; Herzer and Strooten, 2008; Lee, 2010; Wong, 2010; Zhao et. al, 2010) investigate the impact of OFDI on the home economy. Desai et. al. (2005) observes that higher level of OFDI is associated with higher level of domestic investment. They explain that the gaining of efficiency and competitiveness through combination of home production with the foreign production is the explanation of the complementarities between outward FDI and domestic investment. Outward FDI can also stimulate the total factor productivity (TFP) growth of a country by enhancing technical efficiency through augmented technical progress. The study of Zhao et. al. (2010) finds that 1% increase in OFDI from China could bring .55% increase in TFP,

[2] "Productivity benefits are more controversial. While anecdotal evidence of knowledge transfer through training and turnover of employees is often cited, the econometric evidence-using either firm-level data or aggregate data- offers much weaker support for productivity benefits. To the extent such benefits exist; they accrue where economic conditions are already favourable. FDI thus operates to support and enhance an existing growth dynamics." (Mody, 2007: p. 11-12).

.33% out of it has been contributed by enhanced technological efficiency and .22% by technological progress. Herzer and Schrooten (2008) finds that outward FDI from American multinational firms complements the domestic investment through reduction in the cost of production and bringing back investible resources to the domestic economy. Herzer (2008) also finds the evidence of the existence of long run bidirectional causality between outward FDI and domestic output. But in case of Germany, OFDI has been seen substituted for domestic investment in the long run

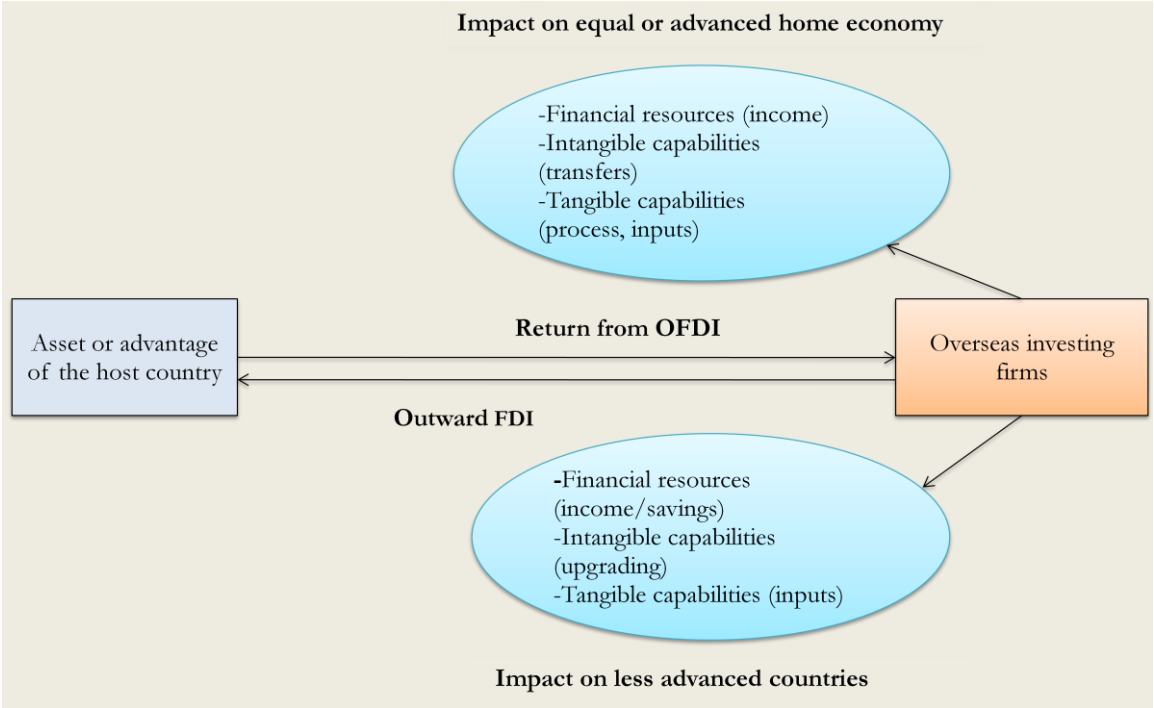


Figure 1.1: Analytical framework explained by Knoerich (2017)

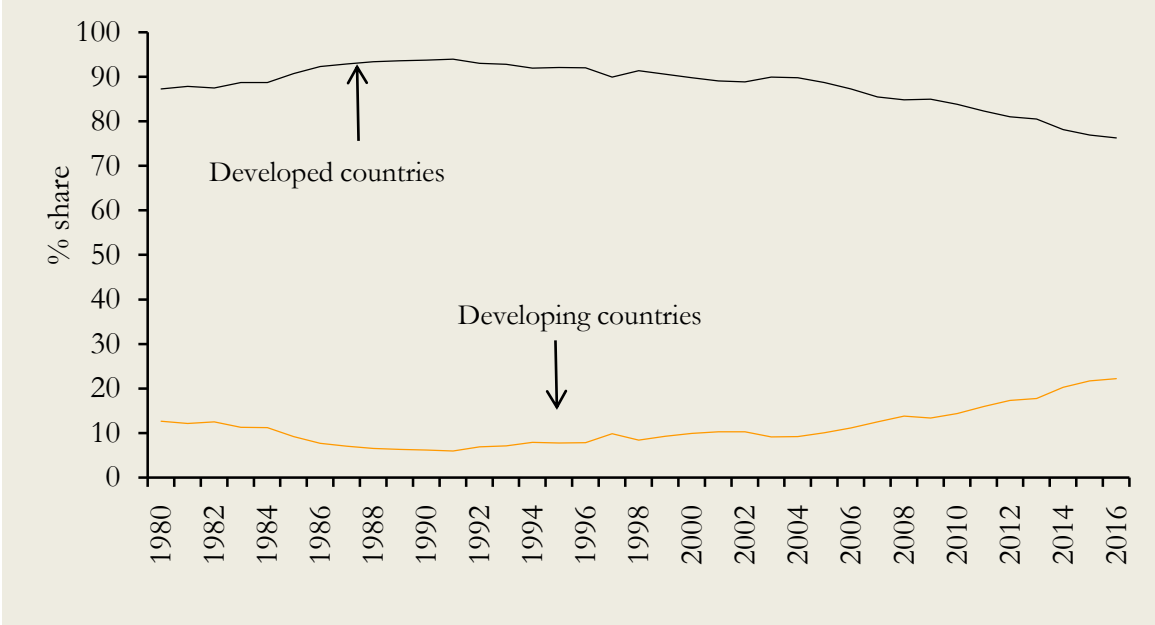
although it complements the domestic investment in the short-run. The higher labour cost in Germany has driven away a considerable amount of the investible capital to the low labour cost locations. So, it can be said that the realization of impact of outward FDI on domestic economy is conditional on the country specificity. Knoerich (2017) explains the mechanism how outward FDI contributes to economic development of the both developed and less developed countries through the analytical framework shown in Figure 1.1.

Nagraj (2006) describes that outward FDI can also generate positive externalities since it can enhance the capability of domestic producers by promoting backward and forward linkages and enlarging employment opportunities. So, it can be said that outward FDI is of crucial significance in the national economy of a country.

1.1.1 FDI: a glimpse of the global scenario

The phenomenal growth of both inward and outward FDI during the last two decades from both developed countries and the developing countries have brought about a considerable change not only to their national economies but also to the global economy. The total volume of global inward FDI stock touched 24,983,214 million US$ in 2015 which was only 701,105 million US$ in 1980. The developed countries had been the prime recipient of almost three quarters of global inward FDI up to the period prior to 2000. The share of the developing countries in the total global inward FDI has also been noticed increasing though the developed countries have still been the recipient of the largest amount of inward FDI. The liberalization of FDI policies in many of the developing countries has accelerated the growth of IFDI to these countries. The increasing volume of IFDI is an indication of the growing importance of IFDI in the developing countries on supplementing the economic growth of their national economies. But it is noteworthy that with the increase in the global inward FDI, the volume of outward FDI has also been noticed rising during the last two

Figure 1.2: Share of developing and developed countries of total OFDI stock (1980-2016)

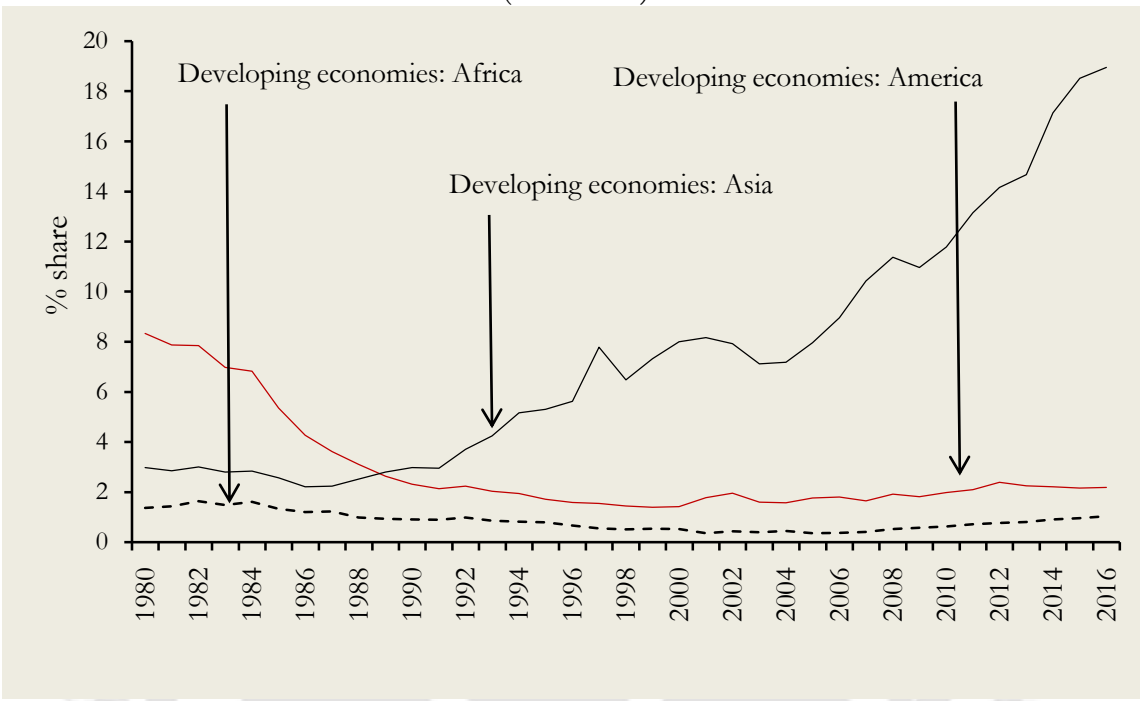


Source: Calculated, UNCTAD

decades. The total amount of global outward FDI stock was 558,975 million USD in 1980s and it increased up to 25,044,916 million USD in 2015. Though initially, the developed countries were dominantly involved in the outward FDI but recently, it has been noticed that developing countries have also aggressively participated in outward FDI activities. The

volume of OFDI stock of the developing countries increased to 5,296,346 million USD (21.2% of total OFDI) in 2015 which was only 70,769 million USD (12.7% of the total OFDI) in 1980. Figure 1.2 shows that since 2000, the share of developing countries of the total outward FDI stock has been rising gradually whereas the developed countries have

Figure 1.3: Share of developing countries of Africa, Asia and America of total OFDI stock (1980-2016)

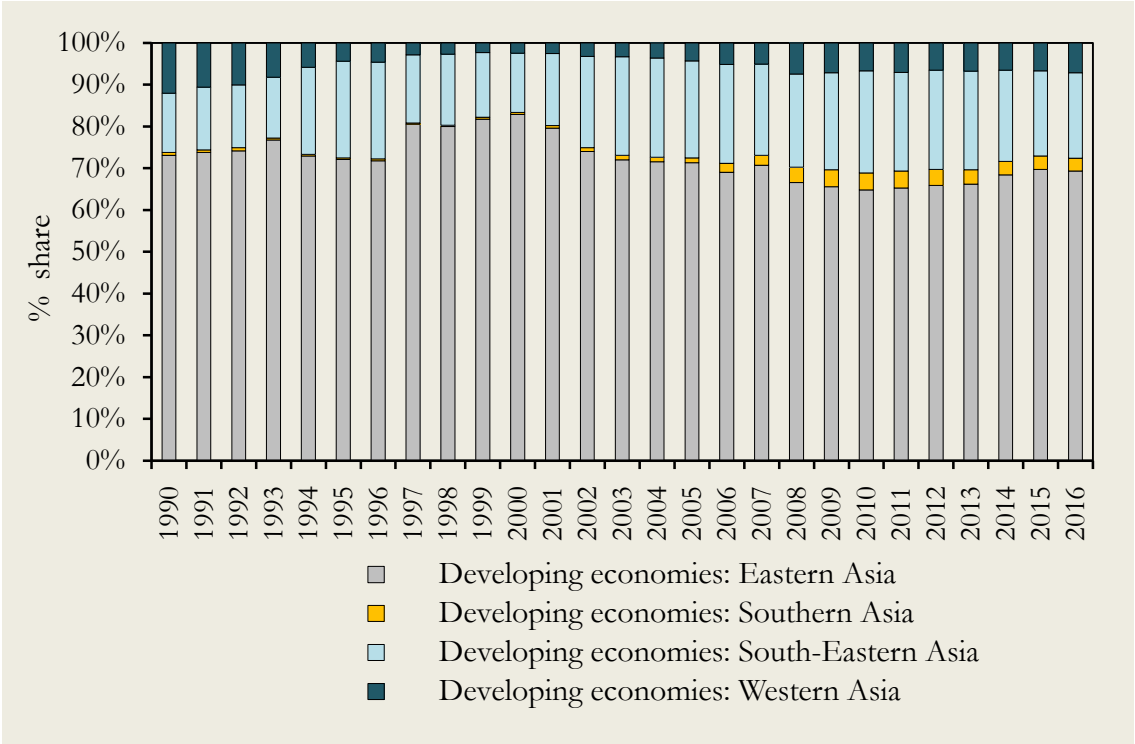


Source: Calculated, UNCTAD

experienced a fall of their share. The increasing participation of the developing countries as the source of FDI has contributed to a large extent to the enlargement of the magnitude of global OFDI. However, a large portion of this growing volume of OFDI has been contributed by the circulation of FDI among the southern countries itself as the outflows of FDI from the developing countries are mostly regional in nature (Battat and Aykut, 2005, WIR 2008). Figure 1.3 shows that though the developing countries of America constituted the largest share of outward FDI from the developing countries during 1980s but these countries have experienced decrease of their share in the total outward FDI since 1990s whereas the share of the developing countries of Asia has been seen increasing. The share of the developing countries from Asia of the global OFDI increased to 17.9 percent in 2015 which was only 2.97 percent in 1980. Amongst the Asian countries the Eastern Asian countries have constituted the largest share of global OFDI in comparison to other developing countries of Asia whereas the share of the South Asian countries was very small

till 2006 (shown in Figure 1.4). Furthermore, besides India, the participation of the South Asian countries such as Afghanistan, Bhutan, Nepal, Iran, Maldives, Pakistan, Sri Lanka and Bangladesh in OFDI is still very negligible. India had experienced a high growth of OFDI during the period after 2000 although the country experienced marginal fall of its magnitude in 2009. In 2010, India constituted almost 97% of the total OFDI from the South Asian countries.

Figure 1.4: Share of developing countries of Asia of total OFDI stock Asia (1990-2016)



Source: Calculated, UNCTAD

1.1.2 OFDI from India: a brief overview

National policy measures initiated throughout the post independence period is of crucial importance on the growth of outward FDI from the country. Kumar (1995) says that the evolution of outward FDI from India happened in accordance with the changing policies of industrialization. This section presents a glimpse of the national policies that are considered to be vital for the changing OFDI scenario of the country. The period of evolution of OFDI scenario can be divided into two sub-periods:-

(1) Pre-reform scenario, and

(2) Post-reform scenario.

1.1.2 (A) Pre-reform scenario

There is no systematic record of outward FDI from India during the colonial period. Therefore, it is difficult to define precisely the beginning of outward direct investment from India though there was the evidence of penetration of Asian merchant in East Africa, Burma, Ceylon and Malaysia (Morris, 1987) during that period. Moreover, the establishment of Textile mill in Ethiopia in 1955, joint ventures in Kenya and Uganda by Birlas and Singhanias in mid-sixties were a few of the evidences of beginning of outward investment from the country. However, the inadequate coverage of information regarding outward investment from India, it is difficult to depict the true picture of the actual magnitude of OFDI of that period. Explaining about the OFDI during that period, Athukorala (2009) highlights a few of the national policies such as the introduction of the Bombay Plan[3] in 1944, initiation of state-led industrialization, Industrial Development and Control Act of 1951, MRTP act to control monopoly power of big business houses were few of the policies which had been considered to have significant impacts on the industrial structure of the national economy and OFDI from the country. Athukorala acknowledges the role of historic settings and policy trends to have significant influence on the evolution of outward FDI from India. Narayanan and Bhatt (2011) says that initiation of inward looking policy after the gaining independence in India for the capability formation of the industrial sector in the country and also, huge expenditure in the infrastructure building to attract large inflow of FDI to the country also contributed to the growth of outward FDI from India. The formulation of policy guidelines on Indian joint ventures and FDI policy in 1969 was also an important step taken by government of India which encouraged the growth of OFDI from India. However, it is noteworthy that the formulation of the policies for the overseas investment of that period was primarily driven by the foreign exchange earning capability of the enterprises. The acquisition of ownership advantage by Indian firms in terms of created assets such as technological and management capability through participation in joint ventures with the foreign firms, location advantage in the form of infrastructure development, creation of diversified industrial base and technical capability during 1960s encouraged the Indian firms to expand their production base abroad

[3]Bombay Plan which was introduced by a few leading industrialists in January 1944, is a bold plan of that period towards the reconstruction of the economy. The plan was introduced to play a prominent role in the creation of favorable environment for private enterprises. 'History and political economy of Bombay Plan 1444..', accessible in the link given below: https://mostlyeconomics.wordpress.com/2014/06/02/history-and-political-economy-of-bombay-plan-of-1944/.

particularly to the countries which were at the lower stage of IDP (For e.g. investment in countries such as Africa, South-East Asia and South-Asia).[4] The investments were mostly concentrated in those industries which had been based on lower technology. However, the bulk of Indian FDI went to Malaysia, Indonesia and Singapore within South-East Asia, Kenya in Africa and Sri-Lanka and Nepal in South Asia during this period. The opening up of Indian economy in 1980s with the initiation of liberalization of import of capital inputs further stimulated the increasing participation of Indian firms in the international production[5]. The changing policy framework during 1980s also contributed to a considerable extent in the enhancement of global competitiveness of the Indian firms which further encouraged the participation of Indian firms in the international production (Kumar, 1995).

1.1.2 (B) Post reform scenario

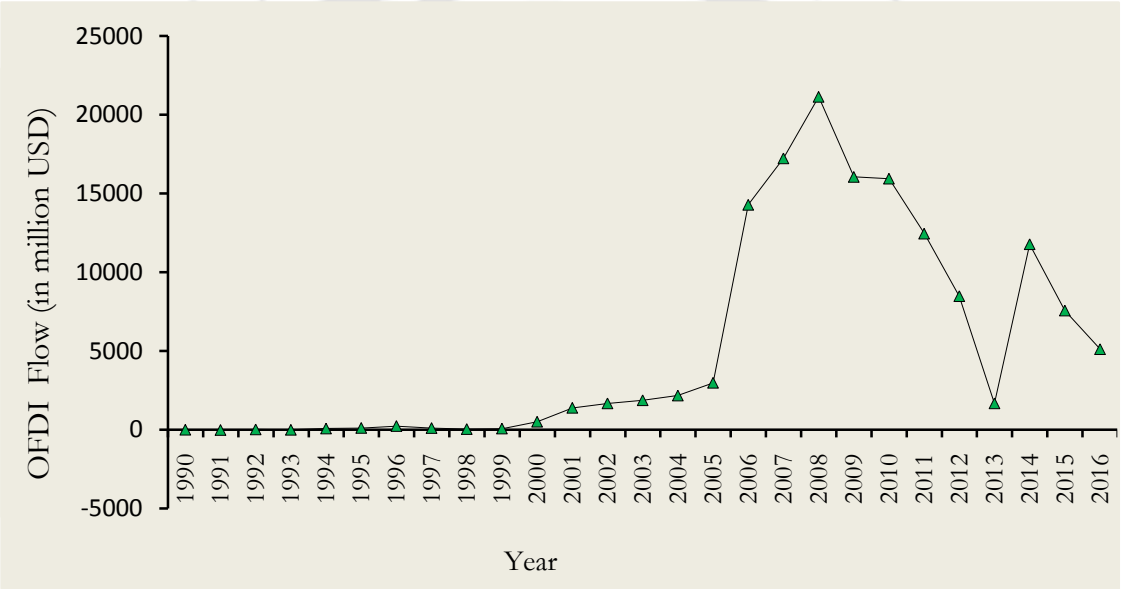
The reform of Indian economy during 1990s has brought about a great change to the FDI scenario of the country. Government of India has initiated a series of measures during the post-reform period to encourage the growth of overseas investment from the country. With the initiation of policy measures during the reform regime, increase in the magnitude of OFDI and in the number of overseas investing firms has also been noticed. The change in the path of internationalization[6] of these multinationals has also been noticed during the liberalized era. The geographical distribution of OFDI of the country has also changed remarkably during the post reform period. The changing trend of OFDI (flow) from India during the post-reform period is shown in Figure 1.5.

Initiation of 'automatic route'[7] for overseas investment is one of the important measures that were initiated during this period. In 1992, a few of the existing restrictions on the Indian outward FDI were curtailed and the guidelines of Indian direct investments in wholly owned subsidiaries (WOSs) and joint ventures (JVs) abroad were also modified by allowing automatic approvals of proposals. Cash remittances were allowed for first ever where total value of Indian FDI was restricted to 2 million US$ with a cash component not exceeding 0.5 million US$ in a block of 3 years. Indian direct investors were not allowed to invest

[4] Location advantages and ownership advantages are defined in Section 1.2.1 of the present chapter.
[5] In the current study international production and FDI have been used interchangeably.
[6] In the present study, OFDI, overseas investment and internationalization have been used interchangeably.
[7] By this route FDI is allowed without prior approval by Government or Reserve Bank of India.

abroad in cash and repatriation of dividend and share of profits was mandatory during the pre-liberalized period. The period 1995-2000 is considered to be very significant for the growth of outward FDI from India. A fast track route was initiated in India during this period to speed up the approval procedure. In 1995, under the provision of single window clearance system, a comprehensive policy framework was formulated and the responsibilities that are related to the approvals of outward FDI has also been transferred to the Reserved Bank of India from Ministry of Commerce. Raising the ceiling of investment from 2 million US$ to 4 million US$ is another important measure taken by Government of India but the limit is linked to the investor's average export earning of the preceding three years.

Figure 1.5: OFDI flow from India during the post-reform period



Source: Compiled, UNCTAD

However, approvals of investment beyond US$ 4 million have been considered under the 'normal route' and needs the approval of a special committee which is comprised of the senior representative of the Reserve Bank of India (Chairman) and Ministries of Finance, External Affairs and Commerce (members). If the proposal of investment exceeds US$ 15 million needs the approvals of the Ministry of Finance with the recommendation of the special committee and proposals will be approved only if required fund is raised through global depository receipts[8] (GDR) route. Bringing of the exchange earners other than the exporters under the fast track route in March 1997 was another step taken by Government

[8] NASDAQ defines GDR as 'a receipt denoting ownership of foreign based corporation stock shares which are traded in numerous capital markets around the world.' (Available in the downloadable link: http://www.nasdaq.com/investing/glossary/g/global-depositary-receipt).

of India to support the growth of OFDI. With the introduction of FEMA in 2000, the scope for outward FDI was expanded. The limit of per annum upper limit was raised to 100 million US$ under the automatic route in 2002. The upper limit was further liberalized to invest up to 100% of the net worth and gradually increased to 400%. However, the ceiling of 400% is not allowed for the investment made out of the balances held in the exchange earners' foreign currency (EEFC) or out of the fund raised through ADRs/GDRs. Moreover, this limit is not applicable for the companies from the energy and natural resource sectors (oil, gas, coal, and mineral ores). Allowance of overseas investment in unincorporated entities in oil sector by Navaratna public sector undertakings and further extended to other Indian entities under the automatic route. Modification of external commercial borrowing policy allowing the funding of JVs/WOSs abroad as a permissible end-use of the fund to be raised is also another important step taken by the Government of India during this period.

Apart from the policy changes, three primary institutions such as Foreign Investment Promotion Board (FIPB), Secretariat for Industrial Assistance (SIA) and Foreign Investment Implementation Authority (FIIA) have also been established to deal with all the FDI related issues to facilitate the growth of FDI activities further in India. Besides the liberalization measures, the rapid economic growth, increasing volume of financial resources of India have also made the emergence of Indian firms (e.g. Tata group, Infosys, Ranbaxy) in the global OFDI scenario. The acquisition of ownership advantage and the growth of location advantage have placed Indian firms as a substantial source of OFDI in the newly reformed regime. Khan (2012) explains that the accelerated growth of OFDI from India during 2000s is the outcome of increasing inward FDI to the economy, relaxation of controls on capital due to growing volume of foreign exchange and simplification of laws for outward FDI. Moreover, the enhanced performance of the manufacturing sector has also increased the level of confidence among the Indian corporate. The growing confidence, rapid growth rate in the home economy, large amount of cash have encouraged the Indian investors to involve aggressively in acquisitions particularly since 2004 and the inclusion of Indian companies in list of Fortune 500 companies has also been an indication of aggressive participation of Indian companies in overseas acquisition (Rajan, 2009). The ever-increasing thrust of Indian enterprises to undertake acquisition in metal, oil, automotive and telecommunication sectors has also contributed to a considerable extent the enlargement of the volume of OFDI from India (Pradhan, 2011).

With the growth of outward FDI from India, the geographical distribution of Indian outward FDI has also changed considerably during the post liberalized period. During the pre-liberalized period 86 percent of Indian OFDI was directed to the developing countries whereas during the post-liberalized period, developed countries have been receiving an increasing share of Indian outward FDI (Khan, 2012). Indian enterprises were motivated by market seeking type of investment to capture the market of the developing countries by exporting their intermediate technologies in comparatively low technology industries during the period prior to 1991 but during the 1990s, Indian enterprises were noticed to be more inclined to establish their toehold in the emerging trading blocks to acquire the strategic assets of the host country and to enhance their global competency (Kumar, 1995). The growing intensity of Indian overseas investors to invest in the developed countries can also be said partly as a reflection of growing confidence of Indian corporate and gaining ownership of overseas assets at competitive rate (Khan, 2012). Moreover, the increasing propensity of the multinationals to engage in higher-order activities might have been a reason to shift their locations where the intensity of R and D is high.

1.2 Literature survey

Literature survey is the pivotal part of any scientific investigation. In the current research, the literature survey is basically based on the published sources. Based on the existing literature, the literatures are grouped into five heads. These are,

(1) Review of the existing approaches of international production
(2) Explaining the internationalization of emerging multinationals
(3) Home country factors and outward internationalization
(4) Location choice of multinationals
(5) Ownership advantage and the growth of internationalization

1.2.1 Review of the existing approaches of international production

The neo-classical theories of international trade based on the comparative advantage were singularly explaining all the international activities up to 1950s. But these theories failed to explain satisfactorily the phenomenon of international production with the assumptions of neo-classical theory of international trade (Vernon, 1966; Lall, 1976). Vernon (1966) describes international production through the Product Cycle model. The product cycle

model explains that in the process of standardization of a product when the producers find the increase in the cost of operating in their home market they diversify their production in the foreign markets to reduce the cost of production. So, Vernon explains international production as a part of the process of standardization of a product. Lall (1976) says that the concept of imperfections has to be taken into consideration to explain the phenomenon of international production. According to Lall, the oligopoly theory can provide a better explanation of international production of firms. It tells that the possession of any kind of market power[9] is a necessary pre-condition to overcome the intrinsic disadvantages[10] of working abroad and to retain the profitability of the overseas investors. But these theories

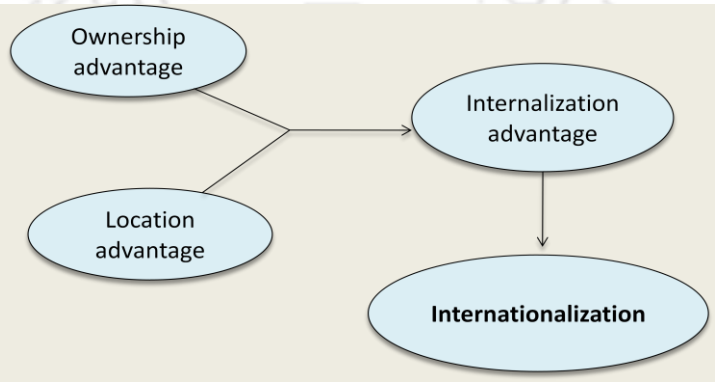


Figure 1.6: Advantages of international production

have been insufficient to explain the international production activities of firms precisely. With this backdrop, Dunning (1980, 1988) develops the Eclectic Paradigm of international production to illustrate the phenomenon of international production. It is called eclectic because it is a mix of ideas taken from several other theories. Dunning describes that the intensity of an enterprise to be engaged in international production can be defined by the possession of three specific types of advantages. These are, (1) *ownership advantage* - Dunning defines ownership or 'O' advantage as the possession of specific assets of both tangible and intangible assets by a firm which are not possessed by its competitors, (2) *location advantage* is

[9] "Market power is not easy to define, since it represents a departure from a hypothetical (and usually quite unrealistic) competitive market situation. It may, however, be simply as the ability of particular firms, acting singly or in collusion, to dominate their respective markets (and so earn higher profits), to be more secure, or even to be less efficient, than in a situation with more effective competition (or official control, where technology demands high degrees of concentration in production). The concept may, of course, be applied to buyers (monopsonists) as well as sellers", (Lall, 1976: p. 1343). Details on 'Theories of Direct Private Foreign Investment and Multinational Behaviour', Sanjaya Lall (1976).

[10] Intrinsic disadvantage means the cost of communication, constraint of language differences, information gap about market structure, governance and officials in foreign countries (Lall, 1976).

the advantages that are specific to a particular location, (3) *internalization advantage* is the adoption of the location advantage with the given ownership advantage of the firm and how efficiently a firm internalizes the location advantage is defined by the firm's capability which is represented by the 'O' advantage of the firms (advantages of international production is shown in Figure 1.6). It basically happens because of the existence of market imperfection and transactional distance. Internalization advantage of international production had been dominating in the most of the explanations of internationalization during 1970s and 1980s as singly the most important advantage of international production. Dunning illustrates that these three advantages are equally important for the determination of multinational activities of an enterprise. To quote,

> "The OLI triad of variables determining foreign direct investment and MNE activity may be likened to a three-legged stool: each leg is supportive of the other and the stool is only functional if the three legs are evenly balanced." (Dunning, 1998: p. 45).

Explaining about the ownership advantage of international production, Dunning says that the more the ownership specific advantages possessed by an enterprise, the greater the inducement to internalize them and the wider the attractions of a foreign rather than a home country production base. Furthermore, the choice of the potential group of destinations of investment is one of the most crucial decisions of foreign direct investors. The willingness of the firms to transform valuable inputs into more valuable output in the process of production in a foreign market rather than a home market determines the intensity of involvement in international production. Basically, the location portfolio of foreign direct investments is decided on the basis of comparative advantage associated with the investment in that particular location (Dunning, 1998; Lei and Chen, 2011). To quote,

> "given its O specific advantages, the critical choice of a multi-activity firm is whether it should internalize its intermediate product markets within its home country or in a foreign country; and that the outcome of this choice is primarily determined by the costs and benefits of adding value to these products in the two locations…the geography of international business activity is not independent of its entry mode; nor indeed, of the competitive advantage of the investing firms." (Dunning, 1998: p. 45-46).

However, the ownership advantage and location advantage of a country are not static and keep changing with the stages of economic development of a country. But the eclectic paradigm is a static explanation of the advantages of international production. It is more

appropriate to explain the international production of multinationals of the developed countries. Underlining the presence of relationship between ownership and location advantage, Dunning explains that, many of today's ownership advantage of firms are a reflection of yesterday's location advantages of countries. So, it can be said that there is the presence of dynamic and interactive relationship between location advantage and ownership advantage. Dunning (1981) illustrates the dynamics of relationship of the advantages of international production and international investment position with the stages of economic

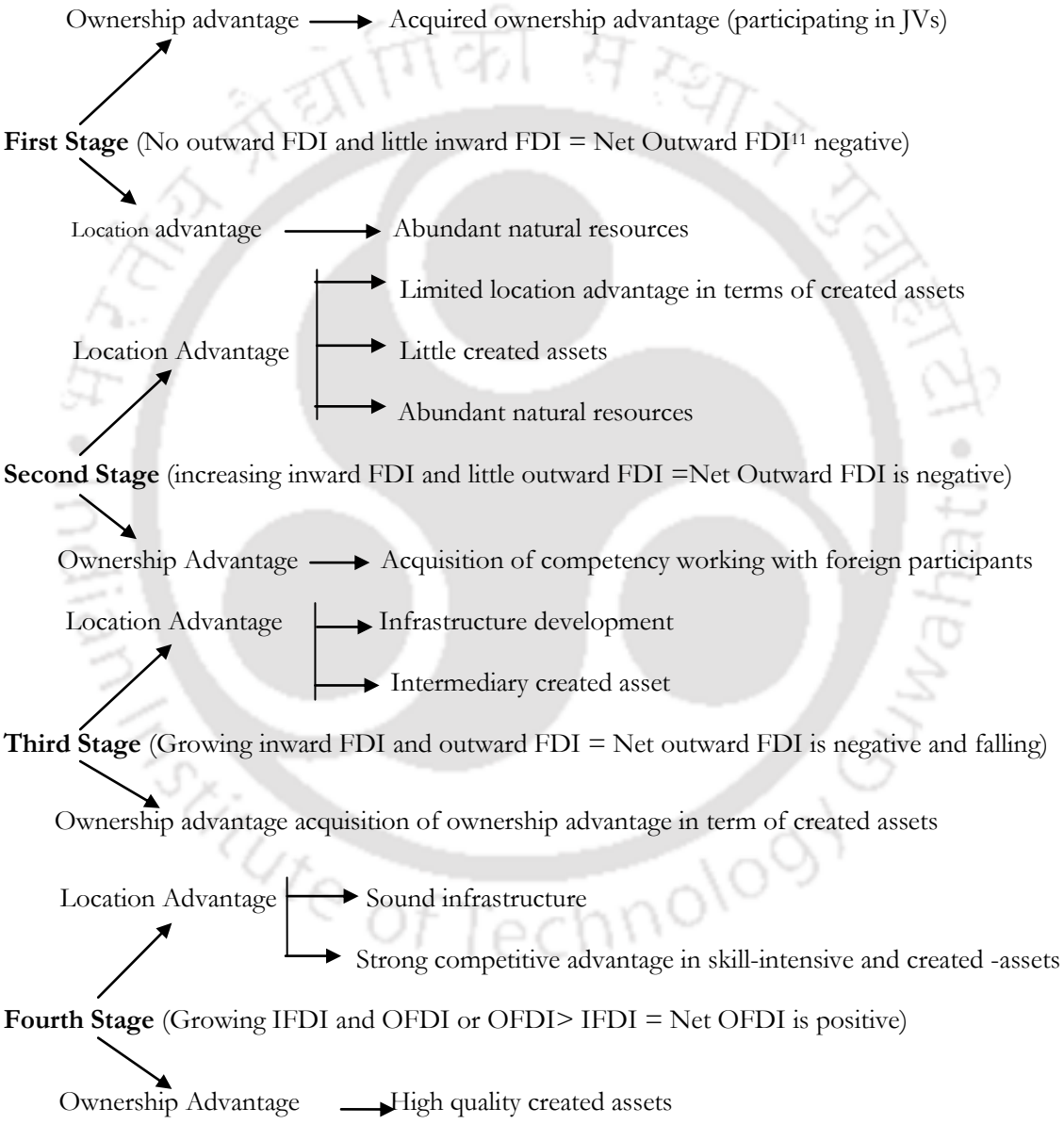


Figure 1.7: Investment development cycle explained in IDP approach

[11]Net Outward FDI= Outward FDI-Inward FDI (Dunning, 1981). It is used to represent international investment position. In this study net outward FDI and international investment position are used interchangeably.

development through the investment development cycle which is commonly known as the Investment Development Path (IDP) approach. The insight of the IDP approach is that - the location advantages of a country get enhanced with the level of development of an economy and enhanced location advantage attracts foreign investors. Through participating in joint ventures with the foreign firms, domestics firms get embedded with the ownership advantage. With the acquisition of ownership advantages, domestic firms are capable of participating in outward internationalization. Further, the change in the advantage of international production leads the change in the international investment position of a country. The flow of advantages of international production and changes in international investment position in the investment development cycle with the stages of economic development is presented in Figure 1.7. As explained in the IDP approach, there are four stages in the investment development cycle. The first three stages are relevant to explain the international investment position of the developing countries whereas the fourth stage is relevant to the developed countries. Describing about the appropriateness of these two approaches in explaining the phenomenon of international production, Galan et.al (2007) says that Eclectic paradigm to a large extent can provide a better explanation of international production despite its static consideration of the advantages of internationalization though several approaches of international production have been developed in searching for a more realistic theory but, are unsuccessful. To quote,

> "The Eclectic paradigm of international production and more recently, the IDP paradigm have become two of the most widely accepted, realistic and overall explanations for this phenomenon, as they consider element from all previous theoretical approaches." (Galan et. al., 2007: p. 977).

Moreover, several other approaches have also been developed to explain the ownership advantage of international production. Amongst these approaches, 'Resource-based view' (Barney, 1991), 'Stage theory' of multinationals (Johanson and Wiedersheim-Paul, 1975), 'Network approach' (Johanson and Mattsson, 1988), 'Knowledge-based view' (Grant, 1996), 'Dynamic capability approach' (Teece, Pisano and Shuen, 1997) have been seen the most widely used in the literature of business studies to define the ownership advantage of firms.

Resource based view (RBV) originates from the concept of the presence of heterogeneity of firm's resources explained by Barney (2001). Barney describes that the heterogeneity of firm resources is the source of competitive advantage of the firms. Non-substitutability and

inimitability of resources of the firms lead the existence of heterogeneity among the firms in terms of their value creation which is the source of the competitive advantage of the firm in the long-run. Resource base view is based on the Ricardian view of value creation in which a firm involves in value creation through the use of existing resources of the firm. But the RBV does not take into account the role of learning and innovation activities of the firm on its value creation. So, the concept of the Knowledge based view (KBV) is developed to explain the competitive advantage of firms which is sourced from the value creation through knowledge and capabilities. However, RBV is one of the most influential theoretical perspectives in the literature of international business research to explain the ownership advantage of firms which is found widely used to explain the internationalization of firms in a number of the literatures of international business (Andersen and Kheam, 1998; Barney, 1991; Boermans and Roelfsema, 2013; Peng, 2001; Rialp et al., 2005; Wang et al., 2012; Westhead et al., 2001).

In the KBV, knowledge is considered to be the prime source of competitive advantage of a firm. It is based on the Schumpeterian view of value creation of the firms in which a firm's value creation is explained by the use of its knowledge base. The literature of business study owes Grant (1996) for describing the role of knowledge-base of a firm to explain the ownership advantage or competitive advantage of the firm. He says "if we were to resurrect a single-factor theory of value in the tradition of the classical economists' labour theory of value or the French physiocrats land-based theory of value, then only defensible approach would be a knowledge-based theory of value, on the grounds that all human productivity is knowledge dependent and machines are simply embodiment of knowledge." According to Grant, knowledge is the most critical input of production to add value to output. Grant says that the efficiency of production can be better explained by the knowledge in terms of 'learning-by-doing'. The importance of knowledge-asset or capability has been seen highlighted recently in explaining the internationalization behaviour of the multinationals in a good number of the literatures of business studies (For e.g. Gassmann and Keupp, 2007; Knight and Cavusgil, 2004; Sapienza et al., 2006; Sharma and Blomstermo, 2003, Tuppura et al., 2008 etc.).

'Stage theory' (Johanson and Wiedersheim-Paul, 1975) defines knowledge in terms of gradual learning about the market to explain the growth of internationalization. It explains that the lack of knowledge and resources are the obstacles on the process of internationalization of a firm which can be overcome through incremental decision-making

and gathering knowledge about the foreign markets and operations. So, the commitment of resources in a foreign market is conditional upon the market knowledge of the firm. They have classified the stages of internationalization into four stages which represent successively the larger resource commitment, (1) no regular export activities, (2) export via agent, (3) establishment of sales subsidiary, and (4) establishment of production/manufacturing unit. So, as described by the stage theory, internationalization can be said as an incremental commitment to a market as a result of the gradual learning about the market.

Though the stage theory can explain the role of knowledge on the growth of internationalization in terms of gradual learning about the market, but the gradualist approach is unable to provide an explanation about the accelerated internationalization of the young firms. Under such circumstances, it can be approached to the 'Dynamic capability approach' to explain the internationalization of firms. Dynamic capability approach has been introduced by Teece et al., (1997). To explain the fundamental question in the field of strategic management -'how the firms achieve and sustain competitive advantage'-they brought into consideration the concept of dynamic capability. Dynamic capability approach is relevant to the Schumpeterian approach of value creation through innovation based competition, competition through price and performance, increasing returns and 'creative destruction' of extant competitiveness of the firms.

Johanson and Mattsson (1988) introduce the 'Network approach' to explain about the process of internationalization of firms. Highlighting the importance of network in international business, they explain that the network happens through formation of relationship with the new firms, enlargement of the commitment that are already in the network, and integration of their positions in the network in different countries can stimulate the growth of internationalization of the firms.

Industry based view is basically based on the explanation of Porter (1980), describing about how industrial organization influences the strategic management of the firms. Industry

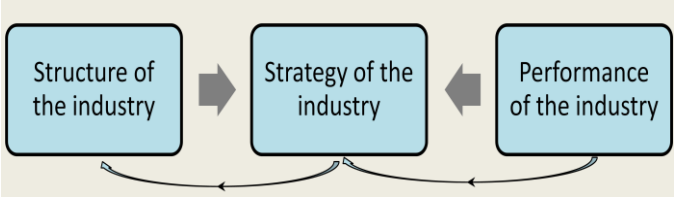


Figure 1.8: Industrial organization paradigm

based view explains that internationalization strategy of a firm is to a large extent is influenced by the factors that define the competitiveness of the firms within the industry, loss function of the industry and nature of competition within the industry. The new organizational paradigm can be presented as shown in Figure 1.7.

Peng et al. (2008) brings into focus the 'institution-based view' which is considered as the third leg to sustain the 'strategy tripod' (other two legs are 'resource-based view' and 'industry-based view') to explain the fundamental questions of international business, such as "what drives firm strategy and performances of emerging multinationals in international business?" Moreover, Peng et al., (2009) identifies the importance of institution-based view in strategic management attempting to answer the four fundamental questions such as suggested by Rumelt et al. (1994): (a) 'why do emerging firms differ?' (b) 'how do firms behave?' (c) 'what determines the scope of the firm?' (d) 'what determines the success and failure of firms around the globe?' They suggest that the 'institution-based view' can overcome the criticism of the 'resource-based and industry-based view and can provide an explanation to the growth of internationalization of the emerging multinationals while RBV and Industry-based view have been found to be insufficient to capture all the aspects of the causes of growth of internationalization of these multinationals.

However, though there are several approaches to explain the internationalization firm in the business study but the basic insight of these approaches is that the approaches draw the different circumstances which source the competitive advantages of firm. But in several ways, these approaches complement each other only.

1.2.2 Explaining the internationalization of emerging multinationals

The rise of multinationals from the emerging nations has contributed not only to the manifold growth of outward foreign direct investment (OFDI) from these countries and but also to the expansion of the magnitude of global outward FDI. Though, the emerging multinationals do not possess the usual ownership advantages of their developed country counterparts, these multinationals have gone through the evolutionary stage - from the infant stage to adolescent multinationals and then to mature multinationals and converge towards the same model of multinationals from the developed countries (Ramamurti, 2012). However, the participation of multinationals from the developing countries in globalization waves is not new (Nayyar, 2008) and the issue has been broadly discussed in the literatures

of business studies (Dunning, 1988; Lecraw, 1977; Lecraw, 1993; Lall, 1983; Ghymn, 1980 etc.).

The study of Lecraw (1977) explains that the OFDI from the developing countries is motivated by some different factors than the MNCs from the developed countries. The study finds that foreign direct investors from the LDC firms are driven by several unique factors such as the motive to diversify their risk of investment, to earn high return at local level, to exploit their labour-intensive technology, to produce low cost product with low administrative cost (through involving relatives or countryman in the administration), to export capital equipment, to threat to the existing markets (but intensity to threat was lower than developed countries multinationals) as their home market size is relatively small whereas foreign direct investment from the developed countries are more inclined to threat the existing market through using marketing expertise and to exploit experience with high technology production. Lecraw says that the producers of the LDCs compete through producing products of uniform and good quality, unsophisticated, and undifferentiated products at low price. The study finds that the producers can sustain their presence in the foreign location through producing low cost product with the use of appropriate technology and enjoying the benefit of low administrative cost.

Lall (1983) underlines the nature of foreign direct investment and competitive edge of multinationals from the third world countries to separate the third world multinationals from the multinationals from the developed countries. Lall says that the foreign direct investment from the third world countries is influenced by the nature of their home economy and home country government policy. Small economies export production know-how, efficient management and marketing whereas large economies export capital goods, production know-how, basic technologies (but technology is to some extent are obsolescent) and comparatively inefficient marketing skills. However, there are some technologies just similar to those provided by the developed countries. Explaining the competitive advantage, Lall highlights that competitiveness of the third world multinationals lies in their small scale, labour intensive, undifferentiated manufacturing and price competitive products. Being low cost producers and having low cost skill management, third world multinationals are proficient to initiate and operate enterprises in the institutional environment of the less developed countries.

Mathew (2006) explains how the challenger firms from the emerging economies are capable of establishing their toehold successfully in the global business system. To explain it, Mathew (2006) develops 'linkage, leverage and learning framework' known as 'LLL' framework. According to this framework, internationalization of emerging multinationals are not usually driven by the traditional ownership advantage of the firms, instead, these multinationals are motivated to tap the resources of elsewhere through leveraging, linkage and learning to enhance their capability, which poses the limit of OLI paradigm of international production.

Luo and Tung (2007) present the 'springboard perspective' to describe the internationalization of emerging market multinationals. They describe that emerging multinationals use international expansion as the springboard for the following purposes: first, to compensate their competitive disadvantages, they seek sophisticated technology while investing in the developed countries through participating in the acquisition of foreign companies and green field investment. Second, to assist in the alleviation of some latecomers/newcomers deficiencies in areas such as consumer base, brand recognition and technological leadership, and third, to counter-attack globally established rivals' major toehold in their home country market emerging multinationals are involved in internationalization. For that, they involve in risky activities such as acquisition/green field investment. Fourth, to overcome the trade barriers such as anti-dumping penalties, tariff penalties etc. Though this is not a unique feature of emerging multinationals but the multinationals those produce technologically embedded products are more dependent on global export and likely to involve in exporting intermediate products of production chain and distribution to capture the demand of the foreign consumers which allows them to leverage their production capability to overcome the deficiency of reaching overseas consumers. Fifth, to escape from the institutional constraints of their home country which can hamper the growth of competitive advantage, the firms choose to invest selecting an institutionally efficient, transparent and politically stable country. Sixth, firms use internationalization as springboard perspective to enjoy preferential treatment provided by emerging market governance primarily through reverse investment. In the process of reverse investment, a firm establish a subsidiary in a foreign location and invest back in the home country to enjoy financial benefits from the foreign country. Last, the emerging multinationals use internationalization as a springboard perspective to exploit their competitive advantage.

Khanna and Palepu (2004) have called the multinationals from the emerging nation as the emerging giant. They describe that these emerging giants design their winning strategy despite the lack of opportunities to be globally competitive, suffering from severe market failure, lack of access to the risk capital which is easily accessible for the multinationals of the developed countries, and creaky domestic infrastructure of their home market, and unreliable quality of their supply network: first, the capability of working in the presence of institutional voids because of their familiarity with the institutional environment of the emerging nations, second, capability of producing at optimal price point which is difficult for the developed countries multinationals because of the presence of inter organizational process and cost structure of the emerging nations, third, globalization has given these multinationals the opportunity to be competitive globally, fourth is the development of their internal organizational mechanism to deal with the presence of local institutional voids.

In describing about the uniqueness of the emerging multinationals, the study of Guillén and García-Canal (2009) highlights the distinction between the emerging multinationals and traditional MNEs in terms of their dimension, path and motivation of internationalization. They describe that emerging multinationals are involved in the accelerated internationalization with the capability to deal with the unstable political environment despite their weak competitive advantage. They also explain that the emerging multinationals practice the dual path of international expansion (simultaneous entry into both developing/developed nations) and enter into the foreign market through default entry mode (through alliances/acquisitions). In terms of the motives of internationalization, the new multinationals are motivated to participate in both backward linkage and forward linkage. According to Guillén and García-Canal, the emerging multinationals are highly intended to spread the risk into different countries to manage risk, to diversify the use of capital to get exposure to any one country, to follow home country customers to foreign market, and to escape the institutional voids created by the economic reform in their home country. The emerging multinationals are also motivated to acquire the firm-specific intangible assets in developed countries and to exploit the firm-specific intangible assets in the developing countries.

Explicating how emerging multinationals from the developing nations have transformed their disadvantage into advantage, Cuervo-Cazurra and Genc (2008) have described that despite being grown in a poorly governed infrastructure and disadvantageous with the ownership of less sophisticated resources, these multinationals have succeeded globally

through acquiring the ability to stand with the difficult governance condition of the destination country.

1.2.3 Home-country specific factors and outward internationalization

The general theory of FDI explains that the ownership advantage of enterprises of the home country determines the multinational activities of the firm. But the applicability of the general theory of FDI is very limited to provide a satisfactory explanation about the nature and pattern of OFDI from the developing countries. In the recent literatures, it has been observed that the role of national economy (or external factor of the home country) is inevitable on explaining firm's competitive advantage, though, Barney, (1991), Hwawini et al. (2004), Peteraf, (1993) describes the significance of internal factors on building the competitive advantage of the firms. The role of location advantage on outward FDI was also under-researched during 1970s, but, specific attention was given to explore the role of location advantage on aggregate outward FDI during 1990s. However, not many studies have been found to be concern on investigating the role of the home country external factor on explaining the competitive advantage of the firms, although numerous studies have been conducted to examine the role of internal factors on explaining competitive advantage of firms. A detailed review of the existing literatures that focus on explaining the role of home country environment on outward FDI of a country is presented in the current section of the literature survey.

Stoian (2013) investigates the relevance of the mainstream theory of international production in explaining the growth of outflow of FDI from the emerging and the post communist countries. The study finds the evidence of significant role played by the institutional factors on driving the growth of outward FDI from these countries. So, they suggest the addition of the institutional parameters to the set of determinants of outward FDI to enhance the explanatory power of the model.

Rasiah et al. (2010), investigate the drivers of outward FDI from the emerging nations through extending the motive-based business strategy. They examine the role of home country government policy along with addressing the motives of target industries and location factors of the host countries on the outflow of FDI from the emerging nations. The study finds the significant role played by the home country government on stimulating the growth of outward FDI from these economies.

Banga (2007) examines the role of the capability-related variables such as skills, technology, information and capital, trade related factors such as export and import, and domestic factors namely market factor, labour cost, capital, and infrastructure on driving the outward FDI from the Asian developing economies. The study finds that trade is a very important facilitator of outward FDI from the Asian developing economies. The market size of the home country increases the chance of vertically integrated outward FDI. Acquired capability in the home economy is also an important factor to drive outward FDI from these economies. Moreover, domestic factor which are also called as the domestic constraints or push factor have also been found driving outward FDI from these countries significantly.

Saad et al. (2014), investigate the influence of the home country factors such GDP, level of inward FDI stock, productivity level, exchange rate, export level and patent on outward FDI from Malaysia employing multivariate time series analysis. The study examines whether these factors act as the push factor to influence on the growth of outward FDI or not. The study finds that exchange rate, productivity, and export of the home-country act as push factor to impact significantly the growth of outward FDI from Malaysia.

Das (2013) explores the role of home country factors such as economic development, globalization, political risk, and science and technology investments on the growth of outward FDI from the developing countries employing the panel data regression analysis for the period of 1996-2010 for a large sample of developing economies.

Andreff (2002) looks into the role of the home country factors such as GDP per capita, population, sector-structure of the home country production, technological development, GDP growth rate, and the variation of the exchange rate on outward FDI from the developing and developed countries and also from the transition countries. The study finds that the size of the domestic market is the major driver of outward FDI of all countries including the transition economies. The sector structure of home country GDP is also an influential factor of outward FDI from the transition economies as well as from the less developed countries.

Witt and Lewin (2007) describe that the participation of a firm in outward FDI is the response of a firm to the institutional misalignment in their home country. They explain that the responses of a firm to the institutional misalignment can be in the form of 'acquiescence', 'abatement', 'diminution' and 'escape'. The study reveals that outward FDI is the escape response of the firms to avoid the misalignment between the requirement of the

firm and the home country institutional environment. Firms choose to move to a different institutional environment through shifting of their activities and assets to avoid the institutional misalignment and the associated cost of production in their home economy.

In modelling Russian outward FDI, Kaltoky (2010) examines the role of home country factors such as home-country GDP, home country policy changes along with other host country factors namely natural resources, technology asset, geographical distance, cultural proximity of the host country on outward FDI from Russian Federation. The study finds the presence of significant impact of home country factors in general and market size (GDP) in particular on explaining outward FDI from Russia suggesting the need for redevelopment of a paradigm to explain the growth of outward FDI from the multinationals of the transition economies with a focus on the role of home-country related factor.

Tallman (1988) investigates the role of home country economic and political risk factors on outward FDI from the source country while investing in U.S. The study examines the role of home country economic factors such as GDP per capita, GDP and variables such as net domestic cooperative score (difference between domestic cooperative event score and internal conflictive event score), net international corporation score between home-country and U.S. {difference between (international cooperative events score between the U.S. and home-country) and (international conflictive event score between the U.S. and home-country)} to represent home country and international political conditions respectively on outward FDI from the direct investor country in U.S. The study finds the presence of significant influence of home country economic and political factor on the decision of outward FDI.

The study of Luo et al. (2010) investigates – 'does the home country government of the emerging economies stimulate the growth of outward FDI?' Investigating the role of government policy on the growth of outward FDI in China, the study finds that government policies initiated in China are imperative to support the growth of their home economy and it acts as the supplementary to the growth of OFDI through providing the institutional support to overcome the ownership disadvantages of the emerging multinationals. The study also presents the growth of outward FDI from China with the evolution of government policies in the country.

Kyrkilis and Pantelidis (2003) investigate the importance of the home country macroeconomic factors such as income, interest rate, exchange rate, technology, human

capital, and openness of the economy on the outward FDI from a group of countries namely France, Germany, Italy, the Netherlands, UK and four non-European countries such as Brazil, the Republic of South Korea, Singapore and Argentina for the period of 1977 to 1997. By employing the panel data analysis, the study finds that the macroeconomic factors such as national income and exchange rate can have significant impact on outward FDI from these countries. The study also reveals that the competitive environment of the home country can influence the relationship between these variable and outward FDI. So, the study finds the differential impact of these variables on outward FDI in different countries. The study concludes that national economy is of crucial importance on influencing the growth of outward FDI.

Goh (2011) examines the presence of long-run relationship between home country factors such as exchange rate, international reserves and trade openness and outward FDI in Malaysia. Employing the multivariate time series analysis, the study discloses that government policy of Malaysia such as initiation of liberal policy on capital outflows can significantly influence the outward FDI from Malaysia.

The study of Gao (2013), attempts to extend Dunning's investment development path approach through taking into consideration the influence of human capital on explaining the rise of outward FDI from China. The study explains that human capital of the home country which is captured by human mobility, acts as a supplementary factor of economic development to impact the growth of outward FDI. The finding of the study shows that two-way mobility of highly skilled student and scholars can play a significant role in facilitating the growth of outward FDI from China. The study also finds that Chinese outward FDI is significantly driven by economic development of the home economy indicating the relevance of the investment development path approach and suggests the inclusion of factors such as human capital in the investment development path framework to enrich the explanatory power of the approach.

Boteng and Uddin (2014), investigate the role of macroeconomic factors on explaining the cross border mergers and acquisition (CBM&A). They assign a crucial role to the home country macro-economic environment to represent the location advantage of the home country. Adopting the location-specific advantage framework, they examine the role of the location advantage in terms of home-country macroeconomic factors on cross border M&A of UK. Using time series data for the period 1987-2006, the study derives the long-run and

short-run dynamic relationship between CBM&A and macroeconomic factors such as size of the home country, interest rate, stock prices, money supply, exchange rate, and inflation rate of UK. The study finds that market size, interest rate, share prices and exchange rate have significant impact on outward CBM&A from UK. But the study finds the insignificant role played by money supply and inflation of the home economy on explaining CBM&A of UK.

The study of Globerman and Shapiro (2003) examines the role of home country governance infrastructure on the outward internationalization. They explain that the economic wellbeing of a nation which is to a large extent reflected in its governance structure can have a significant influence on the outward internationalization of a country. Considering a broad sample of both developing and developed countries, they investigate the role of human capital, education, regulatory environment and market size in addition to the governance infrastructure of home country in explaining the both inward and outward FDI. The study finds the presence of significant impact of home country governance infrastructure on both inward and outward FDI of the countries.

The study of Buckley et al. (2016) investigates whether the firms from the emerging nations can transfer their country-specific advantages into firm-specific advantage to exploit it in a foreign location or not. The study discloses that the firms choose the acquisition route of international expansion combining the firm-specific advantage and internalizing the location advantage of the host country. Thus the study relates the importance of home country-specific factors on describing the growth of overseas expansion of firms.

In Indian context, studies that investigate the role of home country factors on outward FDI of the country are very scant. Tolentino (2010) investigates the impact of the national factors on the variability of the level of outward FDI from India and China. To define the source of variability, the study examines the dynamic relationship between the home country macroeconomic environment considering a few factors such as exchange rate, interest rate and trade openness and the outward FDI from both India and China. By employing multivariate time series analysis, the study examines the presence of granger causality, draws the long-run time path, and also, depicts the endogenous structure of the system variables. The study draws the same inference about the absence of granger causality among the system variables in the both countries. However, the study finds that the

endogenous structure of the variables and time path of the variables in the long run differ in the both countries.

1.2.4 Ownership advantage and outward internationalization

The study of Pugel (1981), finds that the parameters of ownership advantage namely R&D intensity, market capability, organizational and managerial ability and capital cost advantage have significant influence in explaining the outward FDI from US. The study also finds the significant impact of industry specific variation on the determination of outward FDI from US.

To highlight the role of resources in the internationalization of firms, Hitt et al. (2006), examine the impact of firm resources in terms of richness in human capital and relational capital that represents the relationship with the corporate client and the foreign government in the internationalization of the firms. The study finds the presence of positive effect of human and relational capital on the internationalization of firms. However, the study reveals that corporate client relational capital can impact positively the growth of internationalization of the firms only if the firms have strong human capital base.

Erriksson et al. (1997), use a behavioural approach to explore the ingredients of behavioural knowledge that influence the process of internationalization of firms. They explain that the lack of knowledge in the field of international business, international institutional structure can lead to increase in the perceived cost of managers in the internationalization process.

Johansen and Bhalne (2009), redefine the Uppsala internationalization process in the backdrop of changing business practices and advancement of theories. Internationalization of firms in the recent period underlines the importance of relational network than the role of neoclassical market in explaining the liability of foreignness of the firms. They reveal that the revised model also work through the same mechanism with the original one, only exception is that the inclusion of knowledge that is developed in the process of developing a relationship. Through the subtitle of the paper, 'from liability of foreignness to liability of outsidership', they intend to reveal that the firms' specific issues in the international business can be explained by the presence of relationship and network rather than the country-specificity.

The study of Rialp et al. (2005) finds that factors such as 1) the global outlook of the manager 2) international experience of managers, 3) commitment in the management, 4) extensive personal and business networking, 5) commitment and knowledge about the market, 6) ownership of unique intangible asset, 7) high value creation through diversification of product base, use of sophisticated technology and innovation of technology, 8) diversification of location, 9) flexibility of adjustment to the external environment, and 10) targeting a limited customer with extensive customer orientation activities and maintenance of close relation with the customers can stimulate the early internationalization of the firms. The study is based on the integrative literature survey of the existing literatures.

The study of Autio (2000) also emphasizes the role of knowledge on describing the internationalization of firms. They investigate the influence of age at entry into the foreign market, knowledge and immitability of technology on Internationalization of firms. The study finds that parameters that represent knowledge base of a firm such as knowledge intensity and immitability of technology can significantly drive the process of internationalization of firms. But the study finds that internationalization is not influenced by the age of the firm which is contradictory to the conventional view. The study introduces the concept of 'learning advantage of newness'. As the firms grow older they develop impediments that constraints their learning to facilitate the growth of internationalization of firms.

Tuppura et al. (2008), examine how resource base versatility, network dependence and accumulated expertise of firms can drive the internationalization strategy such as the path of internationalization, choice of entry modes and choice between geographical diversification and concentration of firms. The study finds that resource of firms in terms of accumulate knowledge has been found having significant influence on the internationalization strategy of firms while the resource base versatility which is captured by the firm's ownership of assets does not have significant impact on the internationalization strategy of firms. The study also finds that network dependence brings down the entrepreneur's decision in undertaking the rapid strategic action and initiating their production in a new market.

Luo et al (2011), elaborates the dual perspective of internationalization of emerging multinationals to explain the internationalization of Chinese multinationals. They describe that in the absence of ownership advantage as defined by the conventional theory of

international production, emerging multinationals are encouraged by the motive of exploiting the firm specific advantages such as governance advantage, inherited advantage, inward internationalization to participate in internationalization. Moreover, they explain that the internationalization of Chinese firms can also be said as the response to avoid the institutional voids like market imperfection such as industry concentration and structural uncertainty of their home economy. By employing firm level data, the study finds the presence of dual strategic intent in the internationalization of Chinese private firms - the internationalization of these firms is a response to escape the institutional voids of the home economy facing with the institutional disadvantage by the Chinese private firms as compared to the state-owned enterprises (SOE) and also, the internationalization is facilitated by the motive of leveraging the unique advantages to facilitate their venturing abroad.

Sun et al. (2012), develop a comparative ownership advantage framework based on the 'Ricardo's trade model of international trade and also incorporate Dunning's Eclectic Paradigm to explain the growth of mergers and acquisition from emerging economy MNEs. They examine comparative ownership advantage of firms in terms of a few attributes such as (1) national industrial factor endowment (2) dynamic learning (3) value creation (4) configuration of value chain (5) institutional constraint and facilitator. By employing firm level data of Indian and Chinese overseas mergers and acquisitions, the study finds that the mentioned attributes act as the source of comparative ownership advantage of multinational from Indian and China which promote the growth of internationalization of the multinationals of the both countries.

The study of Gaur et al. (2014), observes the importance of institutions and resource on internationalization of emerging economy firms. The study finds significant role played by firm's affiliation to business group, international experience of the firm at group level, technology and marketing resources on the participation of firms in outward FDI.

Explaining the accelerated internationalization of the young firms, Weerawardena et al. (2007), explains that dynamic capabilities of firm is a very important driver of accelerated internationalization of young firms. Though, knowledge and capabilities are considered in the same category of drivers but, they distinguish capabilities from knowledge resources of the firms as knowledge of learning about a market is insufficient to capture all aspects of knowledge required to the development of the leading-edge knowledge which facilitates the

multiple market entry of firms without the initial knowledge of the market. Therefore, the present study examine the importance of the aspects of dynamic capabilities such as marketing capability, learning capability, networking capability etc. on explaining the internationalization of young firms. The study observes dynamic capabilities playing the significant role in the accelerated internationalization of these firms.

Describing about the early internationalization of firms, Knight and Cavusgil (2004) underlines the role of knowledge, capabilities and innovative culture of firms which can stimulate the growth of internationalization of the young firms despite their insufficiency of resources. They find that young firms succeed in their internationalization endeavour with the ownership advantage of distinctive capability of leveraging their unique mix of orientation and strategies although these firms are lack of initial resources.

Gassman and Keupp (2009), explain that knowledge base of the firms is the source of ownership advantage of the firms from the emerging nations to encourage them to participate in accelerated internationalization. Criticizing the limitation of the extant theories in explaining the internationalization from the SMEs, they attempt to answer the questions: first, what is the source of competitive advantage of SMEs, second, how these firms generate, sustain and protect their competitive advantage to promote internationalization, third, how efficiently these firms which are presumed to have limited resources generate rents. The conceptual foundation for the study is built on the basis of the knowledge base view (KBV). The study finds that the heterogeneous knowledge base of the firms acts as the source of competiveness of the SMEs as these firms are typically lack of tangible resources.

Investigating the drivers of early internationalization of firms, the study of Zucchella et al. (2007), finds that international experience plays a crucial role in promoting the early internationalization of firms. They explain international experience in terms of personal life (travel/contacts), education, training courses, international participation (congresses, trade fair etc.), sharing of knowledge at inter-organizational level, first job, family business, and non-family business in the same industry, similar industry and different industry. The study finds that international experience that gained through family business is a significant factor to drive the early internationalization of the Swedish firms and work experiences in the similar business activities can also stimulate the expansion of international new ventures. Foreign education and different international experience can influence early

internationalization of firms through internationally oriented mindset but knowledge or experience in the specific field can only significantly impact on the starting of a business effectively. Focalization of business strategy, international experience participating in commercial activities can also play an important role in the process of early internationalization of firms.

According to the study of Yui et al (2007), industry concentration and export intensity can play the role of mediating and moderating factor (moderates and mediates other sources of ownership advantage of firms) to influence the internationalization of emerging multinationals respectively. The study finds the significance of export intensity acting as the moderator in the growth of internationalization of Chinese firms. The study also finds the evidence of strong mediating role played by the corporate governance on promoting the internationalization of Chinese firms.

The study of Mayer et al. (2009) explicates that internationalization strategy such as entry strategy of firms and firms decision whether to exploit or augment its resource base for value creation is to a large extent is influenced by the resource base of the firm. The study finds that - firms with geographically interchangeable resources focus on exploiting resources whereas firms with rich in location bound resources choose to adopt resource augment entry strategy. The study also finds the firm intends to speed up the learning process in a foreign location to adapt in the particular location through augmenting the knowledge resources and building network.

Explaining the internationalization of Chinese firms, the study of Kling and Weitzel (2011) focuses on investigating the role of firm resources, industry effect and corporate mechanism on internationalization of the firms. The finding of the study reveals that firm resources and industry effect not only influence the internationalization of the mature multinationals but also the internationalization of new M&A of Chinese firms. The study also finds the importance of corporate governance on promoting internationalization of the Chinese firms.

The study of Tseng et al. (2007) finds that the influence of knowledge-based resource is faster and more long-lasting than property-based resources on the growth of internationalization of firms. The study also reveals that knowledge based resources particularly technology and marketing resources and property based resources such as

internally generated profits and organizational slack can impact significantly on the growth of internationalization of the firms.

Singh and Gaur (2013) investigates the impact of firm-level governance structure on shaping the internationalization strategies of emerging market firms. The study explains that governance structure of firms reflected in the firm's ownership structure and firm's affiliation to a business group impact on R&D intensity of the firms and also influence on the new overseas investment. The study reveals that favourable governance structure of the firms can augment the positive effect of R&D capabilities and thus can promote the growth of internationalization from the emerging multinationals.

Chittor (2009) underlines the inapplicability of the extant theories in explaining the internationalization of the emerging multinationals. The study explains that extant theories of international production are considered to be insufficient to capture the parameters that explain the internationalization of emerging multinationals and also, suggests the need of new theories. The study describes a few distinctive features of emerging multinationals such as emerging multinational choose markets previously penetrated as exporter, participate in strategic asset seeking motive, face difficulties in acquiring resources, acquisition is the preferred mode of entry to the green field investment. They also explain that successful internationalization of emerging multinationals is possible only though exploitation of locally available or developed proprietary advantage. Firm's affiliation to a business group can also play an important role in promoting internationalization from emerging multinationals.

The study of Wang et al. (2012), examines the drivers of Chinese multinationals. The study brings into consideration three theoretical framework namely resource based view, institutional theory and industrial organization economies to explain the drivers of outward FDI from the Chinese multinationals. The analysis is done at three different levels of analysis - firm-level, industry-level and at the country-level. The study finds that outward FDI of the Chinese firm is largely influenced by their distinctive industrial organization and institutional environment and less explained by the intangible resources of the firms. The study also finds that dynamic capability related variables such as technology and advertising resources have less explanative power about the growth of outward FDI from the Chinese firms.

Kumar et al. (2012), observes the negative association of product diversification and international expansion of firms. But the study finds that the firm's affiliation to a business group can play the role of moderating factor to the strategy of product diversification to promote the growth of internationalization.

In this respect, a few studies have been found explaining the causes of internationalization of Indian firms. Pradhan (2004) investigates the significance of a few important parameters such as age, size, R&D intensity, skill intensity, differential activities, productivity and export orientation of the firms on the internationalization of Indian manufacturing firms. The study finds the impact of age and size of the firms to have non-linear relation with outward FDI from Indian firms. Further, differential activities and productivity of firms are also found to be influential on the growth of outward FDI from Indian firms. Additionally, the study also finds the significant role played by liberalization to fuel the growth of outward FDI from the manufacturing sector of the country.

Elango and Pattnaik (2007) disclose the importance of network on building capabilities of emerging firm which can stimulate the growth of internationalization of these firms. The study examines how emerging multinationals build their capabilities to promote the growth of international operation despite the absence of monopolistic advantage of these firm as referred in the literatures of international business. Using the sample of Indian firms, the study finds that international experience gained by these firms through the parental and foreign network contributed to acquire such capabilities which can be the source of ownership of the emerging firm to participate in overseas investment.

Bhaumik and Drifflied (2010) examines the role ownership structure of firms (which is shaped by the local institutions) to explain how firms from emerging nations influence the decision making of the firm to participate on outward FDI. The study considers the cases of firm from the pharmaceutical and automotive industries of India and finds that family owned firms and concentrated ownership of firms can significantly influence the firms in their decision of participating in outward FDI. They explain that though family owned firms and firms affiliated to a business house can enjoy the benefit of overcoming the discomfort faced during the scrutiny by creditors and external agencies such as credit rating agencies/regulators and concentration of voting power eases the process of decision – making conjuring majority support to participate in outward FDI. But, the factors such as the reluctance of the big shareholders to invest in risky projects using equities and the fear

of losing wealth prevent the shareholders from participating in outward FDI. The study finds the negative influence of family owned firms and concentration of ownership on the decision of the firm from the pharmaceutical and automotive industries of India to participate in outward FDI.

Chittor and Ray (2007) adopt the strategic group analysis to explain the role strategic factor such as target firms, product profile, spending on R&D, manufacturing competence, top management, mergers and acquisition to explain the path of internationalization of firms of Indian pharmaceutical sector. The study is based on conceptual model of internationalization combining both exploration and exploitative strategies along with the dimension of products and markets. The study finds that firms with different strategic assets adopt different path of internationalization. The difference in the potentialities of value creation is reflected in their adoption of strategies which lead the firms to choose different path to participate in internationalization. The study concludes that internationalization of firms from the emerging economies is not based only on the conventional exploitative model of internationalization rather is a combination of both exploitative and explorative strategy. The exploitative strategy of internationalization is supplemented by exploration strategies of emerging multinationals either with the introduction of new products or penetration into the new markets.

1.2.5 Location choice of multinational firms

During 1990s, the evidence of changing location portfolio of international production reveals that with the increasing intensity of firms to produce more value-added product firms are not only concentrated on internalizing their firm specific advantage but also motivated to get access of knowledge and technology from various parts of the world. Almeida (1996) says that the scope of Multinational activities is not only confined to the drawing out of profitability through internalization of the firm specific advantage but it has been transformed to a process of learning and sharing of knowledge. So, location choice is of crucial significance in the internationalization of firms. A brisk review of the literatures that explain about the importance of location advantage of internationalization is presented in this section of literature survey:

The study of Chen and Moore (2010) observes that the presence of firm heterogeneity in terms of the total factor productivity of the firms can have significant effect on the location

choice of French multinationals. The study explores that more productive French firms choose the tough host countries for investment. The study finds that the firms with higher total factor productivity (TFP) are more likely to choose host with smaller market potential, high fixed cost of investment and lower import tariff. Therefore the study reveals that firm heterogeneity can play a significant role in the location choice of multinational firms.

While investigating the determinants of French's firm in choosing location for their affiliates, the study of Mayer et al. (2010), finds that firm's decision to choose location between the domestic economy and abroad is based on the nature of the firms and the type of the activity the firms is engaged in. The finding of the study reveals that the firms are likely to incur high fixed cost if the firms can increase the threshold of operating profit so that they can sustain their profitability investing abroad which is conditional on the total factor productivity of the firm. Therefore, the finding of the study reveals that the location choice of firms is conditional on the total factor productivity of the firm. Moreover, the study also finds that location determinants such as market and supply access, and agglomeration economies have significant influence on the location decision of French multinationals.

Yeaple (2009) investigates how the firm heterogeneity (captured by total factor productivity) and country characteristics influence the multinational activity of US multinationals. The study finds that the most productive firm choose to invest in a large number of countries. The presence of the significant effect of the firm-level heterogeneity on multinational activity of US firms is observed from the study.

Investigating the role of firm heterogeneity on deciding the optimal production location among the domestic, foreign high income and foreign low income markets, the study of Aw and Lee (2008), brings into focus the role of the fixed cost of investment cost of production, cost of transportation, size of the market and firm productivity into the theoretical model to explain the location decision of a firm. By employing firm level data of 2000 Taiwanese electronic firms, the study finds that firms those are more productive than other indulged in OFDI whereas the most productive firms invest in china/USA. However, the firm investing in US are more productive than the firms investing in China. The finding of the study indicates that most productive firms are capable of sustain its profitability investing in the countries with higher fixed cost of production.

The study of Jain et al. (2015), underlines the importance of heterogeneity of firm resources on location choice of multinational firms. They investigate how the firms overcome the difficulties in locating their subsidiaries in the host countries with the utilization of the resources. The study finds that efficiency seeking Indian software firms with the competency that is captured by capability maturity model integration (CMMI) accreditation can overcome the challenge in locating the subsidiaries.

The study of Fiegenbaum et al. (1997), investigates how the firm-level characteristics of US multinationals influence their location choice in Middle East countries. While comparing the US multinationals investing in the Middle East countries to a sample of US multinationals the study finds that multinationals from US investing in Middle East countries have comparatively higher R&D intensity and sales than the sample of US multinationals. The finding of the study reveals that the firm's characteristics can have significant effect on the location choice of multinationals.

Investigation of the location choice of foreign direct investment from newly industrialized economies using a sample of 328 Taiwanese firms, the study of Makino et al. (2002) finds that motivation of a multinational firm is the main source of location decision of the firm. However, firm's capabilities moderate the motives of firms on the location choice of multinationals. The study reveals that the evidence of the influence of both asset exploiting and asset augmenting motive behind the location choice of FDI by Taiwanese firms. The study shows that the firms which are driven by market seeking motive and strategic asset seeking motive intend to invest in developed countries and while the firms which are motivated by labour seeking motive intend to invest in the developing countries. The study reveals that capabilities of firm in terms of technological advantage can ease both asset exploiting and asset augmenting FDI of Taiwanese firms.

Using semiconductor firms for the period of 1994-2000, Henisz and Macher (2004) explains the joint effect of both the firm-level and country-specific determinants on the location choice of Chinese multinationals. The study investigates the influences of the interaction of firm's characteristics with the location determinants on the location choice of firms. The study finds that firm with advanced technological capability intend to invest in the locations with higher technological sophistication but politically stable whereas firm with less technological advancement can go to the locations which are technologically less sophisticated but politically hazardous. The finding of the study reveals that technological

capabilities of firms act as the decisive factor on the location distribution of semi-conductor firms.

The study of Duanmu (2012) investigates the location determinants of Chinese multinationals using a data for 194 location choices in 32 destination countries. The study finds that state owned enterprises are not very concerned about the political condition of the host but sensitive towards that favourable exchange rate between the home currency and host's currency. The study also reveals that strategic intent of the Chinese multinationals influence the location choice in such a way that multinationals participated in manufacturing related FDI are attracted to invest in location with large market size but thwarted by the high labour cost of production in the host country.

Using the firm level data, Quer et al. (2012) examines the significance of cultural distance and political risk of the host country which are considered to be salient components of institution on the location choice of large Chinese multinationals. The study finds that large Chinese multinationals are not responsive toward the high political risk of the host which is not consistent to the traditional consideration of the institutional approach. However, the presence of overseas Chinese in the host acts positively to attract Chinese outward FDI. Furthermore, the study also finds the significant influence of firms' characteristics such as size of the firms and volume of Chinese export on the location choice of multinational.

Buckley et al. (2007) suggest that imperfection that presents in the capital market of China, special ownership advantage of Chinese firms and the institutional factors are to be nested in the general theory of international production to explain the multinational activities of Chinese multinationals. The study finds the existence of positive association of the higher level of political risk of the host, cultural and physical proximity to the host, market size and the natural resources of the host nation with the growth of the Chinese outward FDI.

Lu et al. (2014) brings into consideration the parameters to capture the home-host characteristics to explain the location choice of Chinese multinationals. The study finds that home country government policy initiated to incentivize the outward FDI and host country institutional quality reduces the importance of prior entry experiences of the firms though the accumulated experience gained through entry into the foreign market and capabilities of the firm is of vital importance in the location choice of multinationals.

The study of Du and Tao (2008) explains that the role of institutions of the host on the location choice of US multinationals. By using a large dataset of 6238 US multinationals in China for the period of 1993-2001, the study finds that institutional factors such as better intellectual property right protection, lower degree of government interference in business, less corruption and strong enforcement laws can positively influence the location choice of multinationals.

Kang and Jiang (2012) examine the importance of institutional and economic factor on the location distribution of Chinese multinationals in East and Southeast Asia. The study finds that both the economic factor and institutional factor are of crucial importance on the location choice of Chinese multinationals. However, the institutional factors exhibit a higher level of significance, complexity and diversity in determining the location of Chinese multinationals than that of the economic factors. Moreover, the study reveals that the location distribution of Chinese multinationals demonstrate the dynamic nature of location distribution and also finds the presence of heterogeneity of responses of Chinese multinationals on the location distribution across different economic groups in different period of time.

Highlighting the importance of network linkage on location choice of Chinese multinationals, Chen and Chen (1998) takes into account two aspects of network linkage considerably the internal and external linkage to examine the importance of network linkage on location distribution of the multinationals. Further, they categorise external linkage into strategic and relational network linkage. The study finds that the Chinese firm are sensitive in making external linkage while choosing locations but indifferent in making internal linkage on location decision of FDI. Moreover, in location choice of Chinese multinationals, strategic linkage facilitates the location choice in US whereas relational linkage influences their location choice in Southern Asia. The finding reveals that the presence of strategic linkage strongly impacts the location choice of Chinese multinationals while making FDI in the developed countries but location decision of FDI in the developing countries of the same region is influenced by the relational linkage. In addition, location choice of Chinese multinationals is also influenced by the size of the firm. In addition, the study reveals that small firms are strongly influenced by relational linkage whereas large firms are not seen sensitive towards the relational linkage with the hosts.

The study of Ramasamy et al. (2012) investigates how location choice of Chinese multinationals differs with the firms' ownership. In the study, firms have been categorized into state-owned firm and private firm to see how location choice varies with the ownership of firms. The study finds that state controlled firms are intended to invest in countries with large natural resources and high degree of political risk whereas private firms are primarily motivated to capture the market of the host country. Though all firms are found to have motivated by the strategic asset seeking motive but the firms are mostly influenced by the availability of high technology of the host than the central research effort.

Kolstad and Wiig (2012) investigate the host country determinants of Chinese outward FDI during the period 2003-2006. The study finds that large market size of the host is the prime determinant of location choice of Chinese outward FDI. Moreover, hosts with large sources of natural resources combined with poor institutions are also attractive domicile of Chinese outward FDI. While disaggregating the locations into two economies namely OECD and non-OECD countries, it is found that market is an important location determinant of location choice in the OECD countries but availability of natural resource with poor institutions impact significantly the location distribution of Chinese OFDI in the non-OECD countries.

Deng (2007) investigates the role of motives of Chinese multinationals while deciding their location for investment in the industrialized countries. Using both the secondary and primary data sources, the study finds that the obligation to meet the demand for strategic assets and capabilities is driving the Chinese multinationals to indulge in strategic asset seeking outward FDI in the industrialized economies. The study reveals that the location choice of Chinese multinational is significantly driven by their motives.

Kang and Lee (2007) examine the location determinants of uneven location distribution of outward FDI of South Korea in China using a unique and large firm-level dataset. The study finds that the location determinants such as market and government policy specific to a particular economic zone, quality of labour, transportation infrastructure have a significant role to play in the location distribution of outward FDI of South Korea in China. However, the role of labour cost, water transport and distance has been seen having negative impact on location distribution of OFDI from the South Korean firms.

The study of Stoian and Filippaios (2008) investigates the role of ownership advantage of Greek firms and institutional parameters of the host country on their location choice. The

study contributes to the literature with the finding is that ownership advantage of Greek multinational and institutional determinant of the host country can have significant role on the location distribution of Greek firms. However, corruption has been found to have negative association with location distribution of Greek firms. The study finds that apart from institutional parameters such as bureaucratic quality, the location choice of Greek investors is influenced by the market size and openness of trade of the host country.

Looking into the location determinants of outward FDI, Buckley et al. (2012) examines 'does home-host country linkages complement country-specific advantage in location determination of acquisition of Indian multinational firms'. Whilst, Dunning (2006) acknowledges the role of network and linkages in explaining the internationalization of firm, the acceptance of Eclectic paradigm as a holistic approach to explain the internationalization of firms faces challenges. The present study takes into account the role of institutional asset in terms of home-host country linkage to describe the applicability of the Eclectic paradigm whether it complements or supplements the eclectic paradigm of international production or not. The finding of the study reveals that the presence of linkage between the hosts and the home country adjuncts the Eclectic paradigm. Therefore, the study reveals the applicability of the Eclectic paradigm in explaining the internationalization of Indian multinationals with due consideration of the role of home-host country linkage.

Zhang and Daly (2011) investigates the role of market size, international trade, economic growth, degree of openness and availability of natural resources of the host country on the location decision of Chinese multinationals. The study finds the presence of positive association between these variables specified in the study and the location distribution of Chinese multinationals. More specifically, it can be said that Chinese outward FDI is largely attracted by the countries which have been receiving larger amount of export from China, having large GDP per capita and the countries which have been experiencing high growth of GDP. Also, location distribution of Chinese multinationals is encouraged by the availability of natural resources of the host nation. Moreover, the initiation of liberalization measures in the hosts is also an important factor to influence the location choice of Chinese multinationals. However, the study finds the evidence of the presence of differences in the explanatory power of the variables while investing in the developed countries.

Chen and Kwan (2000) finds that wage cost and market size of the host country have significant impact on the location distribution of Chinese multinationals. The wage cost has

been found to have negative impact while the variables such as education level, infrastructure have been found to have positive but insignificant impact on the location decision of Chinese multinationals. Moreover, study also finds the significant role played by specific economic zone and policy designation of the host on the location distribution of Chinese multinationals.

Gao (2005) also investigates the impact of labour quality of the host on the location distribution of Chinese multinational firms. But the finding of insignificant impact of labour quality on the location distribution of Chinese multinationals for the aggregated FDI data over all source economies which is contrary to the study of Chen and Kwan (2000). However, while disaggregating FDI data over the source economies, the study finds the significant impact of labour quality on location distribution of Chinese multinationals. The study also reveals that the location distribution of Chinese multinationals is more sensitive towards the labour quality of developed countries in comparison to the labour quality of the developing countries.

In Indian context, number of studies conducted to examine the location determinants of outward FDI is very less. De Beule and Bulcke (2012) uses firm level data about the green field investment of Chinese and Indian firms investing across the globe instead of using aggregate data of FDI. The study finds that market advantage such as market size and population can play a significant role on the location distribution of both Chinese and Indian multinationals. However, non-market advantage (institutional parameter such as political risk) does not have significant influence on the location distribution of both Indian and Chinese multinationals. Natural resource of the host is a significant location driver of Chinese multinationals whereas for Indian multinationals it is not as important as for the Chinese firms. Availability of strategic assets of the host is also an important driver of Chinese multinationals than the Indian multinationals. Indian multinationals seem to target the countries which are strategically poor. Geographical distance is also found to have negative impact on the location distribution of both Chinese and Indian green field investment. Multinationals from both the countries prefer to investment in the geographically proximate location. The presence of regional network can also play an important role in location distribution of these multinationals.

In another study, De Beule and Duanmu (2012) examine the firm-level, industry-level and country-level data to explain the location determinant of acquisitions by Indian firms. The

study observes that institutional factors such rule of law, corruption level of the hosts, regulatory quality of the host can play a significant role on the location decision of Indian acquisitions although these factors are not significant location determinants for the Chinese overseas acquisitions. The finding of negative coefficient of political risk variables indicates that political instability of the host is not a significant deterrent factor for the location distribution of both Chinese and Indian overseas acquisitions. Instead, the acquisition from both the countries in the mining industry is mostly happening in the institutionally poor countries and also in the emerging nations which impose less conditionality on the investments. However, significant difference is seen in their preference for locations in acquiring technologies. Indian acquirers are more likely to penetrate in the less competitive market and preferably to the developing countries with less endowed with technological assets whereas the Chinese firms intend to choose developed countries for strategic assets.

Comparing the difference in the location determinants between Chinese and Indian multinationals, the study of Pradhan (2011) finds that both the economies are attracted to the host nations which are their importers, countries promoting inward FDI openness policy, having offshore financial centres, strong home currency and high inflation rate. Multinationals from both the economies are found to be insensitive towards the availability of strategic asset and political instability of the host. The study also finds that Indian multinationals are influenced by the GDP per capita and size of population of the host country whereas Chinese multinationals are not found to have influenced by these factors. Moreover, natural resources, BIT, DTT and geographical proximity of the host are important location factor for the Chinese multinational but not for the Indian multinationals.

Hattari and Rajan (2010) finds that like other countries, outward FDI from Indian is driven by the common country-specific parameters such as motive to access large market, acquiring brand names, technology and process, management skill, reaching the marketing and distribution network, motive to strengthen its presence in the existing market and also accessing new markets. Only exception the study observes is that Indian outward FDI is more market-seeking and resource-seeking in comparison to other nations of the sample.

Employing gravity framework, Rajan (2009) examines the location determinants of outward FDI from India. The study is based on the panel data analysis of the bilateral aggregate data of outward FDI for the period of 2000-2005. The study finds the significant impact of

gravity variables in the location distribution of Indian outward FDI. Rise of the real exchange rate of the countries reduces the flow of outward FDI from India. The study also find that Indian outward FDI is more sensitive to the market size of the host whereas less attractive towards the availability of the strategic assets of the host although the conclusion is based on weak evidence. However, Indian outward FDI is found to be more resource seeker than other countries of the sample.

Investigating the drivers of OFDI from India, the study of Nunnenkemp et al. (2012) finds that availability of resource and strategic assets of the host is not the significant driving factor of Indian outward FDI. The motive of vertical expansion of outward FDI is also found weak. The study finds that market seeking factor has strong effect in the location distribution of outward FDI of India but the study reveals that it is also sensitive to model selection and sample of the study. The study also reveals that more concentration of outward FDI from India is found only in the geographically proximate locations.

Das and Banik (2015) investigate the role of motives such as market-seeking, efficiency-seeking, strategic asset-seeking and resource-seeking motive of internationalization in the location determination of Indian multinational for the period of 2008-2012. Using the firm level data which is recently released by RBI, the study finds the presence of multiple motives in driving the location distribution of Indian multinationals. The study also finds the significant impact of a few country-specific determinants such as bilateral investment treaties (BIT) and offshore financial centre (OFC) on the location distribution of Indian multinationals.

1.3 Sizing up of the literature survey

Literature survey of the previous section gives a brief overview of the extant theories of international production and also provides a discussion on the previous research about the issues related to the outward FDI. Existing literatures show that though there are several approaches to explain the phenomenon of international production but are proved to be insufficient to explain the internationalization of the multinationals from the developing countries. So, there is a recent development of the approaches which have tried to explain the internationalization of the firms from the developing countries. It has also been observed from the literature survey that the gaining importance of macroeconomic environment of the home country as one of the external drivers on explaining the growth of

OFDI. However, the role of home country factor on the growth of OFDI is still under researched in the literature of international business studies. Review of existing literature also shows that only a few studies have been conducted to examine the presence of dynamic relationship between the macroeconomic environment and outward foreign direct investment of India.

Moreover, the review of literatures that are focused on explaining the role of internal drivers or ownership advantage of firms on explaining internationalization of the firms reveals that emerging multinational or the multinationals from the developing countries are not usually driven by the factors which are considered to be very important in the growth of internationalization of their developed countries counterparts. Therefore, the conceptualization of the drivers of internationalization of emerging multinationals on the basis of the existing frameworks or on the basis of one single framework is insufficient to explain the growth of internationalization of these multinationals. Literature survey reveals that a very few studies have been done to explore the drivers of internationalization of Indian firms.

Regarding the location choice of multinationals, it is seen from the literature survey that the consideration of the firm's characteristics is equally significant as well as the country characteristics on explaining the location distribution of multinational firms. But many of the studies have underestimated the role of firm's characteristics on explaining the location distribution of multinational firms. In explaining the location distribution of Indian multinationals, the consideration the role of firm characteristics is also found to be unexplored in the most of the studies. So, it is very essential to examine the importance of firm-level parameters along with the country-level parameters on describing the location distribution of Indian multinationals. Moreover, a few of the location determinants have been found common in driving the location distribution of Indian multinationals in the previous literature, but inconsistency in the findings is also noticed among the studies.

1.4 Defining the problem

Changing foreign direct investment position of India as a result of the high jump of outward FDI from the country along with the increase in inward FDI, leads the country to move on the stages of investment development path. So, it is very essential to examine the factors that can explain the dynamics of foreign direct investment position of the country. Though,

there is much literature explaining the role the internal factors that drive the internationalization of firms, but the literatures on examining the role of external factors to explain the internationalization of the multinationals is very scant. The location advantage of home country which is one of the external drivers of internationalization considered to have significant influence on the international investment position of a country. Macroeconomic environment is an important source of location advantage of a country. So, the role of macroeconomic factors of the home country needs to be explored in explaining the dynamics of foreign direct investment position of the country.

The number of participant in overseas investment (overseas-investing firms) has also increased along with the growing magnitude of outward FDI from the country. So, conceptualization of the parameters which drive the growth of internationalization from the country is of importance as the multinationals from the developing countries do not possess the conventional ownership advantage as owned by their developed countries counterparts. Moreover, internationalization of a firm involves two simultaneous acts of the firm that the decision of internationalization whether to invest or not and how much to invest which are sequential and not independent of each other. So, while explaining the growth of internationalization from the country, it is necessary to take into account the issue of endogeneity and selection bias that exist between these two strategic decisions which has not been addressed in the previous studies. Moreover, the studies that have been conducted previously to explain the growth of internationalization of Indian firms are confined to a particular industry or a sector. So, it is essential to investigate the factors which can explain the accelerated internationalization of Indian firms across all the sectors of the economy and also to fill the gap of literatures addressing the issues those remain under-explained in the previous studies.

Moreover, the changing location preference of Indian multinationals has been noticed with the high growth of outward FDI or internationalization. The developing countries of the same region are the domicile of the 'first wave'[12] of outward FDI from India. But the 'second wave'[13] of outward FDI from India has been seen to be more diversified geographically than the 'first wave'. Since, location decision of foreign direct investment is a strategic decision of a firm, so, the motives of internationalization, location advantage of the host and firm-level heterogeneity act simultaneously on the location distribution of outward

[12] First wave' of outward FDI began during 1960s and 1970s.
[13] Second wave' of outward FDI started in between 1990s and 2000s.

FDI. Though, there is literature exploring the location determinants and motive of internationalization on location choice of outward FDI from India but the simultaneous act of both the firm-level and the country-level factors and the motives of internationalization of the firms has yet to be explored.

1.5 Objectives of the study

1) To examine the impact of home country macroeconomic factors on foreign direct investment position of India.
2) To investigate the drivers of internationalization of Indian firms.
3) To examine the role of motives, country-level and firm-level determinants on location distribution of Indian multinationals.

1.6 Research questions

1) Does the macroeconomic environment of the country act as one of the sources of the external driver of the foreign direct investment position of the country?
2) What does drive the growth of internationalization of Indian firms?
3) Which factors do influence the location distribution of Indian multinationals?

1.7 Data sources and methodology

The current study is based on secondary data. To investigate the issues of outward FDI from India, secondary data from various sources such as World Development Indicators, World Bank, UNCTAD, IMF, CEPPII, and PROWESS, CMIE has been collected. Moreover, to collect necessary information at firm level, companies' annual reports, newspaper clips have also been searched. In order to fulfil the objectives of the current study, information has been collected from both at the firm level and in the country level.

Data collected from different sources has been analysed through employing appropriate statistical tool. In the present research, various statistical tools such as percentage, ratio, average etc. have been employed to explain the trend of outward FDI. To investigate the direction of relationship between the macroeconomic environment and the foreign investment position of the country the study has adopted the time series analysis considering the time period 1981-2014. In the presence of cointegration among the variables, the study employs vector error correction model to explore the presence of short-

run causality and long-run relationship between foreign direct investment position and macroeconomic environment of the country. To explore the parameters of internationalization of Indian firms which consists of two steps (a) the decision of internationalization, and (b) how much to invest, the study uses the two stages regression model. Moreover, the study adopts mixed multilevel regression model to estimate the parameters of location choice at the hierarchical structure considering the role firm-level heterogeneity, country-effect and the motives of internationalization on the location choice of Indian multinationals. The detail about the methodology is discussed in the respective chapters of the thesis.

1.8 Organization of the dissertation

The dissertation is organised into five (5) chapters including the present chapter.

Chapter 1: Introduction and Literature Survey

This chapter presents the introductory part of the dissertation to introduce various issues concerned with the internationalization of Indian firms and also details the review of the existing empirical and theoretical literatures.

Chapter 2: India's Outward Foreign Direct Investment Position: Role of the Home country Macroeconomic Factor

This chapter investigates the impact of macroeconomic parameters on the foreign direct investment position of India. The chapter deals with the investigation of the dynamic relationship between the macroeconomic environment and foreign direct investment position of the country both in the short and long run using the time series data for the period of 1981-2014.

Chapter 3: Conceptualizing the Drivers of Internationalization of Indian firms

This chapter examines the parameters that influence the growth of internationalization of Indian firms. In conceptualizing the parameters of the present study brings into the consideration the relevance of resource-based view, knowledge based view, dynamic capability approach and industry based view to explain the growth of internationalization. The study uses firm-level data to conduct the econometric analysis.

Chapter 4: Location choice of Indian multinationals: Exploring the Role of Motives, Country-level and Firm-level Determinants

This chapter explores the determinants of location choice of Indian multinationals. The present study takes into account both the country-level and the firm-level determinants and motives of OFDI to examine the determinants of location choice of Indian multinationals.

Chapter 5: Findings, By Way of Conclusion and Prospect of future research

This chapter presents the summary of findings of the study and discusses the prospects of future research.

Chapter 2

India's Outward Foreign Direct Investment Position: Role of the Home country Macroeconomic Factor

A detailed study about the role of the home country macroeconomic factor on explicating the dynamics of foreign direct investment position of India is presented in this chapter. The chapter is organized into six sections. Section 2.2 discusses the analytical framework. Methodology and result are presented in section 2.3 and section 2.4 respectively. Then section 2.5 and 2.6 constitute the discussion of the results and conclusion of the study respectively.

2.1 Introduction

Increase in the magnitude of outward foreign direct investment and the inward foreign direct investment (IFDI) from the emerging nations such as South Africa, Malaysia, China, Mexico, Brazil, Thailand, and Turkey over the last two decades has brought about a remarkable change into the foreign direct investment position[14] of their national economies leading them to enter into the 'third stage'[15] of 'Investment Development Path'. Figure 2.1 shows the changing foreign direct investment position of these countries during the period 1981-2014. It can be observed from the Figure 2.1 that the emerging nations have experienced a sudden fall of their net outward FDI during the period post 2001. Though, India emerge as outward investor in the 'first wave'[16] (1960s-1970s) of outward foreign direct investment, but, appeared in the 'second wave'[17] during 1990s after the

[14] Net OFDI has been used to represent foreign direct investment position of a country. "A country's net foreign direct investment position is the sum of direct investment by its own enterprises outside its national boundaries minus the direct investment of foreign owned enterprises within its boundaries", (Dunning, 1981: p. 30). Foreign direct investment position and net outward foreign direct investment have been used interchangeably in this study.

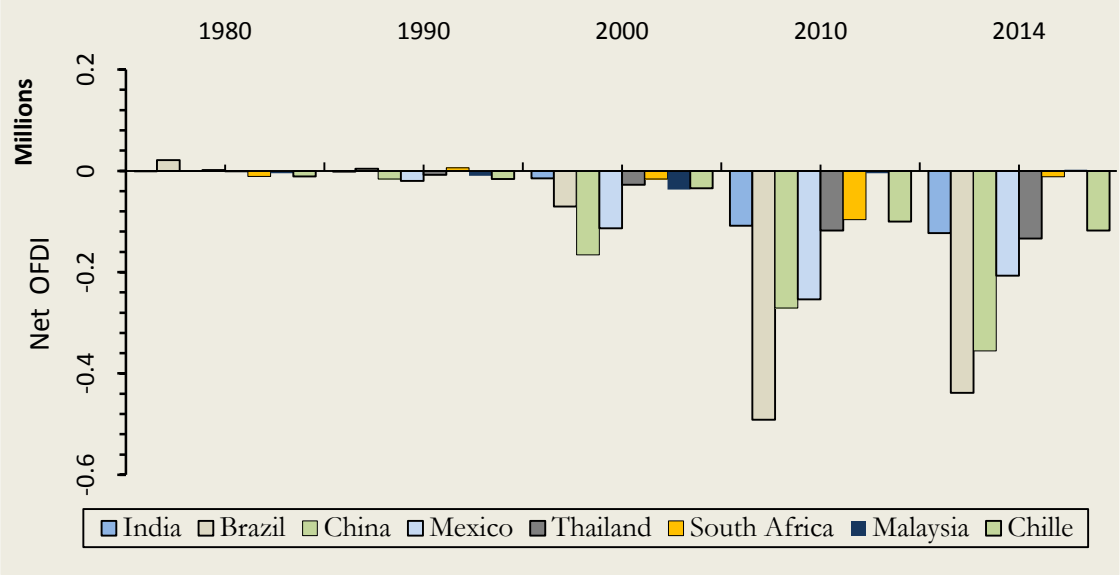
[15] In the 'third stage' of investment development path as explained in the Investment Development Path Approach', net outward foreign direct investment is positive (growing inward foreign direct investment and outward foreign direct investment) but net outward foreign direct investment starts falling. The third stage of IDP is characterized by high growth of inward foreign direct investment and outward foreign direct investment. But inward foreign direct investment grows rapidly than the increase on outward foreign direct investment. So, net outward foreign direct investment starts falling in this stage.

[16] 'First wave' of outward FDI began during 1960s and 1970s.

[17] 'Second wave' of outward FDI started in between 1990s and 2000s.

experience of the stagnation of their economy in 1980s (UNCTAD, 2005), albeit late than the other emerging countries. A manifold growth of outward foreign direct investment from India has been noticed in 2001-2015 (Table 2.1). Changing macroeconomic scenario as a result of the opening up of the trade and FDI sector during the post liberalized period has contributed to a large extent to the shift in the foreign direct investment position of

Figure 2.1: Net Outward FDI from the emerging nations (1981-2014)



Source: Compiled, UNCTAD

the country to move on the stages of investment development path[18] with the change in the location advantage of the country and ownership advantage of the domestic firms. With this backdrop, Indian economy has entered into the 'third stage' of investment development path (shown in Figure 2.2).[19] Kumar (1995) acknowledges the role of home

Table 2.1: Outward foreign direct investment Flows from India (1980-2015)

Time period	Average OFDI Flows (million USD)
1981-1990	4.6
1991-2000	120.8
2001-2015	9112.27

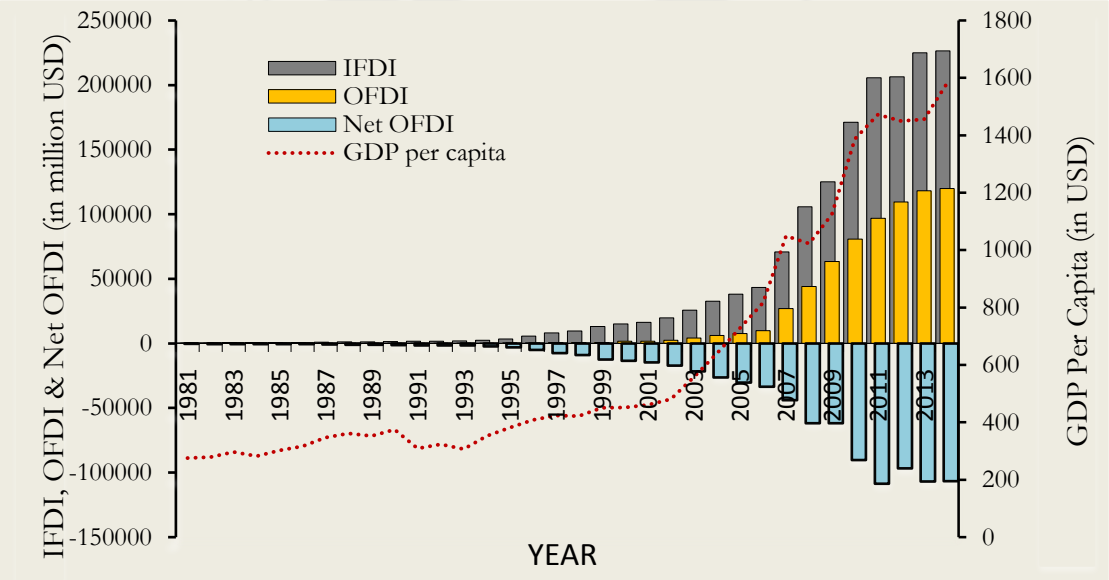
Source: Compiled from UNCTAD.

[18]See "Explaining the investment position of countries: towards a Dynamic and Development approach" (Dunning, 1981) for details about the stages of investment development path. Also see in Chapter 1.

[19]'Third stage' of Investment Development Path is indicated by falling net outward FDI, with increase in inward FDI and outward FDI but rise in IFDI> rise in OFDI (Dunning, 1981).

country environment on shaping the path of evolution of internationalization of Indian multinationals. Under such conditions, it is imperative to explore the influence of the national factor on explaining the dynamics of foreign direct investment position of the country. There are several studies emphasizing the role of home country factors on explaining the growth of outward FDI. Tolentino (2010) states that the external factors which are specific to the home country can influence, albeit partially, the competitive advantage of the firms, though, Barney (1991); Peteraf (1993) emphasizes the influence of the internal resources of a firm on explaining competitive advantage of the firm. Dunning (1980) also says, "the ability of enterprises to acquire ownership endowment is clearly not

Figure 2.2: Net OFDI (in million USD) and GDP Per Capita (in USD) (1980-2014)



Source: Compiled, UNCTAD.

unrelated to the endowments specific to the countries in which they operate and particularly their country of origin." Erramilli et al. (1997) describes that firm's ownership advantage is shaped by the characteristics of its home country. The studies (Cui and Jiang, 2012; Bhaumik et al., 2010; Hong et al., 2014; Kolstad and Wiig, 2012; Meyer et al., 2014; Sun et al., 2012; Sun et al., 2015; Zhang and Zhou, 2011) explain that ownership structure of emerging multinationals which is influenced by the home country institutional environment, has important role to play on the decision of undertaking outward FDI. The previous studies (Luo et al, 2010; Peng, 2012; Wang et al., 2012) explain the role of home country government on the promotion of outward internationalization. Moreover, in the developing countries, home country-specific factors are of utmost importance in the growth of outward foreign direct investment as they act as the source of location advantage to facilitate the

possession of the ownership advantages. Andreff (2002) also explains that the rise of outward foreign direct investment from the transition economies can be better explained by the home country factors. Moreover, the studies of (Chowdhury, 2011; Bhasin and Jain, 2013; Boateng et. al., 2014; Das, 2012; Dasgupta, 2009; Dasgupta and Sinha, 2007; Globerman and Shapiro, 1999; Goh and Wong, 2011; Kalotay and Sulstarova, 2010; Kueh et. al., 2010; Liu et. al., 2005; Peng, 2012; Saad et. al., 2014; Tolentino, 2010; Uddin and Boateng, 2011) describe the significance of home country macroeconomic environment as an important driver of outward foreign direct investment. Dunning (2009) acknowledges the importance of macroeconomic factor in shaping the location pattern, structure and activities of multinational firms over the last 20 years, which was not considered as a part of location advantage during 1970s. Uddin and Boteng (2011) emphasize the role of macroeconomic environment as a very important part of the location-specific advantage of the home country which can significantly contribute to the building of the competitive advantage of the firms. Therefore, the current research aims at examining the role of home country macroeconomic factors to explain the dynamics of foreign direct investment position of India. The study brings into consideration the 'Dynamic or Developmental approach' of international production to explain the relationship between home-country macroeconomic factors and foreign direct investment position of India. Although there are previous literatures, but the role of home country factors on explaining the outward foreign direct investment position of the country is still under-researched. Tolentino (2010) examines the impact of macroeconomic factors namely exchange rate, trade openness and interest rate on outward foreign direct investment flows from India for the time period of 1980-2006. The current study is different from the previous studies as it aims at examining the role of the home country-specific macroeconomic factors such as exchange rate, trade openness and gross domestic per capita income (GDP per capita income) on explaining the dynamics of foreign direct investment position of the country. To capture the foreign direct investment position of India, net outward FDI i.e. the difference between OFDI stock and IFDI stock is taken into account. The multivariate time-series analysis for the time period 1980-2014 is employed to capture the dynamic relationship among the variables both in the long-run and short-run. Specifically, the study adopts the vector error correcting modelling (VECM) to assess the direction of relationship of the endogenous variables both in the long-run and short-run. The impulse response function (IRF) and forecast error variance decomposition (FEVD) function are also derived to draw the time path of the system variables and to examine the endogenous structure of the system variables respectively.

2.2 Analytical framework

Analytical framework for the study is framed on the basis of the Developmental and Dynamic approach of international production. Dunning (2000) acknowledges that the Eclectic (or OLI[20]) Paradigm has remained the dominant analytical framework for accommodating a variety of operationally testable economic theories of the determinants of foreign direct investment and the foreign activities of multinational enterprises (MNEs). But the Eclectic Paradigm is a static explanation of the advantages of international production and likely to be more applicable to the developed countries those already attained the stages of economic development. But in the developing countries the advantages of international production are dynamic and change with the stages of economic development of a country. So, Investment Development path approach is more applicable to explain the foreign direct investment position of a developing country. The IDP approach is also termed as the Dynamic or Developmental approach as it elaborates the dynamics of the advantages of international production of the developing nations relating with the stages of economic development. In explaining the dynamics of foreign direct investment flow of a country the Developmental approach assigns a crucial role to location advantage of a country as it helps in the acquisition of ownership advantage.[21] The insight of the IDP approach is that location advantage acquired at different stages of development paves the ways for the firms to acquire ownership advantage through attracting inward foreign direct investment into the home economy and with the acquired ownership advantage firms (participating in FDI through JVs) are involved in outward foreign direct investment. Though, the IDP approach gives crucial importance to economic development in explaining the dynamics of advantages of international production, but, the role of economic development is overemphasized. Since economic development itself is an outcome of the interaction of multiple economic factors or behaviour of economic agents, therefore, factors which are very implicit to the developmental process of a nation are need to be taken into consideration in the Dynamic approach of foreign direct investment position. Previous studies (Buckley et. al, 2007; Buckley et. al, 2012; Gao et. al 2013; Liu et al., 2005; Stoian, 2012) suggest that GDP per

[20]OLI and Eclectic Paradigm can be used interchangeably. OLI means ownership advantage, location advantage and internationalization advantage of international production.

[21]The acquired competency can be the 'Ownership advantage' in terms of created asset for the domestic firms (also be the 'location advantage') and acquisition of it encourage them to involve in overseas direct investment (Dunning, 1980). Moreover, acquired 'ownership advantage' of created asset can also be the 'location advantage' for foreign firms and can supplement the economic growth of a country through encouraging foreign firms to invest in the domestic economy.

capita (which is an indicator of economic development) is to be supplemented by other factors to explain the outward foreign direct investment of a country. Gao et. al. (2013) suggests that the IDP approach needs to be extended with the addition of two-way human mobility and knowledge capital into the framework to retain its explanatory powers. The study of Liu et al. (2005) advocate the formulation of a special theory with the inclusion of factors like export and human capital besides gross domestic product (GDP) to explain the causes of outward foreign direct investment. Moreover, the studies (Buckley et. al, 2007; Buckley et al., 2012) suggest the addition of relational assets in term of ethnic or family network and host-home country linkage to the general theory of international production. The studies (Stoian, 2012; Stoian and Mohr, 2016; Wu and Chen, 2014) advocate the addition of institutional factors to the IDP approach. Therefore, based on the existing literature, it can be said that economic development of a country needs to be supplemented by other home country factor to explain the dynamics of foreign direct investment position of a country. Therefore, in the present research, home country macroeconomic factor such as trade openness and exchange rate have been taken into account as the supplementary factor to the economic development of India to explain the impact of macroeconomic environment on foreign direct investment position of the country. The literature review cites some of the previous studies that look into the importance of these factors on explaining the foreign direct investment position of a country to provide a theoretical and empirical justification for selecting the variables in the current study. The analytical framework to show the relationship between these variables and foreign direct investment position can be presented in figure 2.3.

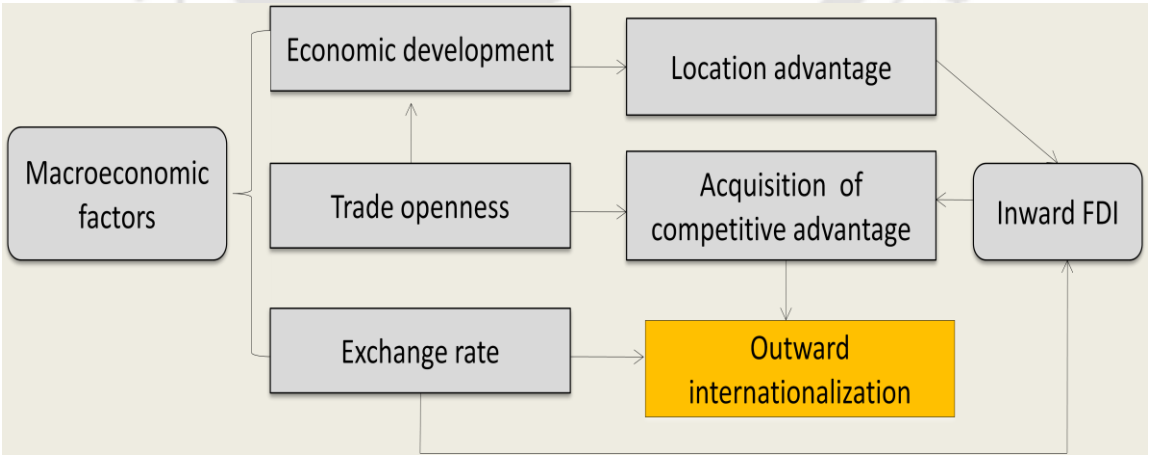


Figure 2.3: Analytical framework

2.2.1 Economic development

The IDP approach provides the theoretical ground to include economic development to the set of determinants of foreign direct investment. Dunning (1981, 2001) says that as countries grow, the determinants of trade and foreign direct investment become less related to the comparative advantage of their natural resources and more related to their created assets as the location advantages created in the process of economic development provides the base to the firms to acquire ownership advantage. Apart from the theoretical explanations, Stoian (2012) says that firms can acquire the ownership advantage through getting embedded with the economic development of the country. Globerman and Shapiro (1999) explains that gross domestic product (GDP) of a country acts as a source of ownership advantage in terms of intangible asset for the domestic firms and promotes outward foreign direct investment activities of the firms. Moreover, Deng (2012) explains that rapid growth of emerging nation can bolster the level of confidence of the emerging nations' firms and insist them to participate rigorously in the accelerated overseas investment. Empirical studies of (Andreff, 2002; Bhasin and Jain, 2013; Das, 2012; Deng, 2012; Dunning, 1981; Dunning, 2001; Globerman and Shapiro, 1999; Goldstein and Pusterla, 2008; Kayam, 2009; Liu et. al., 2005; Stoian, 2012) examine the significance of economic development as one of the drivers of outward foreign direct investment. Kalotay and Sulstarova (2010) find that the market size of the home country is the most significant determinant of Russian outward foreign direct investment (1% increase in Russian GDP leads to 0.9% increase in cross-border Merger and Acquisition). So, they suggest the addition of 'H' leg to the famous trio of OLI Paradigm.[22] Saad et al. (2014) also finds the impact of contemporary development of Malaysia on outward foreign direct investment activities of the country. So, the current study examines the direction of relationship between economic development and net outward foreign direct investment of the country.

2.2.2 Model of economic development

The export promotion and import substitution development model have crucial significance in the transformation of economic structure of a country. Trade openness is an integral part of the growth of the domestic economy (Andersen and Babula, 2008; Aw et al., 2007; Baharumshah and Rashid, 1999; Dollar and Kraay, 2004 etc.). Therefore, Duran and Ubeda (2001) admits that economic development model of a country can significantly influence the

[22]'H' implies the role of home country factor (Kalotay & Sulstarova, 2010).

foreign direct investment position of a country. Both of these mechanisms lead rapid productivity growth through increase in investment on technology, increasing returns to scale and learning (Grawbowski, 1994). In India, the initiation of trade liberalization and associated 'export-led-growth' strategies during 1981s and introduction of 'automatic' licenses to the importers in 1975 were of the important steps taken as a part of developmental strategy (Bhattacharjee, 1985). Moreover, the rigorous liberalized measures that have been pursued over the last two decades to open-up the trade sector also have significant impact on the industrial growth of the country. So, trade openness of the country is taken into consideration in the present study, considering its importance in the process of development of the country. The presence of a strong positive impact of trade openness on outward foreign direct investment has been witnessed in the previous studies (Buckley et. al., 2007; Das, 2009; Pandetelis and Kyrkilis, 2005). Liargovas and Skandalis (2012) finds that openness of trade does not always lead to increase on FDI, as there are sometimes multiple-equilibria and countries are stuck in one that does not support the growth of FDI. So, the evidence of mixed impact of trade openness on foreign direct investment as revealed in the previous studies, the present study is an attempt to investigate the direction of relationship between trade openness and foreign direct investment position of the country. The sum of export and import has been used as the proxy of trade openness following the studies of (Pandetelis and Kyrkilis, 2005; Tolentino, 2010).

2.2.3 Exchange rate

Exchange rate can significantly influence the net foreign direct investment position of a country. Aliber (1970) advocates that countries having strong currencies can positively support the growth of outward foreign direct investment than that of the countries with weak currencies. The appreciation of home country currency can facilitate the growth of foreign investment of the domestic firms as the appreciation of domestic currency reduces the requirement of capital for foreign direct investment (Kyrllikis and Pantelidis, 2003, Tolentino, 2010). Moreover, relative wealth effect of appreciation of home currency (Froot and Stein, 1991) and expectation of profitability associated with appreciation of home currency (Campa, 1993) also lead to the increase in outward foreign direct investment. The previous studies (Campa, 1993; Froot and Stein, 1991; Kyrllikis and Pantelidis, 2003; Tolentino, 2010) find the presence of positive association between exchange rate and outward foreign direct investment. But Liu and Deseatnicov (2016) notice the negative impact of appreciation of Chinese Renminbi on Chinese outward foreign direct investment

flows which is not consistent to the findings of the existing literatures. So, in the context of the presence of the ambiguity in the direction of relationship between exchange rate and net outward foreign direct investment, the current study aims at examining the direction of relationship between net outward foreign direct investment and exchange rate in India.

2.3 Methodology

Multivariate time series analysis is chosen for the time period of 1980-2014 in the current analysis. The choice of the period is done on the basis of the availability of information about the selected variables. The relevant price indices are used to enable the conversion of nominal values to the real values and then the natural logarithm of the variables is taken. The detail about the sources of data of the variables is given in annexure-2.1A. The variables are defined as below:

O_t=Net outward foreign direct investment (=Outward FDI stock-Inward FDI stock),

G_t=Economic development (GDP per capita income)

T_t=Trade openness (Export + Import)

ER_t=Nominal exchange rate

2.4 Results

Before estimating the dynamic relationship among the variables, it is necessary to know the descriptive statistics of the variables and time series properties of the individual time series. Table 2.2 reports the summary statistics such as number of observations, means the variables, standard deviation and minimum and maximum values of the variables.

Table 2.2: Summary statistic of the variables

Variables	Observations	Mean	Standard Deviation	Min	Max
O_t	35	-1.801395	0.7124701	-2.919298	-0.63359
G_t	35	4.308277	0.8175131	3.113231	6.169357
T_t	35	7.408978	2.489253	3.829468	11.66548
ER_t	35	3.843965	0.6321916	2.699131	4.590798

2.4.1 Unit-root test

Augmented Dickey Fuller (ADF) test is employed to find out the order of integration for each of the four series. First, the test in the levels and then in the first differences of the variables is conducted. For each series, the current study starts with the specification of the test equation that includes an intercept and a trend (since all the variables have a time trend):

$$\Delta x_t = \alpha_0 + \alpha_1 t + \gamma x_{t-1} + \sum_{i=1}^{p} \beta_i \Delta x_{t-i} + \varepsilon_t \qquad (2.1)$$

Where, $x_t = (O_t, G_t, T_t, ER_t)$, α_0 represents the intercept term, t is the deterministic time trend, Δx_{t-i} is the augmented term, ρ is the appropriate lag length of the augmented terms and ε is the white noise error term. The ADF test is the test of significance of the coefficient of γ in the above equation. In order to select the lag length ρ, the study starts with a maximum lag length of four and pares it down to the appropriate lag by looking at

Table 2.3: Result of the Augmented Dickey Fuller unit roots Tests

	At Level		At First Difference	
Variables	ADF	Lags	ADF	Lags
G_t	-1.841 (0.6847)	[2]	-3.932**(0.0110)	[1]
O_t	-1.808 (0.7009)	[1]	-6.337***(0.0000)	[0]
T_t	-2.252 (0.4609)	[2]	-3.924**(0.0112)	[1]
ER_t	-1.530 (0.8185)	[2]	-3.441**(0.0462)	[1]

**, p<.05, 5% level of significance

***, p<.01, 1% level of significance

Note: The selection of lag in the ADF test is decided on the basis of Swartz Information Criterion. Values in the parentheses are their respective p-values.

the Schwartz Information Criteria (SIC). Table 2.3 shows the result of the Augmented Dickey Fuller test (ADF). The study does not find any variable statistically significant at level. The test confirms that all variables are stationary at 1% level of significance at their

Table 2.4: Result of the Phillips-Perron unit roots tests

	At Level		At First Difference	
Variables	PP	Lags	PP	Lags
G_t	-2.301 (0.4333)	[3]	-9.893***(0.0000)	[3]
O_t	-1.956 (0.6252)	[3]	-6.369***(0.0000)	[3]
T_t	-2.405 (0.3769)	[3]	-8.142***(0.0000)	[3]
ER_t	-1.290 (0.8904)	[3]	-3.551**(0.0343)	[3]

**, p<.05, 5% level of significance

***, p<.01, 1% level of significance

Note: Values in the parentheses are their respective p-values. The selection of lag in the PP test is decided on the basis of the measure given by Newey-West lags in calculating standard error to account for serial correlation. The default is to use in $\left\{4\left(T/100\right)^{2/9}\right\}$ lags.

first difference which are non-stationary at level. However, Augmented Dickey-Fuller test is criticized due to the restrictive assumption of statistical independence, constant variance of the distribution of the errors and for low power in the small sample (Das et al., 2009). The

generalized Dickey-Fuller test has better power but under the condition of large sample size (more than 50). Pillip and Perron (1988) develop a non-parametric test with the less restrictive assumption for the distribution of the error term. Therefore, the Phillips-Perron (PP) method is employed to cross-check the results suggested by ADF test. The result of the PP-test in provided in Table 2.4. Both the measures have given the same result. Moreover, in the present study, the same result has been found even after taking consideration of the presence of endogenous structural breaks in the individual time series observations of the variables.

2.4.2 Cointegration Test

If all the variables are integrated of the same order (i.e. I (i)), it is essential to conduct the co-integration test to investigate the presence of the co-movement of the system variables in the long run. The ADF test and Phillips-Perron test suggest that the system variables (O_t, G_t, T_t, ER_t) are all integrated of the same order (i.e. I(1)). Therefore, the maximum likelihood method of Johansen (1988, 1991) and Johansen and Juselius (1990) test is done to detect the number of cointegrating equations among the variables. The Johansen's test procedure involves the estimation of the following model:

$$\Delta x_t = \sum_{i=1}^{p-1} \pi_i \Delta x_{t-i} + \pi x_{t-p} + \varepsilon_t \qquad (2.2)$$

Where, $x_t = (O_t, G_t, T_t, ER_t)$. The test for cointegration is based on the rank of the matrix (π). The result of the cointegration test is reported in Table 2.6. The test of multivariate co-integration test requires the specification of sufficient time lags. Table 2.5 reports the selection of optimal lag for the Johansen-Juselius cointegration test. Generally Aikaike Information Criteria (AIC) and Swartz Bayesian Information Criteria (SBIC) of lag selection are chosen for determination of optimum number of lag. But here in this study, the result as reported in the Table 2.5 shows that AIC selects 4 lags and SBIC selects 2 lags. Wolde-Rufael (2004) finds that when there is conflict between SBIC and AIC in the selection of optimal lag length then the Likelihood Ratio (LR) test is the appropriate criteria to choose the optimal lag length. Here, in this study, both LR criteria and AIC criteria select 4 lags. So, lag length=4 is considered as the optimal lag length in the current study. In the Johansen and Juselius test of cointegration, number of cointegrating equations is decided

Table 2.5: Lag Selection criteria

Lag	AIC	SBIC	LR
0	5.07951	5.26454	
1	-2.85483	-1.9297*	277.96
2	-2.82539	-1.16011	31.087
3	-4.0813	-1.6759	70.933
4	-4.31604*	-1.17052	39.277*

Note: * denotes significant at 5% level of significance.

by two statistics: (a) maximum eigen value statistic or max-statistics (λ_{max}) and (b) trace-statistics (λ_{trace}). The presence of cointegrating vector is detected on the basis the significance of these two statistics at 5% level of significance. The result of the cointegration test is reported in the Table 2.6. The results of cointegration test shows that the trace-statistics and max-statistics reject the null hypothesis of no co-integration (λ_{trace} = 76.3794> critical value=47.21; λ_{max} = 42.6778>critical value= 27.07 at 5% level of significance) at 5% level of significance and confirm the presence of cointegration among the variables. But, the max-statistics cannot reject the presence of at most one co-integration vector in the model (λ_{max} =17.6600<critical value=20.97 at 5% level of significance) whereas the trace-statistics (λ_{trace} =33.7016>critical value=29.68 at 5% level of significance) rejects the presence of at most one cointegration. Result of the cointegration test shows that trace statistics determines at most 3 cointegrating equations. In an n variable model there must be at most $(n-1)$ co-integrating equation and so, the existence of co-integrating vector up to 3 $(n=4 \Rightarrow n-1=3)$ in the specified model is justified (Enders, 2014).

Table 2.6: Johansen and Juselius Co-integration test

Maximum Rank	λ_{trace}	5% Critical value	λ_{max}	5% Critical value
r=0	76.3794	47.21	42.6778	27.07
r=1	33.7016	29.68	17.6600*	20.97
r=2	16.0416	15.41	15.0006	14.07
r=3	1.0409*	3.76	1.0409	3.76

Note: * denotes significant at 5% level of significance.

The presence of one co-integration vector which is confirmed by max-statistics λ_{max} as it has the sharper alternative hypothesis than the trace statistics. Moreover, the interpretation of multiple co-integration vectors in the system of variables is problematic. Therefore, measures given by max statistics of Johansen and Juselius cointegrating test is preferable to the trace statistics in deciding the number of co-integration equation present in a system of non-stationary variables (Enders, 2014).

2.4.3 Regression: vector error correction model

If there is the presence of co-integration among the variables, vector error correction model (VECM) is chosen for the regression analysis (Engle and Granger; 1987; Sargan, 1984). In the present study, there is the presence of one cointegrating equation among the variables of the system, so, VECM is employed for the estimation. The VECM constitutes two parts: (a) one part is an error correction term (ECT) to capture the speed of adjustment in the short-run towards the process of attainment of the long-run equilibrium; (b) another part is the set of explanatory variables in their first difference. The vector error correction model (VECM) is,

$$\begin{bmatrix} \Delta O_t \\ \Delta G_t \\ \Delta T_t \\ \Delta ER_t \end{bmatrix} = \mu + \Gamma(L) \begin{bmatrix} \Delta O_{t-1} \\ \Delta G_{t-1} \\ \Delta T_{t-1} \\ \Delta ER_{t-1} \end{bmatrix} + \alpha \begin{bmatrix} O_{t-1} \\ G_{t-1} \\ T_{t-1} \\ ER_{t-1} \end{bmatrix} + \begin{bmatrix} \varepsilon_O \\ \varepsilon_G \\ \varepsilon_T \\ \varepsilon_{ER} \end{bmatrix} \quad (2.3)$$

Where, ΔO_t= First difference of net outward foreign direct investment (outward foreign direct investment stock - inward foreign direct investment stock),

ΔER_t= First difference of exchange rate,

ΔG_t= First difference of GDP per capita income of India,

ΔT_t= First difference of trade openness (sum of import and export of India),

C= Constant/Intercept and

$\Gamma(L)$ = 4×4 polynomial matrix of coefficients to be estimated,

(L) = Lag operator,

(Γ) =Short run adjustment among the variables across four equations,

(Δ) = First difference operator,

(α) =Error correction component in levels and

(ε_T) =White noise error term

μ =Intercept

The estimation of short-run causality of the VEC model is reported in Table 2.7. The coefficients of the speed of adjustment parameters (coefficient of ECT) and their associated p-values are also reported in Table 2.7. The speed of adjustment term for net outward FDI has the correct sign and the coefficient of it is also significant at 10% level of significance.

But it is not significant for trade openness, GDP per capita and exchange rate though it has the correct

Table 2.7: Short run Dynamics of VEC analysis

Variables	Dependent Variables			
	ΔO_t	ΔT_t	ΔG_t	ΔER_t
Intercept	-.0321239 (-0.23) [0.817]	.0590404(0.39) [0.698]	.016619(0.10) [0.921]	.09727**(2.43) [0.015]
$\Delta O_t(-1)$	.3986062(1.38) [0.167]	.0205968(0.06) [0.948]	.315724(0.91) [0.364]	-.1655539**(-1.99) [0.047]
$\Delta O_t(-2)$	.3956691(1.33) [0.184]	-.238908(-0.73) [0.466]	-.12161(-0.34) [0.735]	-.0333646(-0.39) [0.698]
$\Delta O_t(-3)$	.3569699(1.26) [0.209]	.3184323(1.02) [0.308]	.2193797(0.64) [0.522]	.0154597(0.19) [0.850]
$\Delta G_t(-1)$	-.0869587(-0.18) [0.857]	-.988933*(-1.87) [0.061]	-.79081(-0.16) [0.876]	.0759235(0.55) [0.584]
$\Delta G_t(-2)$	.4221246(0.70) [0.483]	1.888639***(2.86) [0.004]	1.5284**(2.11) [0.035]	.0910984(0.53) [0.599]
$\Delta G_t(-3)$	.1434442(0.19) [0.849]	-.879408(-1.06) [0.287]	-.14198(-0.16) [0.876]	.2125424(0.98) [0.327]
$\Delta T_t(-1)$	-.0940689(-0.21) [0.835]	1.243128**(2.50) [0.012]	.7525382(1.38) [0.168]	-.0853782(-0.65) [0.513]
$\Delta T_t(-2)$	-.6084173(-1.11) [0.267]	-1.59***(-2.64) [0.008]	-1.3463**(-2.04) [0.041]	-.0856617(-0.54) [0.587]
$\Delta T_t(-3)$	-.1152306(-0.16) [0.869]	.7539505(0.98) [0.327]	-.002873(0.00) [0.997]	-.2146569(-1.06) [0.287]
$\Delta ER_t(-1)$	-.0973137(-0.10) [0.924]	1.012861(0.91) [0.365]	.5904788(0.48) [0.630]	.1732612(0.59) [0.554]
$\Delta ER_t(-2)$	1.867062**(1.98) [0.048]	-.471501(-0.45) [0.649]	-.06534(-0.06) [0.954]	.1047051(0.38) [0.700]
$\Delta ER_t(-3)$	-.798951(-1.10) [0.271]	.7222364(0.91) [0.365]	.4652847(0.53) [0.595]	.0614288(0.29) [0.769]
$ECT(-1)$	-.523845*(-1.84) [0.065]	-.0893(-0..29) [0.775]	-.4075(-1.19) [0.234]	-.04921(-0.60) [0.548]
R^2	0.4230	0.7555	0.6219	0.7080
Log Likelihood	118.0476			
Skewness (Prob > chi2)	Chi2=6.175 [0.187]			
Lagrange Multiplier test	Chi2=14.6915[0.547]			

*, p<.10, 10% level of significance
**, p<.05, 5% level of significance
***, p<.01, 1% level of significance
Figures in the parenthesis are t value and in brackets are their respective p-values.

sign (negative sign of the coefficient of ECT is desirable.). The significance of the speed of adjustment term (ECT) of the equation for net outward FDI implies that the variable is endogenous and it responds significantly to any deviation from the long-run relationship described by the cointegrating equation. Moreover, the finding of insignificance of the coefficients of the ECT for trade openness, exchange rate and GDP per capita indicates the

exogenous structure of the variables which are responsive to any deviation from the long-run equilibrium position.

Table 2.8: Long-run Dynamics

O_t	T_t	G_t	ER_t
1	-1.162868*** (.0981188)	1.751048**(.2343738)	1.742528*** (.204825)
	[0.000]	[0.000]	[0.000]
t values	-11.85	7.47	8.51

**, p<.05, 5% level of significance
***, p<.01, 1% level of significance
Standard errors are in parenthesis and p-values are in brackets.

The cointegrating equation with normalized coefficients for net foreign direct investment can be expressed as given in equation (2.4),

$$O_t = ECT + 1.162868T_t - 1.751048G_t - 1.742528ER_t + \varepsilon_t \quad (2.4)$$

The coefficients of the variables as presented in the normalized cointegrating equation (equation 2.4) shows that trade openness (positive coefficient) has positive effect whereas Exchange rate (negative coefficient) and GDP per capita income (negative coefficient) has negative impact on net outward FDI from India. Long-run relationship as reported in Table 2.8 indicates that the coefficients of $(G_{t)}$, (ER_t) and (T_t) are statistically significant at 1% level of significance. The finding of positive sign of the coefficient of the trade

Table 2.9: Result of short run causality test: bi-variate analysis

Dependent variable	Excluded	Chi-square	*p*-value
ΔO_t	$\sum_{i=1}^{4} G_{t-i}$	0.79	0.8515
	$\sum_{i=1}^{4} T_{t-i}$	1.93	0.5881
	$\sum_{i=1}^{4} ER_{t-i}$	4.45	0.217
	all variables	9.58	0.6524
ΔG_t	$\sum_{i=1}^{4} O_{t-i}$	1.99	0.575
ΔT_t	$\sum_{i=1}^{4} O_{t-i}$	2.37	0.4992
ΔER_t	$\sum_{i=1}^{4} O_{t-i}$	4.14	0.2469

Note: Estimate is done on the basis of bi-variate VEC model.

openness variable is consistent to the theoretical argument and empirical findings of (Goh and Wong, 2011; Kueh et al., 2010; Wong and Yip, 1999; Panagaria, 2004; Dollar and Kraay, 2004 etc.). The finding of the negative coefficient of GDP per capita and exchange rate in the long run analysis as shown by the VEC estimate (Table 2.8) is not consistent to the expected direction of relationship. However, nominal exchange rate represents the weighted

average of bilateral nominal exchange rate of the home currency in terms of the foreign currency. In the present study, nominal exchange rate is expressed as the exchange rate of rupee in terms US dollar. So, increase in the exchange rate indicates the depreciation of the home currency in terms of US dollar indicating that depreciation of the home currency impact negatively on the net outward FDI from India. So, the finding of negative coefficient of the variable is consistent to findings of the existing literatures. Moreover, the finding of negative sign of the coefficient of GDP per capita income is not surprising for India and it is consistent to the theoretical explanation. In the developing countries, net outward FDI decreases with the economic development till the countries reach the 'third stage' of investment development path explained in the IDP approach. Net outward FDI starts becoming positive in the fourth stage of investment development path. India enters into the 'third stage' of investment development, so, negative association between net outward FDI and economic development is noticed in the present study. The bi-variate relationship of the variables in the short-run derived from the short-run estimate of the VECM is reported in Table 2.9. The result shows the absence of the causal relationship from other variables of the system to net outward FDI (as shown by χ^2 and respective *p*-values). Moreover, the presence of no causality from net outward foreign direct investment to other variables of the system is also seen in the present analysis.

2.4.4 Diagnostic test

Post-estimation diagnostic test after the VEC estimate such as Lagrange Multiplier test (to check the presence of autocorrelation), the stability of the VECM and normality test of the disturbance term are performed. The Lagrange multiplier test shows the presence of no serial autocorrelation in the lag orders, so, lag selection (lag length= 4) for the analysis is justified (statistics reported in Table 2.7). Normality test shows that no skewed error is observed in the distributions of the residuals (statistics of the normality test is reported in Table 2.7). Interference on the parameters in adjustment parameter depends crucially on the stationarity of the cointegrating equations. The stability test of the VEC estimate is done to check whether the number of co-integrating equations is correctly specified or not. The companion matrix of a VECM with K endogenous variables and r co-integrating equations has $(K-r)$ unit eigen values. If the process is stable, the moduli of the remaining r eigen values are strictly less than one. In the present analysis $(K=4)$ and $(r=1)$, so, there must be three unit moduli and remaining r values should be less than one to get the VEC model stable. Only three eigen values are in the unit circle and the remaining values are not close to

unit cycle (Figure 2.4). The stability test indicates that the model is not miss-specified and is stable.

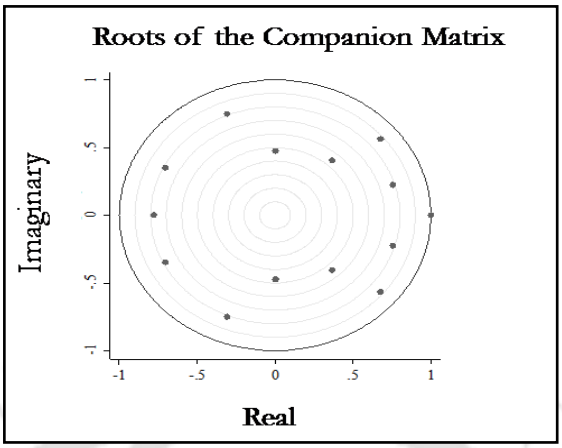
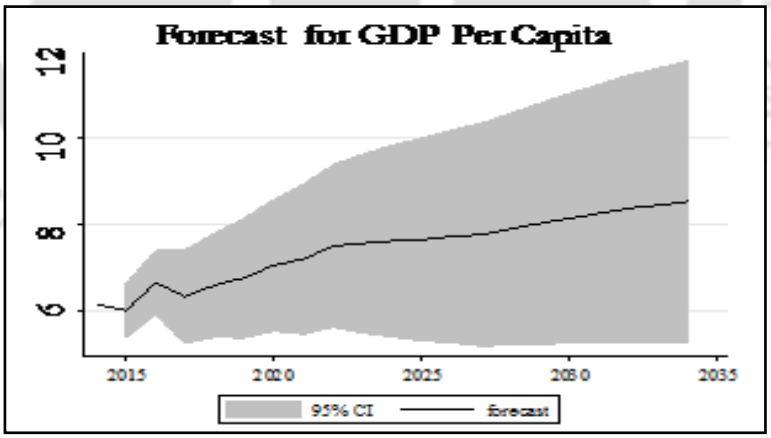


Figure 2.4: Graph of stability test of VECM (3 unit moduli imposed by VEC estimate)

2.4.5 Forecasting with VECM

Figure 2.5 shows the forecasting of the system variables. In the VECM modelling, the model reliably predicts the variables if the variances of the forecast errors for the levels of a co-integrating VECM diverge with the increase in forecast horizon. Since all the variables



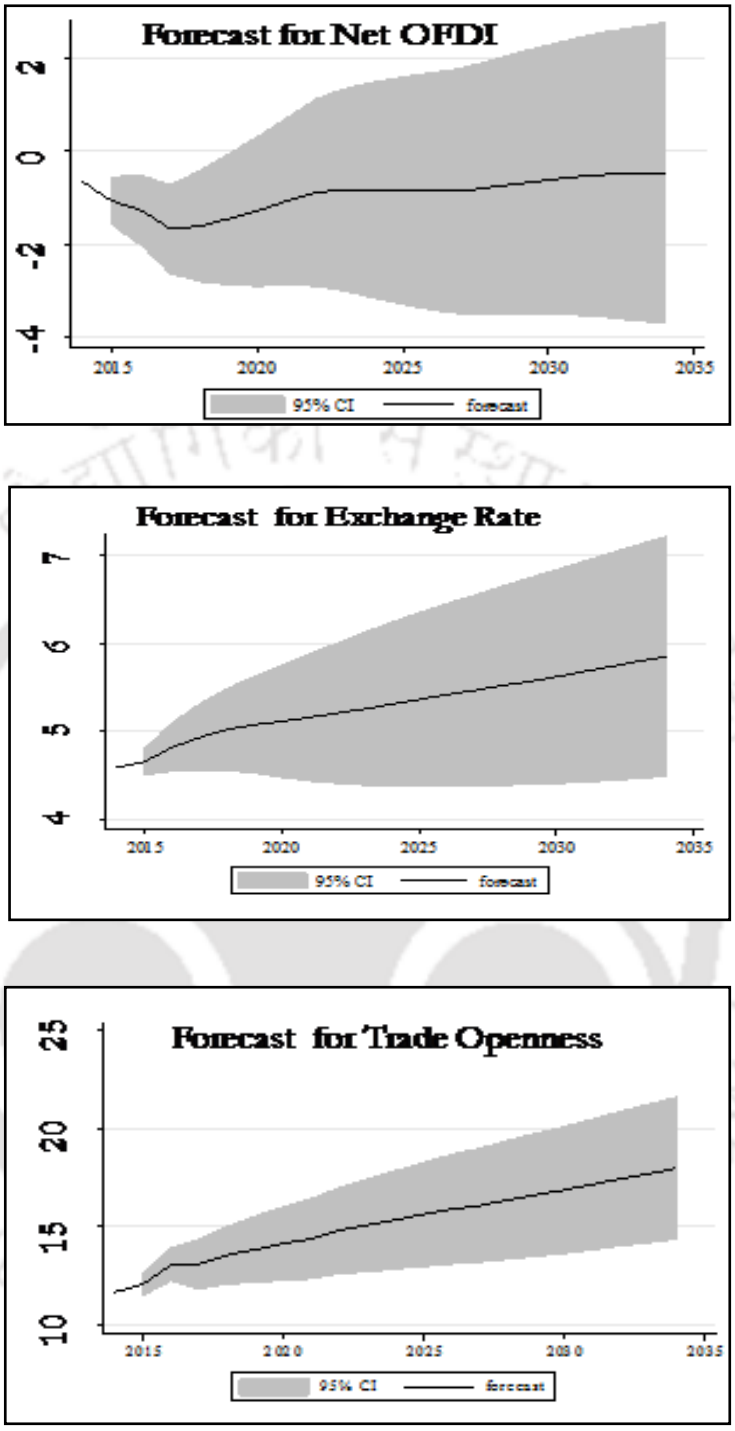


Figure 2.5: Forecasting of the variables of the system horizon

in the model for the first difference are stationary, the forecast errors for the dynamic forecasts of the levels diverge to infinity. In the present study the forecasting of the VECM model as reported in Figure 2.5 shows that the width of the confidence intervals grows with the forecast horizon. It indicates that the model does reliably predict all the variables of the system.

2.4.6 Sensitivity analysis

Sensitivity analysis is performed to check the robustness of the results or consistency of the results over the years. Since, the global crisis confronted Indian economy during the period of 2008-09 (Bajpai, 2011), so, the abnormality of the year can influence the estimate of the variables. Therefore, to capture the abnormality of the time period, a year dummy (1= 2008-2014 year or 0 otherwise) is introduced exogenously in the VECM model. The result of long-run relationship (reported in Table 2.10) shows that the findings are consistent to the estimate given by the base model (reported in Table 2.7 and 2.8) even after taking care of the abnormal year. The coefficient of the year dummy is not found significant. Though a little change in the magnitude of the coefficient is noticed but no change in the direction of relationship among the variables both in the short-run and long-run is seen in the analysis (result is reported in Table 2.10 and 2.11.). So, it can be said that abnormality of the time period has no impact on the direction of relationship between foreign direct investment position of India and other variables specified in the model.

Table 2.10: Long-run Dynamics (sensitivity analysis)

O_t	G_t	T_t	ER_t
1	1.630435***(.2399928)	-1.0759*** (.1065928)	1.52822*** (.2425647)
	[0.000]	[0.000]	[0.000]
t values	6.79	-10.09	6.3

*** denotes, p<.01, 1% level of significance
Standard errors are in parenthesis and p-values are in brackets.

The cointegrating equation with normalized coefficients for net foreign direct investment can be expressed as given in equation (2.5),

$$O_t = ECT + 1.075874T_t - 1.630435G_t - 1.528221ER_t + \varepsilon_t \quad (2.5)$$

Table 2.11: Short-run Dynamics (sensitivity analysis)

Variables	Equations			
	O_t	G_t	T_t	ER_t
Intercept	-.0238143(-0.18) [0.860]	.0580333(0.37) [0.712]	.0155898(0.09) [0.928]	.09805**(2.39) [0.017]
$\Delta O_t(-1)$	.4395452(1.60) [0.111]	.0283705(0.09) [0.919]	.2854881(0.81) [0.419]	-.1625147*(-1.94) [0.052]
$\Delta O_t(-2)$	.4234123(1.49) [0.136]	-.237706(-0.72) [0.471]	-.1625 (0.45) [0.655]	-.0314034(-0.36) [0.716]
$\Delta O_t(-3)$	.3274642(1.20) [0.232]	.3203524(1.01) [0.315]	.2016973(0.57) [0.565]	.0124859(0.15) [0.881]
$\Delta G_t(-1)$	.0919046(0.19) [0.853]	-.99534*(-1.73) [0.084]	-.86566(-1.37) [0.172]	.0914752(0.61) [0.543]
$\Delta G_t(-2)$	.6221644(0.48) [0.631]	1.85185**(2.42) [0.015]	1.402633*(1.66) [0.096]	.1091089(0.55) [0.585]
$\Delta G_t(-3)$	.3598468(0.48) [0.631]	.7291073(0.88) [0.378]	-.14773(-0.15) [0.878]	.231036(1.02) [0.310]
$\Delta T_t(-1)$	-.2412454(-0.53) [0.594]	1.229093**(2.33) [0.020]	.7522401(1.30) [0.195]	-.0982024(-0.71) [0.475]
$\Delta T_t(-2)$	-.8985026(-1.40) [0.162]	-1.555**(-2.08) [0.037]	-1.206(-1.47) [0.143]	-.1116066(-0.57) [0.567]
$\Delta T_t(-3)$	-.4089686(-0.58) [0.565]	.7291073(0.88) [0.378]	.0297154(0.03) [0.974]	-.2399596(-1.11) [0.267]
$\Delta ER_t(-1)$	-.146217(-0.15) [0.885]	.9642109(0.82) [0.411]	.4171759(0.32) [0.747]	.1685345(0.34) [0.731]
$\Delta ER_t(-2)$	1.648552*(1.76) [0.079]	-.455653(-0.42) [0.676]	-.05828(-0.05) [0.961]	.0843428(0.30) [0.767]
$\Delta ER_t(-3)$	-.559648(-0.71) [0.475]	.677728(0.74) [0.457]	.2318521(0.23) [0.817]	.0819577(0.34) [0.731]
$ECT(-1)$	-.70479**(-2.35) [0.019]	-.092458(-0.27) [0.791]	-.32675(-0.85) [0.395]	-.0645011(-0.71) [0.479]
Year Dummy	.2460139(0.85) [0.397]	-.026698(-0.08) [0.937]	-.10353(-0.28) [0.781]	.0220732(0.25) [0.803]
R^2	0.4863	0.7561	0.6198	0.711
Log Likelihood	118.579			
AIC	-3.585742			
SBIC	-0.6715103			
Skewness(Prob>Chi2)	6.916 [0.14041]			

*, p<.10, 10% level of significance

**, p<.05, 5% level of significance

***, p<.01, 1% level of significance

Figures in the parenthesis are t values and in brackets are their respective p-values.

2.4.7 Dynamic analysis

(1) Derivation of Impulse Response Function (IRF)

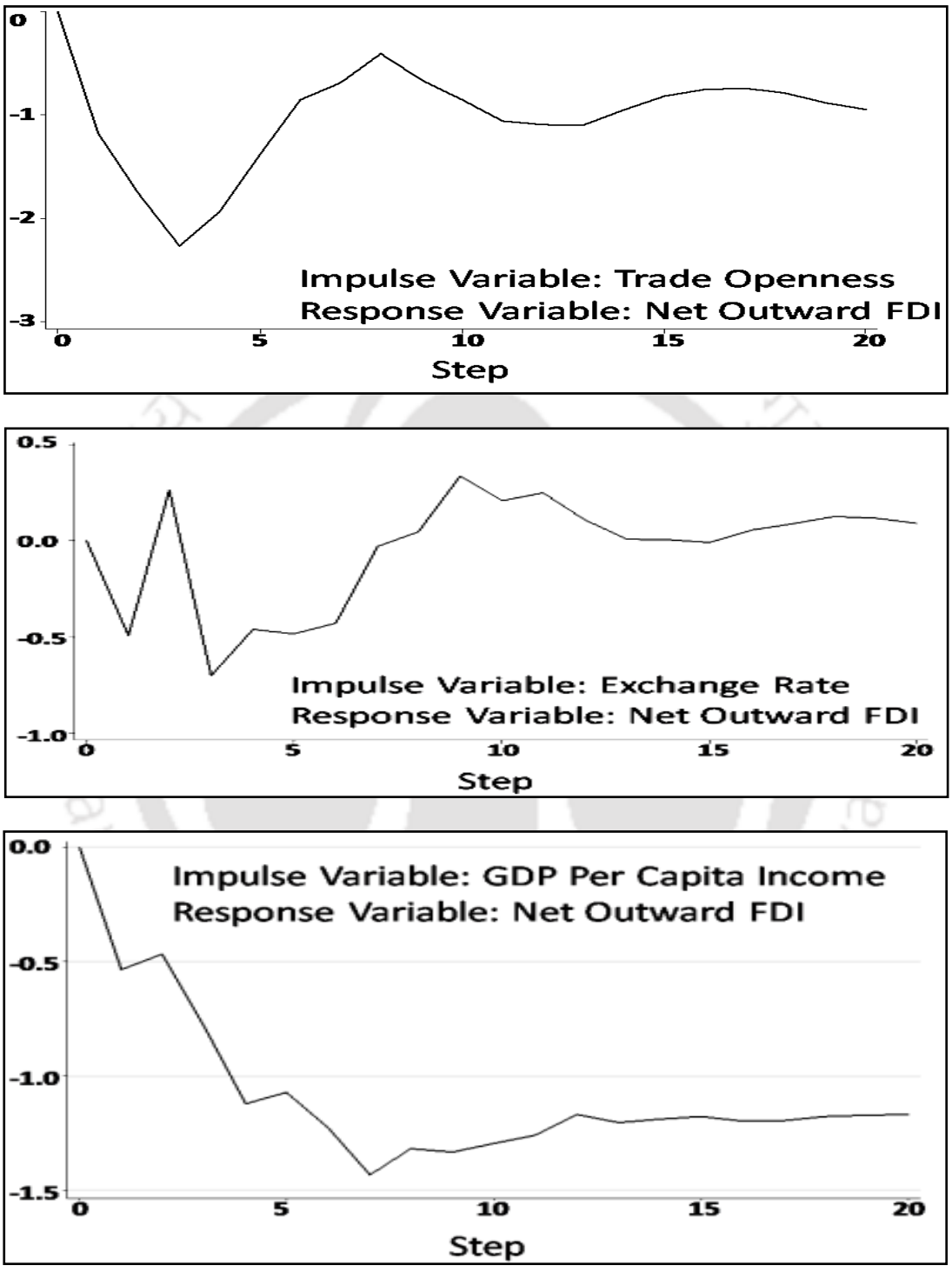


Figure 2.6: Derivation of Impulse Response Function

The result of the derivation of the IRF is presented in Figure 2.6. In the present analysis, 20-year time horizon has been chosen to have a look into the response of net outward foreign direct investment to the shocks on other variables of the system. IRF function that is

derived from a co-integrating VECM does not die out because the I(1) variables modelled in a co-integrating VECM are not mean reverting and the unit moduli in the companion matrix imply that the effects of some shocks will not die out over time. The graphs presented in Figure 2.6 indicate that an orthogonal shock to the variables such as trade openness, GDP per capita and exchange rate has permanent effect on net outward foreign direct investment from the country and never dies out with time. In the initial period of time, net outward foreign direct investment is responding high (till 10^{th} time period) to the shocks in each of the system variables but the response of it decreases over time.

(2) Derivation of Forecast Error Variance Decomposition (FEVD)

Forecast error variance decomposition is also derived from the vector error correction estimate. It tells us the proportion of movement of a variable of the system in a sequence due to its 'own shocks' versus shocks to other variables. Cholesky's method is employed in the present study to decompose the forecast error variance of the variables of the system. Cholesky's decomposition requires a particular ordering of the system variables (ordered from the most exogenous to the most endogenous variable). Consistency to the primary objective of the study, net outward FDI is the last on the ordering to allow shocks to all system variables to have a contemporaneous effect on it and vice-versa. Moreover, GDP per capita occupies a higher order relative to net outward FDI to allow trade openness and exchange rate impact it contemporaneously. According to economic theory, exchange rate occupies a lower order in relation to trade openness (Tolentino, 2010). Table 2.12 represents the Cholesky's decomposition of forecast error variance decomposition of the VECM. The Cholesky's decomposition of forecast error variance of the system variables of the VEC model traces the importance of innovations in the variables on all the forecast error variances of all variables of the system. In this study, $h\ (h = 1,2, \dots ,10)$ time horizon has been chosen to derive the forecast error variance decomposition of the variables of the system. In tracing through the system of equations, innovation only on trade openness accounts largely for the forecast error variance in VECM. Trade openness is the single most important source of innovation explaining the largest share of the total forecast error variance of all system variables other than net outward FDI. Innovations in GDP per capita explain the biggest share of forecast error variance of net outward FDI. Innovation on Trade openness dominates forecast error variance of exchange rate till

Table 2.12: Forecast Error Variance Decomposition

Time Period	Variables	Innovation in			
		T_t	ER_t	G_t	O_t
1	T_t	1	0	0	0
2		0.888671	0.052099	0.058584	0.000647
3		0.855292	0.024933	0.100631	0.019144
4		0.864269	0.026404	0.08621	0.023117
5		0.859667	0.024701	0.083573	0.032059
6		0.826819	0.029237	0.102553	0.041392
7		0.784202	0.024788	0.134104	0.056907
8		0.76621	0.025479	0.143461	0.06485
9		0.738068	0.022339	0.165776	0.073818
10		0.714015	0.020641	0.184649	0.080696
1	ER_t	0.468769	0.531231	0	0
2		0.580856	0.294612	0.063839	0.060693
3		0.513829	0.216174	0.182013	0.087984
4		0.46876	0.156874	0.264034	0.110332
5		0.430702	0.117809	0.328575	0.122914
6		0.411607	0.089928	0.372091	0.126374
7		0.404872	0.070526	0.395313	0.129289
8		0.405803	0.058254	0.40736	0.128582
9		0.405362	0.049169	0.416934	0.128534
10		0.407369	0.042784	0.422272	0.127575
1	G_t	0.875951	0.022069	0.10198	0
2		0.900715	0.016833	0.080942	0.00151
3		0.764942	0.019045	0.191892	0.024121
4		0.753714	0.021603	0.191435	0.033248
5		0.74426	0.24905	0.18337	0.047465
6		0.73608	0.021087	0.187943	0.05489
7		0.706205	0.02298	0.204125	0.066691
8		0.711066	0.019579	0.200476	0.068879
9		0.698267	0.017848	0.211479	0.72407
10		0.680639	0.015933	0.227434	0.075994
1	O_t	0.194882	0.025415	0.410999	0.368703
2		0.089085	0.016832	0.597091	0.296992
3		0.069571	0.047869	0.579862	0.302698
4		0.06758	0.033484	0.637622	0.262315
5		0.049361	0.033797	0.681803	0.235039
6		0.039375	0.033118	0.704729	0.222777
7		0.041086	0.034381	0.71593	0.208603
8		0.048824	0.044171	0.709141	0.197864
9		0.057758	0.050854	0.700676	0.190712
10		0.05941	0.061324	0.692083	0.187183

period-7 and then innovation on GDP per capita income starts dominating the forecast error variance of exchange rate.

2.5 Conclusion

In the present study, a four equation VECM empirical model provides the framework to test the long-run dynamics and short-run causality between net outward foreign direct investment and macroeconomic factors such as trade openness, exchange rate and GDP per capita of India. The VECM enables the interference between the variables in the specified system of equations. The study concludes that there is long-run relationship among the variables of the system but in the short-run, there is the absence of causality from the macroeconomic variables specified in the system to net outward FDI from India. Absence of short-run causality indicates that past changes on the home-country macroeconomic factors as specified in the model do not cause contemporaneous changes on the net outward FDI from India, and vice-versa. The finding of significance of the coefficient of the variables in the long-run at 1% level of significance shows that the variables specified in the model have significant impact on net outward foreign direct investment of the country in the long-run. The significance of the error correction term (ECT) of the equation for the net outward FDI explains the endogenous structure of the variable and it also indicates that the variable responds to any deviation in the long-run equilibrium position. Moreover, the study reveals that the abnormality of the time period (for instance 2008-09) has no impact on the direction of relationship among the variables in the both short-run and long-run.

The impulse response function that derived from the VEC estimate shows that net foreign direct investment is responsive to the shock in each of the system variables and innovations in all system variables have permanent impact on net outward foreign direct investment of the country. In the initial period of innovation, the response of net outward foreign direct investment is high but it starts declining since 10^{th} period of time.

The FEVD function derived from the VEC estimate concludes that the changes in the level of net foreign direct investment is weakly endogenous to the change in the variables specified in the system of equations. Trade openness is the only source of innovation which constitutes the largest share of the total forecast error variance of the system variables beside net outward foreign direct investment. Innovation in GDP per capita can only explain the largest share of forecast error variance of net outward foreign direct investment of India.

The study provides a new way to explain the dynamics of foreign direct investment position of a country. The finding of the dynamic relationship between economic development and foreign direct investment position of the country serves to strengthen the relevance of the 'Dynamic or Developmental approach' in India. The present study can also challenge the current perception about the determinants of ownership advantage of emerging multinationals and extend the explanatory power of the macroeconomic theories in describing the dynamics of foreign direct investment position. The currently accepted view is that the complex expansion strategy of multinationals and increasing global integration dimmed the role of home country factors on explaining the ownership advantage of the emerging multinationals. Explaining about the evolution of Indian multinationals, Ramamurti (2009) reveals that the evolution of the Indian multinational and their international strategies happened in a changing macroeconomic environment in the international context.[23] But the current study unfolds the fact that though multi-nationalization of Indian firms happened in a flatter and integrated global economy but the home country macroeconomic environment still has a vital role to play to influence the ownership advantage of Indian multinationals which can further lead to change the dynamics of foreign direct investment position of the country.

The study is a mileage to assign a crucial role to the national economies on explaining the dynamics of outward foreign direct investment position of India. However, the consideration of longer time series observations will enrich the estimate to reach the conclusion.

[23] More open domestic and foreign market during 1990s, collapse of communism, conclusion of Uruguay Round trade deal, creation of WTO, deregulation and privatization of telecommunications, radical changes in the information and communications technology and spread of internet facility have helped Indian companies to expand their national boundaries towards the foreign locations (Ramamurti, 2009).

Annexure-2.1A

Table 2.1A: Description of data sources and variables

Variables	Measurement	Sources of data
$O_t = (OFDI - IFDI)$	Real OFDI/IFDI from India, US $ million(2005=100)	Calculated
	Nominal outward FDI/IFDI from India	UNCTAD, FDI statistics
	GDP Deflator of India (2005=100)	World Development Indicators, World Bank.
ER_t	Annual Official Exchange rate of India	Reserve Bank of India, Handbook of Statistics on Indian Economy
G_t	Real GDP Per Capita Income (2005=100)	Calculated
	GDP Per Capita Income of India (US Dollar)	World Development Indicators, World Bank.
	GDP Deflator (2005=100)	World Development Indicators, World Bank.
$T_t = (Import + Export)$	Real total trade, GDP deflator of India(2005=100) Import and Export of India (US Million Dollar)	Calculated, UNCTAD, Trade statistics

Chapter 3
Conceptualizing the Drivers of Internationalization of Indian firms

A detailed analysis of the role of the macroeconomic factors on explaining the dynamics of foreign direct investment position of India has been presented in the Chapter 2. Though, it has been found that macroeconomic environment can play an important role in describing the dynamics of foreign direct investment position of India, but, the importance of the internal factors cannot be ruled out on explaining the growth of internationalization of Indian firms. So, in the present chapter, a conscientious investigation is made to conceptualize the drivers of internationalization of Indian firms. The chapter is organized into eight sections. Section 3.2 gives a short overview of the background of the existing approaches to conceptualize the parameters that drive the internationalization of Indian firms and the analytical framework of the study. Section 3.3 details the methodology, construction, definition, and description of the variables. A brief description of the sample is presented in section 3.4. Results and discussion on the research findings are presented in section 3.5 and section 3.6, respectively. Lastly, the conclusion is given in section 3.7.

3.1 Introduction

Along with the experience of high growth of outward FDI from India during the 2000s (Sauvant et al., 2009) and sharply since 2006, the number of participating firms in the outward FDI has also increased. Table 3.1 shows the increase in the number of overseas investing firms and the growth in the magnitude of overseas investment from India during the study period 2008-2012. Figure 3.1 shows that India constitutes an increasing share of outward foreign direct investment (OFDI) from the emerging nations. Therefore, India can be considered as the paragon of the emerging economy context to explain the drivers of internationalization of the emerging multinationals. Moreover, though many studies have been conducted exploring about the internationalization of emerging multinationals particularly from China, but the drivers of the growth of internationalization of Indian multinationals is still under-explained. Most of the studies have given concern on exploring the trend, pattern, motives and strategies of outward internationalization of Indian multinationals (for instance Athreye and Kapur, 2009; Nagaraj, 2006; Nayyar, 2008; Dige Pedersen, 2008; Gubbi et al., 2010) and the location determinants of Indian multinationals (for example, DeBeule and Duanmu, 2012; Buckley et al., 2012; Das and Banik, 2015; Jain et. al., 2015;

Nunnenkamp et al., 2012; Rajan, 2009 etc.). The study of Hattari and Rajan (2010) focuses on investigating the external drivers of Indian outward foreign direct investment of both home and host country. The study of Altaf and Shah (2015) looks into the performance of Indian multinational firms. Only a few studies (Bhaumik and Drifflied, 2010; Chittor and Ray, 2007; Elango and Pattnaik, 2007; Pradhan, 2004; Singh and Gaur, 2013) have been found to be concern about explaining the internationalization of Indian firms. Elango and Pattnaik (2007) disclose the importance of network on building capabilities that stimulate the growth of internationalization of Indian firms. The study of Bhaumik and Drifflied (2010) examines the significance of the parameters such as family owned firms and concentrated ownership of firms to explain the role of

Table 3.1: Sector-wise distribution of no. of overseas investing firms and total OFDI

Year	2008		2009		2010		2011		2012	
Sector	No. of Firms	Total OFDI	No. of Firms	Total OFDI	No. of Firms	Total OFDI	No. of Firms	Total OFDI	No. of Firms	Total OFDI
Agriculture	64	813.224	94	697.278	97	1395.67	151	4085.38	147	974.050
Construction	97	897.745	97	1106.47	83	538.259	109	3559.17	102	1683.73
Electricity	20	141.931	8	822.178	25	91.593	35	363.009	30	170.254
Financial Services	468	4447.57	422	2712.46	482	5535.35	525	7319.59	532	5267.61
Miscellaneous	48	306.064	38	176.415	23	707.013	26	178.468	16	224.085
Manufacturing	536	7878.45	454	9055.58	449	13803.7	497	8921.26	510	9323.56
Non-financial Services	279	3144.19	281	2884.27	407	18439.8	273	9008.75	536	7365.85
Total	1512	17629.2	1394	17454.7	1566	40511.5	1616	33435.6	1873	25009.1

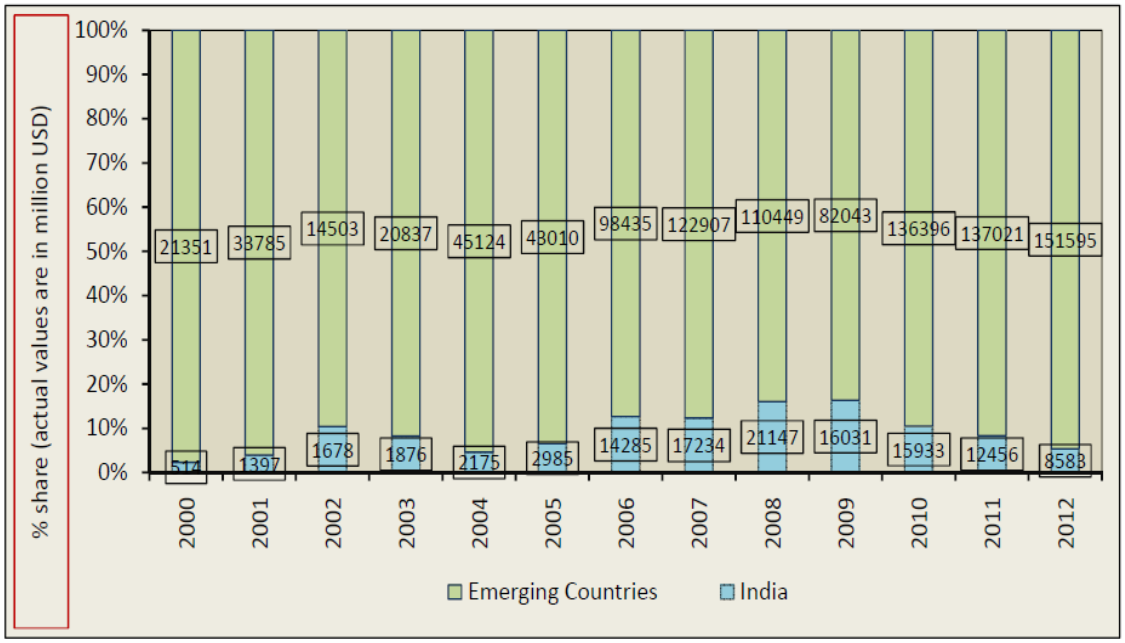
Source: Calculated, RBI.

[Note: Total outward FDI (in million US$) is the sum of Equity, Grant and Loans. Non-financial services include Community, Social and Personal services; Transport, Storage and Communication services and Wholesale, Retail Trade, Restaurants and Hotels.]

ownership structure of the firms on the decision making of the firms to participate on outward FDI. The study considers the cases of firms from the pharmaceutical and automotive industries of India. Chittor and Ray (2007) adopt the strategic group analysis to explain the role of strategic factor such as target firms, product profile, spending on R&D, manufacturing competence, top management, mergers and acquisition to explain the path of internationalization of firms of Indian pharmaceutical sector. The study of Pradhan (2004) examines the determinants of outward FDI of Indian manufacturing firms. The study takes into consideration a few of the important parameters such as age, size, R&D intensity, skill intensity and export orientation of the firms to explain the causes of internationalization of

Indian firms. From the review of the existing literature, it has been seen that most of these studies are confined to a particular sector or an industry. So, it is very essential to examine the parameters which can significantly drive the growth of internationalization of Indian firms across all sectors of the economy. In this chapter, a several important parameters to represent the firm's resource-base, nature of competition within the industry, knowledge and dynamic capabilities of firms are taken into consideration which can drive the growth of internationalization of Indian firms. The parameters of internationalization are conceptualized on the basis of the four important approaches, namely, resource-based, knowledge-based, dynamic-capability based and industry-based approach. After the

Figure 3.1: % share of Indian outward FDI of total OFDI form the emerging nations



Source: Calculated, UNCTAD.

conceptualization of the parameters, the next issue is to choose the appropriate econometric method for the analysis. Since, the internationalization of a firm involves the two choices of firms, first, whether to internationalize or not (i.e. the decision of internationalization); second, if the firm decides to internationalize how much to invest (i.e. the intensity of internationalization). Silva and Carreira (2012) admits the need of joint specification of the model to explain the drivers of internationalization as both decisions are not independent of each other. The presence of endogeneity due to the interdependence between these two strategic decisions of firms addressed in the previous study (Sun et al., 2015) and the problem of selection bias may distort the estimation. Therefore, it is essential to build a model that takes into account both the problem of selection bias and the presence of

endogeneity. Therefore the current study focuses on estimation of the parameters employing the two-stage regression model to deal with the problem of selection bias and endogeneity. The empirical analysis is done for the period of 2008-09 to 2011-2012 using the firm-level panel data. Next section of the chapter details the background of a few selected approaches of internationalization and discusses about the parameters selected for the analysis.

3.2 Background of the existing approaches and analytical framework

Explaining about the advantages of internationalization, Dunning (1980) says that the more the ownership specific advantages possessed by an enterprise, the greater the inducement to internalize them; and the wider the attractions of a foreign rather than a home country production base, the greater the likelihood that an enterprise, given the incentive to do so, will engage in international production i.e., the internationalization of a firm can be explained by the competitive advantage of the firm. Though there are several approaches which are adopted to explain the internationalization of a firm, but those are proved to be insufficient to explain the internationalization of emerging multinationals. The rapid internationalization of the emerging multinationals despite their insufficient financial resources, human and physical capital, it is difficult to conceptualize the factors that influence the growth of internationalization from these countries within a single framework. So, the present study is a novel attempt to conceptualize the drivers of internationalization of Indian firms on the basis of the multiple approaches which are considered to be relevant in explaining the internationalization of emerging firms. Therefore, in the present study, a meticulous investigation of four important approaches, namely, resource-based, knowledge-based, dynamic-capability and industry-based approach is made to define the drivers of internationalization of Indian firms.

The perception of firm heterogeneity together with the strategic utilization of the resources is the source of firm's rent creation which provides the base for the resource based view (RBV) (Barney, 1991; Bharadwaj et al., 1993; Fahy, 2002; Collis, 1991; Galbreath, 2005; Peteraf, 1993; Kaleka, 2002; Piercy et al., 1998; Rivard et al., 2006). Though RBV has been widely used to explain the role of firm resource base as the source of competitive advantage of firms in the literatures of international business (for instance Andersen and Kheam, 1998; Boermans and Roelfsema, 2013; Peng, 2001; Rialp et al., 2005; Wang et al., 2012; Westhead et al., 2001) and also brought into focus to explain the ownership

advantage of emerging multinationals in the previous studies (Peng, 2001; Guillén, 2000). But it is singly insufficient to explain the sources of competitive advantage of the emerging market firm as emerging multinationals are usually lack of resources. However, the initial resources of the firm can provide the strength to the firms to establish their toehold in a foreign location although resource base of the firm of the emerging nations is not the prime driver of internationalization. So, RBV is brought into consideration to define the drivers of internationalization of Indian firm in the present study. Moreover, the literatures (Yiu et al., 2007, Luo et al., 2011) explains that in the absence of conventional ownership advantage of firms, prior knowledge about the market can act as the source of ownership advantage of the emerging multinationals and also play the role of moderator of the other sources of ownership advantage to impact the growth of internationalization of the emerging multinationals. Uppsala school of thought considers that the participation of a firm in internationalization is an incremental commitment of the firm as a result of gradual learning about the market. Consideration of knowledge as a source of firm's competitive advantage has also been noticed in the literatures of business studies (Cohen and Levinthal, 1990; Dayasindhu, 2002; Jantunen et al., 2005 etc.). The role of knowledge captured by the gradual learning about the market is also highlighted in explaining the internationalization behaviour of the multinationals in a number of studies (Gassmann and Keupp, 2007; Knight and Cavusgil, 2004; Sapienza et al., 2006; Sharma and Blomstermo, 2003, Tuppura et al., 2008). So, the knowledge based view (KBV) is taken into consideration to define the drivers of internationalization of Indian firms. However, knowledge of learning about a market is insufficient to capture all the aspects of knowledge that is required to the development of the leading-edge knowledge which facilitates the multiple market entry of firms without the initial knowledge of market (Weerawardena et al., 2012). The participation in the internationalization by the entrepreneurs who are aggressively motivated to achieve the growth goal whilst the international operation is an inevitable part of their strategic management cannot be explained by the incremental commitment of the firms. Moreover, knowledge of firms in terms of gradual learning as explained by the Uppsala school also fails to explain the early and accelerated internationalization of young firms. Under such condition, the dynamic capability approach can reinforce the KBV to explain the growth of internationalization of emerging multinationals. Amit and Schoemaker (1993), Teece et al., (1997) admit the role of dynamic capability of firms in deploying resources most efficiently to generate economic rent. The study (Sun et al., 2012) describes that the existence of stronger dynamic capabilities and ability of the emerging

multinationals in integrating resources through learning and further leveraging and linking their existing resources to enhance their comparative advantage reflects the relevance of the 'dynamic capability approach' in explaining the internationalization of the emerging multinationals. Moreover, in the absence of conventional source of ownership advantage, the nature of competition of the firm within the industry which also reflects the institutional environment of an economy can influence the strategic decision of the emerging multinationals to participate in internationalization. Though the nature of completion within the industry is not a source of ownership advantage of a firm but to explain its importance in the strategic behaviour or decision of the firms, the Industry based view (Porter, 1980) is taken into consideration in the present study. Here, one thing that needs to be clarified is that though capabilities and knowledge of the firms can be considered as the part of resource base of the firm but still two approaches namely KBV and Dynamic capability approach are taken into account separately instead of clubbing the both approaches into the RBV to explain the knowledge and capability of the firms respectively. The little difference between these approaches is that RBV is based on the Ricardian view of rent creation that the firms generates rents through using the existing resource base of the firm whereas the KBV/Dynamic capability approach is based on the Schumpeterian notion of rent creation explains that the firm's rent is the outcome of the process of dynamic learning of the firm. In the present study, all these four approaches namely RBV, KBV, Dynamic capability approach and the IBV are taken into account to define the drivers of internationalization of Indian firms. The analytical framework is built to empirically test the significance of the parameters as shown in Figure 3.2. The justification of the selection of the parameters which can drive the growth of internationalization of Indian firms (as given in the analytical framework) is based on the review of the existing literatures.

3.2.1 Resource-based variables

Financial resources

Financial resource is a proxy of potential slack of firm resources (Kling and Weitzel, 2011; Tseng et al., 2007; Yiu et al., 2007). Bamberger (1989) explains that financial resource is a source of positional advantage which can add to the competitive advantage of the firm. So, the more the financial resources owned by a firm, the greater the intensity of the firm to

participate in internationalization. In this study, total debt of a firm has been taken into consideration as the proxy to represent the availability of financial resources of a firm.

Business group affiliation

Being affiliated to a business group, a firm is encouraged to engage in internationalization (Gazaniol, 2015; Jain et. al, 2015) as the firm can be in advantageous position through getting access to heterogeneous resources to facilitate the growth of the firm (Tan and Meyer, 2010; Sun et. al., 2015; Garg and Delios, 2007). Firm's affiliation to a business group can act positively on the growth of OFDI through removing inhibition on scrutiny by creditors/external financing agencies such as credit rating agency. The concentration of voting power also helps in conjuring majority support of the shareholder which encourages the growth of OFDI. But the factors such as lack of experience, less likelihood of using equity for investment in risky projects or the fear of losing wealth of the big shareholders cannot reduce the chances of firms being affiliated to a business group in participating in outward FDI particularly during the period of financial crisis. Moreover, firms in the same business group can share information about international experience, distribution network and the reputation in a foreign market (Gazaniol, 2015). So, being affiliated to a business group can be a source of ownership of pool resources which is considered to have considerable influence on the decision of internationalization of a firm. A dummy variable is created to capture the influence of business group affiliation to examine its impact on the outward internationalization of Indian firms.

Profitability

Firm's performance is a source of sustained competitive advantage of a firm (Weerawardena, 2003) which can enhance the versatility of resources to be competent in a foreign location. High profitability of a firm indicates the possession of competitive advantage by the firm (Peteraf, 1993; Porter, 1980); thus, the higher is the value of it the more is the likelihood of the firm to participate in internationalization activities (Kling and Weitzel, 2011). In the current study, the share of PBDITA (Profit before depreciation, interest, tax and amortization) to total income has been considered to represent the profitability of the firms.

Cash flow

Cash flow indicates the amount of liquid assets, capability to settle debts, reinvestment in business, payment to the shareholders and the ability to pay expenses and provide a buffer

to stand against future financial challenges. Positive cash flow is an indication of the financial strength of a firm. It can act as the source of competitive advantage of a firm to overcome the intrinsic disadvantage of working in a foreign location. The studies of Jain et al. (2015), Lee and Rugman (2012) find the positive impact of cash flow of firm on promoting the growth of internationalization of firms.

Productivity of firm

Higher the productivity of a firm more is the chances of the firm to involve in internationalization. Greenway and Kneller (2007) explains that the most productive firms participate in internationalization. The study (Wang et al., 2016) finds that low-productive firms serve the domestic market and firms with higher productivity choose to export goods whereas the most productive firms choose to invest in the foreign market. To construct the variable, the method suggested by Levinson and Petrin (2003) has been employed in this study. A detailed note on Levinson and Petrin (LP) method is provided in Annexure –3.I.

Size of firms

Size of a firm is a source of competitive advantage of the firm. The small firms are less competitive than the larger firms (Moen, 2000). The studies (Elango and Patnaik, 2007; Pradhan, 2004; Tseng et al., 2007) explain that the larger the size of the firms more is the likelihood of the firm to participate in internationalization. The total sale of firms is considered in this study as the proxy of the size of firms.

Age of firms

The maturity and experience gained with the growing age of firms acts as a source of ownership advantage that incentivizes the firms to participate in outward internationalization (Elango and Patnaik, 2007; Tseng et al., 2007; Yiu et al., 2007; Zahra, 2003). The likelihood of undertaking risk is higher in case of established firms through collecting information easily and leveraging existing infrastructure (Zahra, 2003). Thus the probability of a firm participating in OFDI increases with the increase in the age the firm.

3.2.2. Knowledge-based variable

Depth and length of prior knowledge

To encompass uncertainties of working in an unknown environment, pioneering production in a risky location, experienced firm enjoys the benefits over the inexperienced (Tuppura et al., 2008). Prior knowledge can also act as a moderating factor of other sources ownership

advantage of the emerging multinationals (Yiu et al., 2007); source of financial reward and appropriate identification of opportunities (Shepard and DeTienne, 2005); ability to recognize the importance of new information which can be utilized to achieve commercial ends (Cohen and Levinthal, 1990) and also to provide market knowledge (Barkema et al. 1996; Johansen and Vahlne, 1977; Eriksson and Chetty, 2003). Prior knowledge or experience of the firm is of crucial importance in the overseas expansion of business of the emerging multinationals as these multinationals are usually lack of initial resources (Luo et al., 2011, Yiu et al., 2007). In the present study, both the depth of prior knowledge captured by prior international experience and the length of prior knowledge which is captured by the length of foreign presence (in terms of years) of the firm are taken into consideration.

3.2.3 Dynamic capability related variables

Marketing capability

Marketing capability is a very important source of sustainable competitive advantage (Ejrami et al., 2016; Hult, 1998; Kohli and Jaworski, 1990; Slater and Narver, 1995; Vories and Morgan, 2005; Weerawardena, 2003; Weerawardena and O'Cass, 2004). It can be expressed as the expenditure made on the promotion of a new product such as marketing expenditure and expenditure on distribution of the product which helps in penetration into new market through enhancing brand reputation and customers' recognition of the new product. So, the expenditure incurred on selling and distribution of a product is very widely used as measures of market capability of a firm (Lee and Rugman, 2012). In the present study, the ratio-based measure of market capability is considered, which is constructed as the ratio of sum of selling cost and distribution cost to the sales of the firm.

Innovative capability

Innovative or technological capability has also crucial role to play in generating market power and competitive advantage (Doloreux and Melancon, 2008; Jenssen, 2003; Weerawardena and Mavondo, 2011). The likelihood of undertaking internationalization activities increases with the increase in innovative capability of a firm (Elango and Patnaik, 2007; Grubaugh, 1987; Yiu et. al, 2007). In emerging nations, firms with high R&D intensity are moving to participate in accelerated internationalization to overcome their comparative disadvantage in their home economy (Child and Rodrigues, 2005). Though innovative capability is defined based on two technical efforts, namely, indigenous technological effort (R&D expenditure) and imported technology (import of foreign technology/know-how);

however, the role of imported technology on enhancing firm capability in the developing countries is still ambiguous because of the existence of huge technological gap with their developed counterparts (Pradhan, 2004). So, in the present study, R&D intensity (indigenous technological effort) has been considered as taken in the previous studies (Elango and Patnaik, 2007; Pradhan, 2004; Yiu et al., 2007) to represent technological capability of the firms.

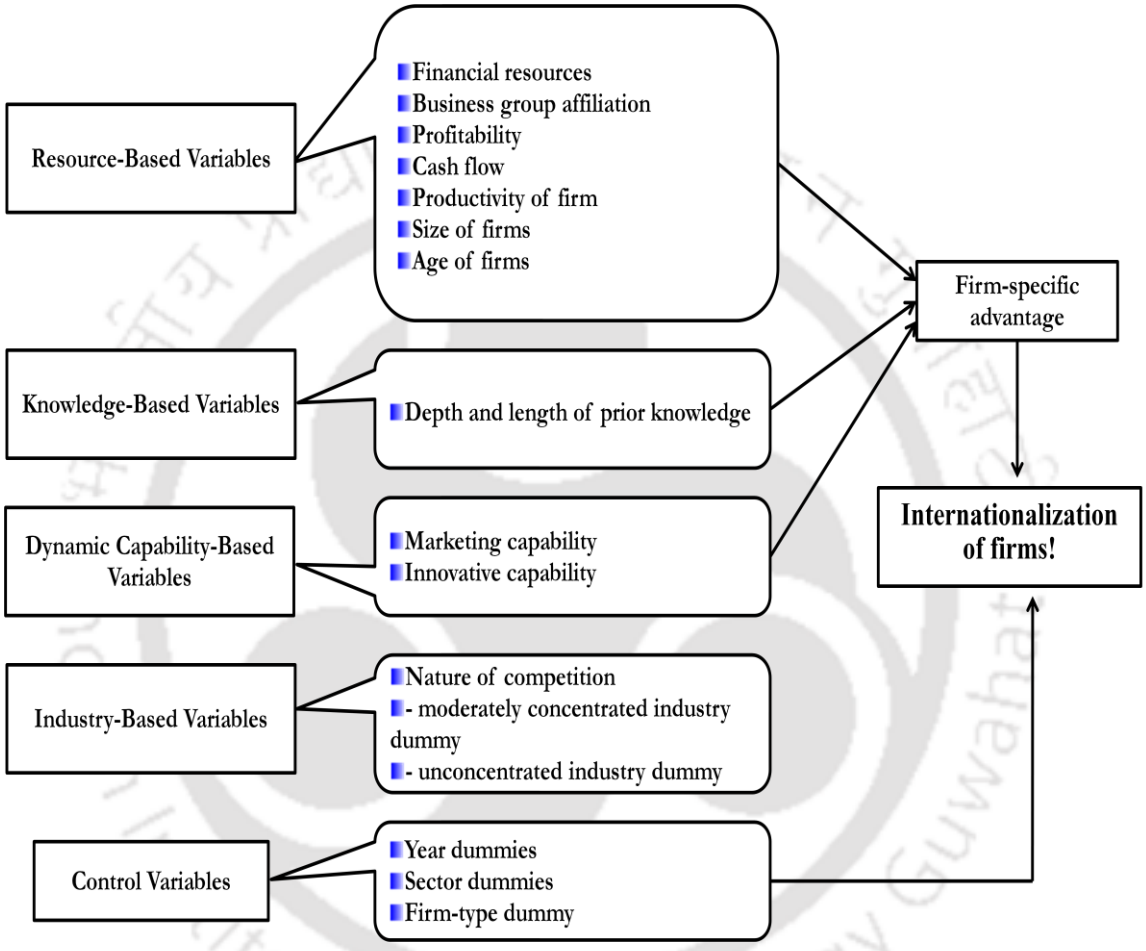


Figure 3.2: Analytical framework

3.2.4. Industry-based variables

Nature of competition

The higher is the competitiveness within the industry, the greater is the chance of participating in the internationalization (Sun et. al., 2015). It has to play an important role in stimulating the growth of internationalization of emerging multinational which are lack of conventional ownership advantage. The study of Luo et al. (2011) explains that concentration within industry can act as a push factor to push the firms from the emerging nations to participate in outward internationalization. So, the nature of competition within

the industry is of importance in driving the emerging multinationals to participate in internationalization. In the present study, the n-firm Herfindahl Index is constructed to measure the concentration within the industry. The value of the Herfindahl Index ranges from zero (no concentration or high degree of competitiveness) to one (highest concentration or less competiveness). Here, n-firm Herfindahl index is constructed as,

$$H-Index_j = \sum_{i=1}^{i=n} \frac{revenue_{ij}}{revenue_j}$$

where, $H-Index_j$ = Herfindahl's index of industry j, $revenue_j$ = total revenue of n firm in industry j, $revenue_{ij}$ = revenue of the i^{th} firm in industry j, and $i = 1,..,n$ firms. Industries can be categorized into four types on the basis of the value of the index: (a) highly competitive (b) un-concentrated, (c) moderately concentrated and (d) highly concentrated. In the sample, three types of industries namely un-concentrated, moderately concentrated and highly concentrated are found. Highly competitive firms are found to be absent in the sample. So, two dummies are created for the un-concentrated and moderately concentrated industries to capture the nature of competition within the industry on the growth of internationalization of Indian firms. Highly concentrated industry is considered as the baseline category.

3.2.5 Control variables

Year effects[24]

In the present analysis, there are four time period data points 2009, 2010, 2011 and 2012, so, three year dummies for 2009, 2010, and 2011 are created to take into account the year-specific variation or the influence of year fixed effect on the decision of outward internationalization and intensity of internationalization of Indian firms. Year 2012 is taken as the base year.

Sector effect

To capture the sector-specific variation or impact of sector-fixed effect on the internationalization of firms, two sector dummies, namely, manufacturing sector dummy and service sector dummy are created in the current research. Other investing firms from the agricultural, construction and electricity are considered as the baseline category.

[24] Year effects factor out the variations across the years for reasons such as technological changes, policies, conflicts etc.

Impact of liberalization

The liberalization measures introduced during 1990s have created a favorable environment among the Indian firms to acquire competitiveness. The gained advantage of competitiveness might be a factor to influence the firms to undertake outward FDI activities. Yiu et al. (2007) suggest that in a transition economy, the older firms that are embedded in the pre-reformed period are more risk averse than to the new firms, so, the older firms act as inertia to promote internationalization. So, to capture the impact of liberalization, Firm-type dummy is created in the present study.

3.3 Methodology

3.3.1 Data and sample

(a) Data collection

Information about the firms participating in overseas invest has been collected from an official data set, recently released by RBI. The information about the firm-specific attributes is collected from the PROWESS DATABASE which is maintained by the Centre for Monitoring Indian Economy (CMIE). To collect the data about the entry time of the firm into foreign market, the companies' annual report, newspaper clips and also the information about the subsidiaries of the companies given in the PROWESS database are searched. The period of analysis is 2008 to 2012. Since the study takes into account the actual OFDI (equity + loans) of Indian firms. So, the present study uses the data released by RBI to get information about the actual OFDI of Indian firms which is available from May, 2007 to December, 2012. Therefore, the study selects the time period of 2008-2012 for the current analysis. The time period for the dependent variable is the financial year i.e. from April-March. On the other hand, for the independent variable data have been collected for the calendar year i.e. from January to December. This way, a one quarter lag of all the explanatory variables has been created to deal with the issue of reverse causality. A balanced panel of overseas-investing firms is constructed for the econometric analysis.

(b) Sample selection

The sample selection procedure is presented in Figure 3.3. All industries include firms from both financial and non-financial sector. Out of the total firms, non financial industries contains total of 35,506 numbers of firms whereas the financial services contains 10,664. In the present study, firms from the financial sector is excluded as the firms from the financial sector are belongs to the regulated industries. Firms from the manufacturing, mining, electricity, services and consultancy are selected in the sample. The final sample of the study is decided on basis of the availability of information about the firms. After dropping out the firms with missing information, the final sample contains a total of 147 numbers of firms.

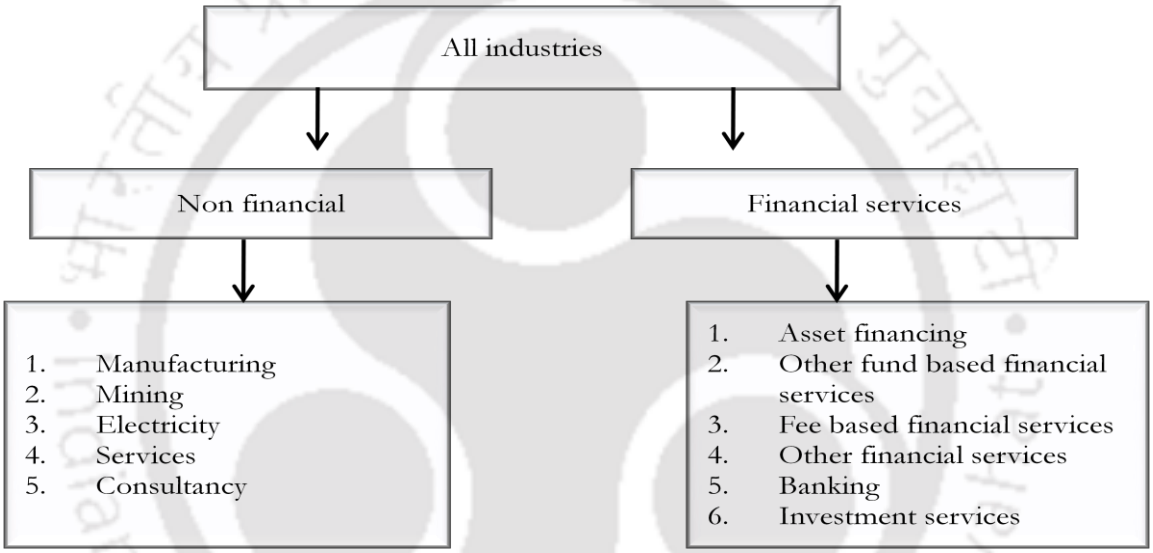


Figure 3.3: Sample selection

3.3.2 Econometric method

The internationalization process of a firm is a two-stage process a) decision to participate or not and b) how much to invest. Tallman and Shenkar (1994) suggest the following of the stepwise approach to enhance the clarity of the analysis though the actual decision of internationalization is simultaneous and sequential. So, in the present study, to model this two stage process, in the first stage or stage-I, a binary variable which is equalled '1' if the firm involves in internationalization or '0' otherwise is considered following the previous study (Sun et al., 2015). To deal with this binary dependent variable, Probit regression modelling is chosen for stage-I regression in the current analysis. The stage-II regression takes into consideration the observations only if OFDI>0. Thus, there is the presence of

selection bias. Therefore, Inverse Mill's ratio (IMR) is derived from the estimation of the stage-I Probit regression to tackle the problem of selection bias. IMR derived from the Probit estimation is included in the stage-II regression to take care of the selection bias.

[Selection bias: The regression model for underlying regression relationship is given in equation (3.1)

$$y_{1j} - x_j\beta + u_{1j} \qquad (3.1)$$

In the regression equation (3.1), the dependent variable y_{1j} is not always observable. If y_{1j} (dependent variable) is considered as the internationalization of firm j, the dependent variable for observation j is observed if,

$$y_{2j} - z_j\gamma + u_{2j} > 0 \qquad (3.2)$$

Here, equation (3.2) is the selection equation. In this equation y_{2j} (dependent variable of the stage-II regression) is observable if it is greater than zero. It means that if the firm participate in internationalization then only y_{2j} >0. So, there will be the presence of selection bias only if the observations of the dependent variables having value greater than '0' is selected for the second stage regression. The addition of Inverse Mill's Ratio (IMR) which is created from the estimation of the stage-I regression in the stage-II regression will take care of this selection bias.]

In this study, Probit estimate for observation j is,

$$\Pr\left[y_j \text{ observed} \middle| z_j > 0\right] = \varphi(z_j\gamma) \qquad (3.3)$$

From the estimation given by Probit modelling, the Inverse Mills' Ratio (m_j) for each observation j is computed as,

$$(m_j) = \frac{\varphi(z_j\hat{\gamma})}{\Phi(z_j\hat{\gamma})}.$$

Where, $\varphi \rightarrow$ standard normal density function and $\Phi \rightarrow$ standard normal cumulative distribution function. $\gamma \rightarrow$ is the fitted value computed from the stage-I choice regression (or Probit regression). The dependent variable for the stage-II regression will be observations having OFDI>0. The second step parameter estimates of $\beta \rightarrow$ vector of coefficient of explanatory variables are obtained by augmenting the regression equation with

the m-(inverse Mill's ratio). The regression equation becomes [x_m] where, x - vector of explanatory variables {resources-based, knowledge-based, dynamic capability-based, industry-based, and control variables) and m- is the vector of IMR of each observation. An additional parameter estimate β_m – vector of coefficients of IMR for each of the observations is found. The stage-II regression equation for observation j containing the $m \rightarrow$(IMR) is,

$$E\left[y_j \middle| y_j > 0\right] = x\beta + \beta_{m_j}\left(\frac{\varphi(z_j\hat{\gamma})}{\Phi(z_j\hat{\gamma})}\right) \qquad (3.4)$$

From the equation (3.4), it can be said that the regression line for Y on X will be biased upward when β_m is positive and will be biased negative if β_m is negative as the Inverse Mills Ratio is always positive. The size of the bias depends on the magnitude of the correlation. If the magnitude of correlation is zero, there will not be any bias. In case of Tobit model, where y_{1j} and y_{2j} coincide and, correlation=1 can be expressed as given in equation (3.5),

$$E\left[y_j \middle| y_j > 0\right] = x\beta + \left(\frac{\varphi(z_j\hat{\gamma})}{\Phi(z_j\hat{\gamma})}\right) \qquad (3.5)$$

In equation (3.5), the second term is a monotonic decreasing function of $z\hat{\gamma}$, so, it can be said that the slope of the regression line will be biased downward. Therefore, in the present study, the two-step regression model has been chosen instead of the Tobit model.

3.3.3 Construction of the variables

Construction of dependent variables

a) For the first-stage regression model, the dependent variable is,
Decision of internationalization = If the firm participates in internationalization (or OFDI) during the time period 2008-09 to 2011-12 = 1 or zero otherwise.

b) For the second-stage regression model, the dependent variable is,
Intensity of internationalization = (actual outflow of FDI in the form of equity and loan)/sales.

Construction of independent variables

a) Profitability = Share of PBDITA to total income of the firm.

b) Cash flow = net cash flow from operating activities + net cash inflow or (outflow) from financing activities+ net cash inflow or (outflow) from financing activities.

c) Total factor productivity = constructed by using Levinson and Petrin methodology (2003).

d) Prior international experience = {Ratio of average earning of foreign exchanges from export of goods and services (2003-2012)}/ average sales (2003-2012).

e) Foreign presence = Year_i_Year of Entry into the Foreign Market. Where, i=2009,…, 2012.

f) Business group dummy = '1', if the firm is affiliated with a business group or '0' otherwise

g) Debt = (short-run borrowings + long-run borrowings)/sales.

h) Size = log total sales of firm.

i) Age = log of (Year_i-Year of incorporation), where, i=2009,…, 2012.

j) Market capability = {advertising expenses + marketing expenses (rebates and discount expenses, sales promotion expenses) + distribution expenses}/total sales

k) Innovative capability (R&D intensity) = total expenses on research and development/total sales.

l) Nature of industries = two industry dummies namely, Moderately concentrated industry dummy (1 if four firm-Herfindhal index ranges from 0.15 to 0.25 or 0 otherwise); and Un-concentrated industry dummy (1 if Herfindhal index is below 0.15 or 0 otherwise). In the classification of industries, two digit-classifications of industries given by NIC 2008 is followed.

m) Year dummies = three year dummies for 2009, 2010 and 2011 is created (2012 is considered as the base year).

n) Sector dummies = manufacturing sector dummy {1 = if firm belongs to manufacturing sector (NIC code 10-32) or 0 otherwise} and service sector dummy {1 = if firm belongs to service sector (NIC code 55-98) or zero otherwise}.

o) Firm-type dummy= firms incorporated after 1991 = 1 and before 1991 = 0.

3.3.4 Description of the variables

The types and direction of relationship of the variables is shown in Table 3.2.

Table 3.2: The definition of the variables, variable-type, and direction of relationship

Variables (dependent/independent)	Relationship	Variable type
1. Decision of internationalization		dichotomous
2. Intensity of internationalization		continuous
3. Prior international experience	+	continuous
4. Size	+	continuous
5. Business group affiliation dummy	+	dichotomous
6. Manufacturing sector dummy	+/-	dichotomous
7. Service sector dummy	+/-	dichotomous
8. Marketing capability	+	continuous
9. Cash flow	+	continuous
10. Profitability	+	continuous
11. Debt	+	continuous
12. Innovative capability	+	continuous
13. Total factor productivity	+	continuous
14. Moderately concentrated industry dummy	+/-	dichotomous
15. Un-concentrated industry dummy	+/-	dichotomous
16. Age	+	continuous
17. Firm-type dummy	+	dichotomous
18. Time dummies	+/-	dichotomous

3.4 Description about the sample of firms

This section of the present chapter details the basic information about the sample of firms chosen for the present study. Table 3.3 shows the size-wise distribution of firms. Size-wise

Table 3.3: Size-wise distribution of firms

Size group of firms	No. of firms	% share
Decile -1	84	57.53
Decile -2	28	19.18
Decile -3	16	10.96
Decile -4	11	7.53
Decile -5	4	2.74
Decile -6	2	1.37
Decile -7	1	0.69

[Note: Decile - 1 to Decile - 7 represents the firms from the best performer to the worst performer.]

distribution of firms shows that decile-1 constitutes the largest number of firms of the entire sample and decile-7 constitutes the smallest number of firms. Table 3.4 shows the age-group wise distribution of sample firms. Age-group wise distribution of the sample firms shows that firms in each age group specified in the study are not uniformly distributed across the sample. Highest participation

Table 3.4: Age-wise distribution of firms

Age group of firms	Number of firms	% share
1-20	52	35.62
21-40	62	42.47
41-60	18	12.33
61-80	10	6.85
81-100	2	1.37
100-above	2	1.37

of the firms from the sample is noticed in the age group of 21-40. Export-intensity wise distribution of the sample observations reported in Table 3.5 shows that export intensity below 20% contains the largest number of observations. Other groups of firms categorized on the basis of export intensity contain almost equal number of observations. Ownership-wise distribution of firms presented in Table 3.6 shows that the number of firms affiliated to

Table 3.5: Export intensity and number of observations

Group of firms (Export intensity in %)	Number of observations
Below 20%	324
Between 21-40%	56
Between 41-60%	60
Between 61-80%	60
Between 81-100%	76

a business group is the highest in the sample. The sample also constitutes firms from the State Govt. - Commercial Enterprises and Central Govt. - Commercial Enterprises and private firms. While constructing the business group dummy, private firms, the Central Govt. - Commercial Enterprises and State Govt. - Commercial Enterprises have been considered in the reference category of the firms. Table 3.7 reports the categorization of firm in accordance with the nature of competition within the industry. While categorizing the firms of the sample on the basis of the nature of competition of the industries, three types of industries have been found. Though industries can be grouped into four groups on

the basis of the estimate of H-index but in the present sample, only three groups of industries

Table 3.6: Ownership-wise distribution of sample firms

Ownership group	No. of firms	% share
Private firm	60	41.1
Affiliated to Business Group	74	50.69
State Govt. - Commercial Enterprises	1	0.69
Central Govt. - Commercial Enterprises	11	7.53

namely highly concentrated, moderately concentrated, and un-concentrated industries have been found. Firms within the highly competitive industries have been found absent in the present sample. The un-concentrated industry group contains the largest number of observations and it is about 82.31% of the total observations. The sector-wise distribution

Table 3.7: Nature of competition and categorization of sample firms

Nature of industry	Freq.	Percent (%)	Cumulative%
Highly concentrated	76	12.93	12.93
Moderately concentrated	28	4.76	17.69
Un-concentrated	484	82.31	100
Total	588	100	

of observations is reported in Table 3.8. The result shows that the manufacturing sector constitutes the largest number of observations whereas firms in the other sectors include the least number of observations of the sample.

Table 3.8: Sector-wise division of observations

Sector	Frequency	Percent (%)	Cumulative %
Manufacturing sector	352	59.86	59.86
Others	100	17.01	76.87
Services sector	136	23.13	100
total	588	100	

The industry-wise distribution of firms is reported in Table 3.9. There are 55 industries in the sample of firms. Industry-wise distribution of firms of the sample shows that industry groups such as computer software and drugs and pharmaceuticals constitute the largest number of firms. However, the distribution of firms over other industries of the sample is almost the same in the current study.

Table 3.9: Industry-wise division of sample firms

Industry group	No. of firms	Industry group	No. of firms	Industry group	No. of firms
1. Air-conditioners and refrigerators	1	20. General purpose machinery	4	38. Other industrial machinery	2
2.Bakery products	1	21. Generators, transformers and switchgears	1	39. Other miscellaneous services	7
3. Boilers and turbines	1	22. Industrial construction	7	40. Other textiles	1
4. Business consultancy	4	23. Industrial cooling equipment	1	41. Other transport equipment	1
5. Cement	2	24. Industrial machinery	3	42. Passenger vehicles	1
6. Cocoa products and confectionery	1	25. Infrastructural construction	1	43. Pesticides	2
7. Computer software	23	26. Inorganic chemicals	1	44. Plastic films and flexible packaging	1
8. Cosmetics, toiletries, soaps and detergents	2	27. ITES	1	45. Plastic packaging goods	1
9. Crude oil and natural gas	1	28. Machine tools	1	46. Polymers	1
10. Diversified	8	29. Man-made filaments and fibres	2	47. Refinery	1
11. Diversified machinery	2	30. Media-content	1	48. Rubber products	1
12. Drugs and pharmaceuticals	25	31. Metal products	3	49. Storage batteries	1
13. Dry cells	1	32. Mining and construction equipment	2	50. Sugar	2
14. Dyes and pigments	1	33. Miscellaneous electrical machinery	2	51.Tea	1
15. Education	1	34. Organic chemicals	1	52.Telecommunication services	1
16. Engines	1	35. Other agricultural products	2	53. Tobacco products	1
17. Fertilizers	1	36. Other automobile ancillaries	2	54. Trading	1
18. Other domestic appliances	1	37. Other chemicals	3	55. Tyres and tubes	1
19. Other electronics	4				

3.5 Results

3.5.1 Multicollinearity test

Multicollinearity test statistics of the variables is reported in Table 3.10. The result reported in Table 3.10 shows that VIF of the individual variables is less than 10 which means that there is absence of potential multicollinearity among the variables. The mean VIF of the variables is also less than (mean VIF=3.13<10) 10.

Table 3.10: Multicollinearity test

Variable	VIF	SQRT VIF	Tolerance	R-Squared
Prior international experience	1.42	1.19	0.7021	0.2979
Size	6.48	2.55	0.1542	0.8458
Business group affiliation dummy	1.38	1.17	0.7263	0.2737
Total factor productivity	6.98	2.64	0.1433	0.8567
Cash flow	1.06	1.03	0.9456	0.0544
Manufacturing sector dummy	2.07	1.44	0.4836	0.5164
Service sector dummy	2.22	1.49	0.4498	0.5502
Moderately concentrated industry dummy	1.58	1.26	0.6333	0.3667
Un-concentrated industry dummy	1.77	1.33	0.5659	0.4341
Profitability	1.16	1.08	0.8624	0.1376
Innovative capability	3.14	1.77	0.3189	0.6811
Marketing capability	4.49	2.12	0.2225	0.7775
Debt	6.87	2.62	0.1455	0.8545
Age	1.2	1.1	0.8325	0.1675
Firm-type dummy	2.76	1.66	0.3621	0.6379
Mean VIF	3.13			

3.5.2 Descriptive statistics

Descriptive statistics of the variables such as maximum and minimum value of the variables, means and standard deviation of the variables is reported in Table 3.11. The standard deviation, maximum and minimum column reports the overall, between and within standard deviation, maximums and minimums of the variable. For instance, X_{it} for overall, $\overline{X_{it}}$ for between and $(X_{it} - \overline{X}_i + \overline{X})$ for within value. N, n, and T represent the overall observation, between observations and within observations of the panel of firms respectively.

Table 3.11: Descriptive statistics of the variables

Variable		Mean	Std. Dev.	Min	Max	Observations
Prior international experience	overall	0.450069	0.339787	0.011659	1.18608	N = 256
	between		0.341804	0.011659	1.18608	n = 64
	within		0	0.450069	0.450069	T = 4
Size	overall	8.942538	1.77508	3.394508	15.2668	N = 249
	between		1.75061	4.138483	15.0629	n = 63
	within		0.28689	6.19774	10.08067	T bar = 3.95238
Profitability	overall	22.53907	13.03927	-3.63	91.15	N = 215
	between		11.56693	5.49	63.64667	n = 60
	within		6.042941	-0.51593	72.31407	T bar = 3.58333
Total factor productivity	overall	64.44888	91.10149	8.92112	798.55	N = 249
	between		90.18515	11.6177	702.5527	n = 63
	within		13.66614	-47.6889	160.4461	T bar = 3.95238
Market capability	overall	0.043201	0.057263	0.000548	0.431783	N = 243
	between		0.055228	0.002871	0.370352	n = 62
	within		0.014802	-0.02432	0.154144	T bar =3.91935
Innovative capability	overall	1.138511	1.859842	0	20.6033	N = 215
	between		1.397599	0	9.54549	n = 61
	within		1.187354	-7.24627	12.19632	T bar = 3.52459
Debt	overall	8.864151	2.523277	1.16315	15.2741	N = 216
	between		2.688265	1.489632	15.06503	n = 60
	within		0.531594	6.035115	12.84149	T bar = 3.6
Cash flow	overall	917.69	6706.181	-33214.4	56434.8	N = 250
	between		3972.076	-1324.3	28920	n = 64
	within		5387.486	-43367.6	46281.64	T bar = 3.90625
Intensity of internationalization	overall	-8.65453	2.924259	-16.5489	-2.58875	N = 162
	between		2.832107	-16.4606	-3.48628	n = 59
	within		1.266682	-13.4278	-5.81009	T bar = 2.74576
Firm type dummy	overall	0.421875	0.494826	0	1	N = 256
	between		0.497763	0	1	n = 64
	within		0	0.421875	0.421875	T = 4
Business group affiliation dummy	overall	0.453125	0.498773	0	1	N = 256
	between		0.501733	0	1	n = 64
	within		0	0.453125	0.453125	T = 4
Manufacturing sector dummy	overall	0.546875	0.498773	0	1	N = 256
	between		0.501733	0	1	n = 64
	within		0	0.546875	0.546875	T = 4
Service sector dummy	overall	0.328125	0.47045	0	1	N = 256
	between		0.473242	0	1	n = 64
	within		0	0.328125	0.328125	T = 4
Moderately concentrated industry dummy	overall	0.03125	0.174334	0	1	N = 256
	between		0.175368	0	1	n = 64
	within		0	0.03125	0.03125	T = 4
Un-concentrated industry dummy	overall	0.875	0.331367	0	1	N = 256
	between		0.333333	0	1	n = 64
	within		0	0.875	0.875	T = 4
IMR	overall	0.916955	1.204328	9.42E-14	4.995552	N = 188
	between		1.220124	1.33E-11	4.826509	n = 55
	within		0.107406	0.459791	1.351505	T bar = 3.41818
Age	overall	3.156014	0.7071772	0.6931472	4.65396	N=540
	between		0.7091535	0.6931472	4.65396	N=135
	within		0.00164	3.156014	3.296014	T=4

3.5.3 Result of regressions

Result of the stage-I regression

The result of the first stage regression, as reported in Table 3.12, shows that the resource based variables such as Total factor productivity, Profitability and Size of the firms have significant impact on the decision of internationalization of Indian firms. The coefficients of Total factor productivity ($\beta = 0.04443$, $p<.01$) and Profitability ($\beta = 0.056$, $p<.05$) are significant at 1% and 5% level of significance respectively whereas the coefficient of Size ($\beta = 1.00436$, $p<.10$) is significant at 10% level of significance. The finding of the significance of the resource-based variables indicates that the ownership advantage of firms in terms of the resource base of the firms is a very essential factor to impact on the decision of internationalization of Indian firms. However, the coefficients of other resource based variables such as Business group affiliation dummy ($\beta = 1.261691$, $p>.10$), Debt ($\beta = -0.036$, $p>.10$) and Cash flow ($\beta = 0.0000545$, $p>.10$) have not been found significant in influencing the decision of Indian firm's participation in internationalization. The coefficient of the knowledge-based variable such as the Prior international experience ($\beta = 4.1536$, $p<.01$) is found significant at 1% level of significance. However, the coefficients of the dynamic capability related variables namely marketing capability ($\beta = 0.6513991$, $p>.10$) and innovative capability ($\beta = 0.1640218$, $p>.10$) are not found significant, which indicates that internationalization of Indian firms has not been driven by these two aspects of dynamic capability. But the finding of positive coefficient of innovative capability variable indicates the existence of positive association between innovative capability of Indian firms and the decision of the Indian firms to internationalize. The coefficient of industry-based variables such as un-concentrated industry dummy ($\beta = 2.281119$, $p<.10$) is only found significant at 10% level of significance in explaining the decision of internationalization of Indian firms. The finding of significance of this industry dummy indicates that un-concentration within the industry can have significant influence on the decision of internationalization of Indian firms. However, insignificance of coefficient of other industry-related variables such as moderately concentrated industry dummy ($\beta = -2.811363$, $p>.10$) shows that concentration within the industry does not act as a driver of the Indian firms to influence their decision of internationalization. Moreover, the negative coefficient of the variable indicates that even the presence of the moderate concentration within the industry reduces the likelihood of the

Table 3.12: Result of stage-I regression of Probit model

DV=Decision of internationalization				
Independent variables	**Model 1**		**Model 2**	
	Estimate β	p-value	Estimate β	p-value
Intercept	-10.99***[-2.84]	0.005	-11.06***[-2.87]	0.004
Prior international experience	4.1536***[2.83]	0.005	4.20397***[2.86]	0.004
Profitability	0.056**[2.00]	0.045	0.05479**[1.98]	0.047
Debt	-0.036[-0.10]	0.629	-.031958[-0.09]	0.931
Size	1.00436*[1.95]	0.051	1.070612**[2.84]	0.046
Total factor productivity	0.0444***[2.93]	0.001	0.0444***[2.94]	0.003
Marketing capability	-0.651399[-0.09]	0.930	-.517294[-0.07]	0.944
Innovative capability	0.1640218[0.46]	0.644	.171233[0.48]	0.633
Cash flow	0.0000545[0.67]	0.501	.0000534[0.67]	0.503
Age	-0.114118[-0.14]	0.371	-.114118[-0.15]	0.879
Firm type dummy	0.343937 [0.03]	0.592	.0374065[0.04]	0.972
Business group affiliation dummy	1.261691[1.62]	0.105	1.260942[1.63]	0.103
Moderately concentrated industry	-2.811363[-1.62]	0.106	-2.8605*[-1.65]	0.099
Un-concentrated industry dummy	2.281119*[1.78]	0.076	2.27344*[1.79]	0.074
Time dummies	included		not-included	
2009 year dummy	-0.1065537[-0.14]	0.818		
2010 year dummy	-0.124718[-0.21]	0.831		
2011 year dummy	-0.01499[-0.03]	0.979		
Sector dummies	included		included	
Manufacturing sector dummy	2.248922***[2.64]	0.008	3.194937**[2.00]	0.046
Service sector dummy	2.627931**[2.42]	0.016	2.273442**[2.42]	0.016
Model summary				
Log likelihood	-72.788461		-72.829247	
Log likelihood ratio test (chibar-2)	275.04***	(0.000)	275.25***	(0.000)
Wald chi-square	61.23***	(0.0000	62.05***	(0.0000)
Observations	372		372	
Groups	116		116	

*, p<0.10 [10% level of significance]
**, p<0.05 [5% level of significance]
***, p<0.01 [1% level of significance]
values in the parentheses are their respective t-values of the coefficients

firms to participate in internationalization. The coefficients of the sector dummies namely Manufacturing sector dummy ($\beta = 2.248922$, $p<.01$) and Service sector dummy ($\beta = 2.627931$, $p<.05$) are found significant at 1% and 5% level of significance. Finding of significance of these two sector dummies indicates that the likelihood of influencing the decision of internationalization of the firms increases with the increase in the chance of the firms being included either in the manufacturing or the service sector. However, the coefficients of the year dummies are not found to be significant, which could be due to the

limited longitudinal coverage. The finding of insignificance of the Firm-type dummy(β = 0.1640218, p>.10) indicates that initiation of liberalization measures could not affect the competitive advantage of the firms to significantly influence the decision of internationalization of Indian firms. The finding of significance of Wald chi-square (chi 2=61.23, p<.001) and log likelihood ratio test (chi bar square=275.04, p<.001) shows that the models (Model 1and2) fit well.

In Model (2) of the first stage regression, reported in Table 3.12 shows that the significance of the variables on the decision of firms to participate in internationalization remains consistent with and without the inclusion of the time dummies. Though, a little change in the magnitude of the estimation of the coefficients is noticed but the difference is very less to be taken into consideration.

Result of the stage-II regression

In Model 3 of the stage-II regression, the coefficient of Profitability (β = 0.053986, p<.05) is found highly significant at 5% level of significance. The coefficients of Total factor productivity (β =-0.005585, p>.10) and Size (β =0.754309, p>.10) have not been found statistically significant in the second stage of regression which have been significant in the first stage regression in explaining the decision of internationalization of Indian firms. The coefficient of Cash flow (β =-0.000112, p<.05) is found significant at 5% level of significance but the negative sign of the coefficient is not in the line with the expected sign. The coefficient of Prior international experience (β =3.773652, p<.05) is highly significant at 5% level of significance. However, the coefficients of the capability related variables namely marketing capability (β =5.73998, p>.10) and innovative capability (β =0.0734874, p>.10) are not found statistically significant. The finding of insignificance of these variables indicates that dynamic capability captured in these two aspects is not a source of ownership advantage to explain the intensity of internationalization of Indian firms. The coefficient of the Business group affiliation dummy (β =1.373248, p<.10) is also found significant at 10% level of significance. But the finding of significance of this variable is not consistent with the finding of first-stage regression. The finding of significant of the coefficient of Firm-type dummy(β =2.502607, p>.10) at 10% level of significance is also not consistent to the result

of the first stage regression. The finding of significance the these two variables namely the Firm-type dummyand Business group affiliation dummy indicates that though

Table 3.13: Stage-II regression of linear regression model

DV: Intensity of internationalization					
Independent variable		**Model 3**		**Model 4**	
		Estimate(β)	p-value	Estimate(β)	p-value
Intercept		-17.668***[-4.29]	0.000	-17.66***[-4.35]	0.000
Prior international experience		3.77365**[2.18]	0.029	3.74697**[2.19]	0.028
Profitability		0.05399**[2.14]	0.032	.051537**[.2.21]	0.027
Debt		-0.33303[-0.61]	0.543	-0.302265[-0.56]	0.574
Size		0.754309 [-0.15]	0.884	0.723548[-0.12]	0.906
Total factor productivity		-0.006[-0.80]	0.422	-0.00596[-0.88]	0.381
Marketing capability		5.739[0.90]	0.366	5.508349[0.89]	0.373
Innovative capability		0.07349[0.51]	0.611	0.07900[0.56]	0.576
Cash flow		-0.0001**[-1.83]	0.067	-.00012**[-1.86]	0.062
Age		0.608[0.69]	0.487	.621904[0.72]	0.471
Firm-type dummy		2.5026*[1.86]	0.063	2.51567*[1.90]	0.058
Business group affiliation dummy		1.373*[1.89]	0.059	1.33937* [1.67]	0.095
Moderately concentrated industry dummy		1.0477[0.39]	0.699	1.159061[0.43]	0.664
Un-concentrated industry dummy		0.96949[0.69]	0.488	0.9986898[0.73]	0.468
IMR		0.61284[1.42]	0.154	.5915983[1.40]	0.161
Time dummies		included		excluded	
2009 year dummy		-0.29238[-0.59]	0.554		
2010 year dummy		-0.00077[-0.00]	0.999		
2011 year dummy		-0.0372[-0.08]	0.939		
Sector dummies		included		included	
Manufacturing sector dummy		1.858953[1.21]	0.228	1.765793[1.17]	0.241
Service sector dummy		1.72401[0.71]	0.488	1.317723[0.69]	0.491
Model summary					
no. of observations		118		118	
no. of groups		46		46	
R-square	within	0.0410		0.0378	
	between	0.4727		0.4656	
	overall	0.4520		0.4487	
Wald chi2 (p>chi-2)		32.86	0.0250	33.13	0.0071
Hausman test (p>chi2)		10.59	0.3052	7.60	0.2689
Breusch Pagan Lagrangian multiplier test		5.38	0.0102	5.76	0.0082

*, p<0.10 [10% level of significance]
**, p<0.05 [5% level of significance]
***, p<0.01 [1% level of significance]
values in the parentheses are their respective t-values of the coefficients

these variables cannot influence the decision of Indian firm to participate in internationalization but intensity of internationalization of firms increases with the increase

in the likelihood of the firms being affiliated to a business group and being incorporated during the post liberalized era. The coefficients of the Manufacturing sector dummy (β = 1.858953, p>.10) and Service sector dummy (β =1.72401, p>.10) are also not found to have significant effect on the intensity of internationalization of Indian firms. Likewise, the coefficients of the times dummies (β =,-0.2923842, -0.0007702, -0.0372182, p >.10) for 2009, 2010 and 2011 year dummies have also been found insignificant. The finding of insignificance of the coefficients of the sector dummies and year dummies indicates that sector-wise variation and time-specific variation have no influence the intensity of internationalization of Indian multinationals. The coefficient of the IMR (β_m =0.61284, p>.10) is also not found significant. Insignificance of the coefficient means the endogeneity is less of concern in the present analysis. But the finding of positive coefficient of the IMR (Inverse Mills Ratio) implies that IMR corrects the upward bias of self-selection or corrects the probability of self-selection above the average characteristics of the population. Since, the second stage regression deals with the observation with OFDI>0, so, there is less observations than the first stage regression. In Model 4 of the second stage regression, the time dummies have been excluded to see whether there is any significant change in the estimation of the coefficients of the variables or not with the exclusion of the variables. However, the study finds that no any significant change in the estimation of the parameters has been seen with the exclusion of the time dummies in Model 4, though, a little change in the magnitude of estimation of the coefficient is noticed. Therefore, comparing both Model 3 and Model 4, it can be said that the exclusion of time dummies does not have significant influence on the level of significance of the independent variables and the direction of relationship between the dependent and the independent variables. Moreover, the finding of significance of the Wald Chi square (chi bar square=32.86, p<.001) in Model 3 and (chi bar square=33.13, p<.001) in Model 4 indicates that the models fit well. R-square values for within (R^2=0.0410), between (R^2 =0.4727) and overall (R^2 =0.4520) model shows that between estimation can give the better fitness of the model. Hausman test is done to choose the model between the fixed effect and the random effect model. In Model 3, Hausman test statistics (chi2=10.59, p>0.3052) shows that random effect model gives the better estimate of the parameters than the fixed effect model. Moreover, Breusch and Pagan Lagrangian multiplier test is also performed to select between random effect model and pooled model for estimation of the parameters. Breusch and Pagan Lagrangian multiplier test statistics (chi2=5.38, p<0.0082) indicates that random effect model is preferable to the pooled model.

Table 3.14: Result of first stage and the second stage regression

Dependent variable	**Decision of internationalization**		**Intensity of internationalization**		
Independent variables	**Model 5**		**Model 6**		
	Estimate(β)	p-value	Estimate(β)	p-value	
Constant	-6.70233* [-1.79]	0.073	-20.91**[2.39]	0.017	
Size	0.230773[-0.99]	0.322	0.358044[0.84]	0.400	
Profitability	0.04646[1.5]	0.133	0.1094***[2.67	0.008	
Cash flow	-9.53E-06[-0.11]	0.914	-8.7E-05[0.79]	0.428	
Business group affiliation dummy	0.565676[0.69]	0.491	0.23229[0.15]	0.884	
Debt	0.258874[0.52]	0.603	-2.14547[1.51]	0.132	
Total factor productivity	0.00343[0.25]	0.8	-0.00289[0.34]	0.732	
Age	-0.15977[-0.2]	0.842	0.24063[0.15]	0.883	
Prior international experience	-9.68656[-0.84]	0.4	29.58079[0.85]	0.397	
Marketing capability	-12.8442[-1.44]	0.151	7.42813[1.35]	.175	
Innovative capability	0.250955 [0.75]	0.453	0.471898[1.18]	0.240	
Moderately concentrated industry	1.866059 [1]	0.319	0.932309[0.30]	0.761	
Un-concentrated industry dummy	2.689329 [1.47]	0.14	1.696856[0.61]	0.544	
Prior international experience					
× Size	0.421174* [1.91]	0.056	0.56965[0.88]	0.379	
× Profitability	-0.02805[-0.45]	0.656	-0.08991[0.95]	0.344	
× Total factor productivity	0.2144*** [2.96]	0.003	-0.03927[0.74]	0.462	
× Marketing capability	190.999 ***[3.07]	0.002	-47.0438*[1.72]	0.086	
× Innovative capability	-0.5002 [-0.43]	0.668	-2.00479[1.09]	0.274	
× Cash flow	0.000148 [0.11]	0.909	-9.1E-05[0.35]	0.728	
× Debt	-1.8022 [-0.74]	0.461	6.388468[1.36]	0.173	
× Age	-4.3884 [-1.19]	0.234	0.652717[0.17]	0.863	
× Business group affiliation dummy	10.179*** [2.75]	0.006	2.734275[0.72]	0.470	
× Manufacturing sector dummy	13.164** [2.19]	0.028	-25.6365[0.80]	0.426	
× Service sector dummy	19.4469* [2.41]	0.016	-25.8277[0.78]	0.437	
2009 year dummy	0.042187 [0.07]	0.947	-0.54125[1.02]	0.307	
2010 year dummy	0.215186 [0.32]	0.748	-0.06793[0.12]	0.904	
2011 year dummy	0.021052 [0.03]	0.975	-0.00928[0.02]	0.985	
Manufacturing sector dummy	0.727915 [0.66]	0.509	5.410493[1.14]	0.253	
Service sector dummy	1.408681 [0.93]	0.355	4.688957[0.89]	0.374	
Firm-type dummy	0.786771 [0.6]	0.546	2.164274[0.83]	0.405	
IMR			0.57929[0.98]	0.327	
Model summary					
Log likelihood ratio (p>chibar2)	213.94 (.0000)		R-square	within	0.1
				between	0.5
				overall	0.5
no. of groups	116		no. of groups	46	
observations	372		observations	118	
Wald chi2(p>chi-2)	68.33 (0.0001)		Waldchi2(p>chi2	47.67(0.0283)	
Hausman test (p>chi2)	8.12(0.7028)			9.67(0.4701)	
Breusch-Pagan Lagrangian multiplier test	1.96(0.0808)			1.94 (0.0820)	

*, p<0.10 [10% level of significance], **, p<0.05 [5% level of significance]***, p<0.01 [1% level of significance]values in the parentheses are their respective t-values of the coefficients.

Likewise, in Model 4, Hausman test statistics (chi2=7.60, p>0.2689) shows that random effect model gives the better estimate of the parameters than the fixed effect model. Breusch and Pagan Lagrangian multiplier test statistics (chi2=5.76, p<0.0082) also indicates that random effect model is to be preferred to the pooled model. Therefore, based on these two statistics, random effect model is chosen in the both Model 3 and Model 4 for estimation of the parameters. The result reported in Table 3.14 shows that the Prior international experience variable is interacted with the resource-based and capability-related variables to capture the moderating role of the variable and also, with the sector dummies to capture the influence of Prior international experience with sector specific variation of the Indian firms on the internationalization of the firms. The coefficients of the interaction of the Prior international experience with the variables such as Size (β =0.421174, p<.10), Total factor productivity (β =0.21437, p<.01), Business group affiliation dummy (β = 10.179, p<.01), and Marketing capability (β =190.999, p<.10) are found to be significant in the decision of internationalization of Indian firms. Moreover, the coefficient of interaction of the Prior international experience with the sector dummies - Manufacturing sector dummy (β =0.727915, p<.01) and Service sector dummy (β =1.408681, p<.05) are also found highly significant at 1% and 5% level of significance respectively. The result confirms that Prior international experience can act as a moderating factor of other resource-based and the capability related variables on explaining the decision of internationalization of Indian firms. The finding of significance of the coefficients of the interaction of Prior international experience with the sector dummies indicates that prior knowledge in terms of Prior international experience has driven the Indian firms from both manufacturing and the service sector to decide their participation in internationalization. However, coefficients of Prior international experience with interaction of the same variables have not been found significant in explaining the intensity of internationalization of Indian firms. Only the coefficient of the interaction of the variable with Marketing capability (β =-47.0438, p<.10) is found significant but the negative coefficient of it is found to be contrary to the expected sign. Further, the coefficients of the interaction of Prior international experience with the sector dummies have not been found having significant influence on the intensity of internationalization of Indian firms. From the findings, it can be said that Prior international experience can act as a moderating factor of the resource-based and the capability based variables in the decision of internationalization of Indian firms although the moderating role of the variable has been seen absent in influencing the intensity of internationalization of

Indian firms. The finding of significance of Wald chi2 (chi2=68.33, p<.001) and log likelihood ratio (chi bar square=213.94, p<.001) in the Model 5 and Wald chi2 (chi2=47.67, p<.001) in Model 6 indicates that both models fit well. In Model 6, the between value of R-square is larger than the within and overall R-square value. Within R-square value (0.1025) implies that 10.25% of the variance within the panel can be explained by the model. Between R-square value (0.5947) indicates that 59.47 % of variance between separate panel units can be explained by the model and overall R-square value (0.5363) implies that 53.63% of the variance (weighted average of the within and between) is explained by the model.

3.5.4 Robustness check

The robustness of the results is also checked by considering the alternate measures of prior knowledge i.e. the length of prior knowledge captured by the years of foreign presence of the firm. But the coefficient of the variable is not found statistically significant in driving the internationalization of Indian multinationals, instead, the sign of the coefficient of the variable is found negative which indicates that the intensity of internationalization of Indian firms decreases with the increase in the length of entry time in the foreign market. The coefficients of the interaction of the variable with other resource-based and capability related variables have also not been found significant. The interaction of the variable with the sector dummies is also checked to look into the sector specific variation, but, the coefficients are found statistically insignificant to influence both the decision and intensity of internationalization of Indian firms. However, the coefficient of the interaction of entry time with the Manufacturing sector dummy is found positive in explaining the decision and intensity of internationalization of Indian firm whereas with the service sector dummy is found negative. The result indicates that there is negative association between the growth of internationalization of service sector firms of India and length of prior international experience. However, the intensity of internationalization of the manufacturing sector increases with the length of the time of their association with the foreign market suggesting that length of prior knowledge in terms of length of foreign experience matters on the growth of internationalization of the manufacturing firm (result is not reported).

3.6 Discussions

The step-wise estimation gives a cogent explanation about the determinants of decision of internationalization and the intensity of internationalization of the Indian firms. Though

the process of internationalization is sequential, but, in the present study, the significance of only a few variables such as Profitability and Prior international experience have been found consistently significant in explaining the decision and intensity of internationalization of Indian firms. Finding of the study shows that profitability of a firm is the single most important parameter of ownership advantage of a firm among all other resource-based variables to influence the growth of internationalization of Indian firms. Moreover, the finding of significance of the coefficient of Prior international experience can be said that internationalization of Indian firm is an outcome of the incremental commitment to a market through gradual leaning about the foreign market. So, in conceptualizing the growth of internationalization of Indian multinationals, it can be approached to the gradualist view or the stages theory of international production. Moreover, the finding of the study also reveals that Prior international experience of the firm also acts a moderating factor that moderates the resource-based and capability related variables to stimulate the decision of firms to participate in internationalization. The current research shows that firms with Prior international experience influence on the decision of the firms with richer resource-base and higher market capability to participate in internationalization. The finding is consistent to the previous studies (Luo et al., 2011, Yui et al., 2007). Yamakawa et al. (2013) also explains that the emerging multinationals are motivated to utilize their prior knowledge to acquire new knowledge. The finding of significance of the Prior international experience in the present study, it can be said that the growth of internationalization of Indian firm is significantly driven by the motive of exploitation of ownership advantage in terms of prior knowledge to fuel the growth of the asset-augmenting internationalization. Moreover, the finding of insignificance of the capability related variables also reveals that internationalization of Indian firms is not driven by the motive of exploitation of capabilities unlike the developed country multinationals as the emerging multinationals are more inclined to build their capabilities than to exploit them (Cantwell, 1992; Deng, 2007; Zahra et al., 2000). Based on the findings, the present study suggests the re-conceptualization of the parameters that capture both the aspects of internationalization namely asset exploitation and asset augmentation motive of internationalization to explain the growth of internationalization of Indian firms.

3.7 Conclusion

The study contributes to the literature of business studies by bringing into consideration multiple approaches of international production namely the resource-based view,

knowledge-based view, dynamic-capability based view, and industry-based view into one single analytical framework to define the parameters that drive the growth of internationalization of Indian firms. The study unfolds a few unexplored facets of internationalization of Indian firms. First, using the resource-based view and firm-level dataset across all sectors of the economy, the current study shows that profitability of firm is a very important parameter of the resource base of Indian firms which can significantly influence both the decision and intensity of internationalization of Indian firms. Second, investigation of the role of both the length and depth of prior knowledge on influencing the growth of internationalization of Indian firms is an important contribution to the literature of business studies made by the current study. The finding of significance of firms' depth of prior knowledge in terms of Prior international experience indicates that internationalization of Indian firms can be explained as an incremental commitment of the firms through gradual learning about the market as exporters. However, the study fails to capture the impact of the dynamics of learning on the growth of internationalization which is the part of the future research agenda. The study also explores that prior international experience can moderate the firm's resources and dynamic capability to drive the decision of internationalization of Indian firms. Further, the study also reveals that the length of prior knowledge captured by the foreign experience of the firms (in years) which is an important parameter of knowledge-base of firms fails to serve as an influential parameter to promote the growth of internationalization of the Indian firms. Third, the study also offers empirical evidence of the role of dynamic capability of firm's captured by two aspects of dynamic capability namely innovative capability and marketing capability – which are considered to be the important sources of ownership advantage of internationalization from the developed countries – do not influence significantly the internationalization of Indian firms. The finding is consistent to the study (Wang et al., 2012), which finds the insignificance of these two aspects of dynamic capability serving as the driver of internationalization of Chinese firms too. However, the consideration of other aspects of dynamic capability other than these two sources of dynamic capability will enrich the finding of the study. Fourth, the study assists to look into how the within-industry competiveness of the firms influences the growth of internationalization of Indian firms. The study concludes that internationalization strategy of Indian firms is not significantly driven by the nature of competition within the industry. Although the unconcentration of firms within the industry can serve to influence the decision of firms to participate in internationalization but have not been found to be influential to impact the intensity of internationalization of Indian multinationals. However,

the study could not capture the impact of high competitiveness within the industry on the internationalization of Indian firms as there are no firms found highly competitive in the sample of firms chosen for the present research. The study also reveals that concentration within the industry is negatively associated with the growth of internationalization of Indian firms. Though concentration within the industry act as an institutional void to drive the firms to participate in internationalization, but the escapist view which is a description of the strategic intent of emerging multinationals is found to be absent in explaining the growth of internationalization of Indian multinationals.

Furthermore, the study discloses that the parameters specified in the study to represent the drivers of internationalization can unravel the growth of internationalization of Indian firm. However, the consideration of the both aspects of internationalization namely the asset-augmenting and asset-exploiting motives while defining the drivers of internationalization of Indian firms would have enriched the findings of the current study. Therefore, the present research evinces the need of a broad framework or the extension of the extant theories which takes into consideration all the aspects of internationalization to precisely elucidate the growth of internationalization of the Indian firms.

Annexure–3.I

Construction of Total factor productivity-Linear transformation of the Cobb-Douglas type production function is,

$$Y_{it} = \beta_0 + \beta_k k_{it} + \beta_l l_{it} + \beta_m m_{it} + \varepsilon_{it} \qquad (1)$$

Where, lower case letters refers to natural logarithm and ε_{it} is the time and producer-specific deviation from the mean and can be decomposed into two parts observable (v_{it}) and unobservable (u_{it}). $\omega_0 = \beta_0 + v_{it}$ represent the firm's productivity. The productivity can be estimated from equation (1). The estimated productivity is,

$$\widehat{\omega_{it}} = \widehat{\beta_0} + \widehat{v_{it}} = Y_{it} - \widehat{\beta_k} k_{it} - \widehat{\beta_l} l_{it} - \widehat{\beta_m} m_{it} \qquad (2)$$

The productivity of firms in the level can be obtained as the exponential of $\widehat{\omega_{it}}$ i.e. $\widehat{\Omega_{it}} = \exp(\widehat{\omega_{it}})$. The OLS estimation of equation (1) leads to bias in the measurement of productivity because of the presence of endogeneity of selection bias, omitted price bias and multiproduct firm. Olley and Pakes (1996) method of productivity measurement cannot provide an efficient estimation. Though it uses investment to avoid the shortcomings of

OLS estimate but the negative value of investment leads to the loss of observation further leads to the inefficiency of estimation. Levinson and Petrin (2003) use intermediate input as a proxy to capture unobserved productivity. It can solve the problem of observation lost as firms report positive use of material and energy. So, the Levinson and Petrin (2003) method is chosen for constructing total factor productivity of firms. First stage of LP method involves the estimation of the following equation

$$Y_{it} = \beta_0 + \beta_1 L_{it} + \Phi_t(M_{it}, K_{it}) + \varepsilon_{it}$$

L →Labor, K →Capital and M →Intermediate imput.

Where, $\Phi_t(M_{it}, K_{it}) \rightarrow \beta_k K_{it} + \int_t^{-1}(M_{it}, K_{it})$ is a non-parametric function. The estimation of β_1 and Φ_t can be obtained from the first stage. In the second stage of Levinson and Petrin (LP) estimation, LP assumes that productivity (ω) follows the first order Markov process which can be expressed as follows:

$$\omega_{it} = E(\omega_t|\omega_{it-1}) + \epsilon_{it}$$

The assumption assumes that capital does not respond immediately to ϵ_{it} (shock in productivity or innovation in productivity). The moment condition $E(\epsilon_{it}|K_{it}) = 0$ explains the unexpected part of innovation in productivity in the current period which is independent of this period's capital stock can be determined by the previous period's investment. Using this moment condition, β_{it} can be estimated from the following equation

$$\epsilon_{it}(\beta_{it}) = \omega_{it} - E(\omega_{it}|\omega_{it-1}) = (\Phi_{it} - \widehat{\beta_k} K_{it}) - \vartheta(\widehat{\beta_k})$$

In this study to represent capital, labour and immediate input net fixed asset, salaries and wages of labour and expenses on fuel and power have been used respectively. Though number of employees has been used to represent the variable labour elsewhere (Das, 2015), but the information on number of employees for most of the firms is missing. So, we have used salaries and wages of labour to substitute number of employees in our study.

Chapter 4
Location choice of Indian multinationals: Exploring the role of Country-level and Firm-level Determinants

The present chapter discusses the influence of the motives of internationalization, country-level determinants of the host and the firm-level determinants in the location distribution of the Indian multinationals. The chapter is organized into 10 sections. Section 4.1 presents the introduction of the study. Section 4.2 discusses the analytical framework. Methodology of the study is described in the sections 4.3. Section 4.4 presents an overview of the location distribution of Indian multinationals during the period of 2008-2012. Section 4.5 details about the construction of the dependent and the independent variables. Section 4.6 presents the definition/direction of relationship of variables and sources of data. Information about the sample of firms is detailed in 4.7. Section 4.8 presents the results of the study. Discussion of the results is given in section 4.9 and lastly section 4.10 is the conclusion of the chapter.

4.1 Introduction

Regional distribution of outward foreign direct investment (OFDI) has undergone a remarkable change over the past three decades (WIR, 2009). The new wave of outward FDI from the developing nations noticeably diversified in terms of its geographical distribution which is quantitatively and qualitatively different from the past wave of OFDI (Gammeltoft et. al., 2010). The shift in the location distribution of the new wave of OFDI from emerging multinationals has been noticed with the growing competitiveness of the firms (Kumar, 2007). Dunning (1998) acknowledges that the evolution of emerging multinationals is one of the reasons of shifting of their geographical preference. Moreover, it is also observed that emerging multinationals are motivated to augment the location advantage of the host country through involving in the mutually-beneficial-partnership (Kedia et. al., 2012), catching-up-strategy (Deng, 2007) and capability-building activities (Deng, 2007; Korniyenko and Sakatsume, 2009) due to the absence of the ownership advantage of their developed countries counterparts. So, the choice of location occupies a very important place in the literature of international business. But in Indian context, only a few studies such as the studies of Buckley et al. (2012); Beule and Duanmu (2012); Das and Banik (2015); Nunnenkamp et al. (2012); Pradhan (2011); Rajan (2009) have been found having investigated the location distribution of Indian multinational. Furthermore, most of the

studies are basically based on the investigation of host country specific location determinants of bilateral OFDI or OFDI approvals. The major drawback of these studies is the underestimation of the influence of firm specific attributes as the driver of location decision of Indian multinational firms. The study of Henisz and Macher (2004) reveals that firms' decisions to locate their affiliates are not only influenced by the country-specific characteristics of host but also by their own capabilities or ownership-advantage. Jain et. al (2015) says that the linkage between the location decision and resources of the firm is still under-researched. According to Fiegenbaum et al. (1997), the firms which are abundantly endowed with resources can more efficiently operate in the foreign locations and choose the location for operation where they can exploit their resources profitably. Galan et. al. (2007) says that the primary motive of multinational enterprises is to generate economic rent with the use of firm resources internalizing the location-advantage of a particular location. The studies (Chen and Moore, 2010; Mayer et al., 2010; Yeaple, 2009) emphasize the role of both location determinants of the host and firm-level characteristics to explain the location choice of multinational firm. Dunning (2006) also describes that location-advantage of time t can influence the multinational activity of a firm in time $t+1...n$ through gaining ownership advantage. On the basis of the previous studies, it can be said that the location decision of firms is not only influenced by the location-advantage of the host countries but also by the ownership advantage of firm though the internationalization of multinationals from the developing countries is often driven by ownership-disadvantage. Moreover, Dunning (1980) explains that the location choice of multinationals is to a large extent driven by the motives of internationalization such as market-seeking motive, efficiency-seeking motive, strategic-asset seeking motive and resource-seeking motive of the firms investing abroad.

Therefore, in the present study, an attempt is made to investigate the simultaneous act of firm resources, location determinants and motive of multinationals on the location choice of Indian multinationals.

4.2 Analytical framework

Although comparative advantage doctrine that had been dominating the most of the models explaining about the location choice of international producers during 1950s but the assumption of these models formulated based on the comparative advantage doctrine were proved to be singularly insufficient to explain the recent pattern of FDI (Lall, 1976; Galan et al., 2007). This led to the emergence of a new series of theories such as theories of Product

Cycle (Vernon, 1966); theories of internationalization (Johansen and Vahlne, 1977); theories of risk diversion (Rugman, 1979); theories of agglomeration economies (Krugman, 1999); theories of location (Dunning, 1997; Chen and Chen, 1998) etc.. But these new theories have been partially succeeded in explaining the location choice of multinational firms due to their lack of generalizability despite the insightful contribution to the literature of international production. Therefore, Dunning (1980, 1988) developed the Eclectic Paradigm or 'OLI' Paradigm to illustrate the phenomenon of international production. It is called eclectic because it is a mix of ideas taken from several other theories. Dunning describes that the intensity of an enterprise to be engaged in international production can be defined by the possession of three specific types of advantage such as ownership advantage, location advantage and internationalization advantage. Ownership advantage or 'O' advantage is the possession of specific assets of both tangible and intangible assets of a firm which are not possessed by its competitors. The willingness of the firms to transform valuable inputs into more valuable output in the process of production in a foreign market rather than a home market determines the intensity of involvement in international production is defined by the 'O' advantage of the firm. Location advantage or 'L' advantage is specific to a particular location. Internalization advantage or 'I' advantage is the adoption of the location advantage with the given ownership advantage of the firm and how efficiently a firm internalizes the location advantage is defined by the firm's capability which is represented by the 'O' advantage of the firms. It usually happens because of the existence of market imperfection and transactional distance. So, it can be said that all these advantages are equally important to be involved in international production. Highlighting the importance of these three advantages of international production, Dunning (1998) notes, 'The OLI triad of variables determining foreign direct investment and MNE activity may be likened to a three-legged stool: each leg is supportive of the other and the stool is only functional if the three legs are evenly balanced.' However, increasing importance of location advantage has been noticed with the publication of the work by Dunning (1998) titled 'Location and multinational enterprise: a neglected factor?'. Here, Dunning notes, 'the locational configuration of a firm's activities may itself be an ownership-specific advantage as well as affect the modality by which it augment, or exploit, its existing ownership advantages.' Recently, a new group of literature has been evolved to explain the accelerated internationalization of the emerging multinationals such as 'springboard perspective' (Luo and Tung, 2007), 'linking-learning-linkage' theory (Mathew, 2006) popularly known as 'LLL' theory emphasizing the asset augmenting perspective of their international expansion. But Dunning (2006) says that

location advantage at time t is the source of ownership advantage at time $t+1.....n$. From this standpoint, it can be said that location choice of multinationals is not independent of the ownership advantage of the multinationals from the emerging nations. With the given 'O' advantages, multinational firms can overcome the intrinsic disadvantage associated with the uncertainty of producing in a foreign location. So, the multinational firms choose the locations that generate maximum benefit with their given ownership advantages. The resource based view (RBV) is most commonly applied to explain the firm specific advantages or 'ownership advantage' of firms. According to RBV, heterogeneity of firms defined by the resource base of the firms, knowledge and capabilities drives the strategic choices of the firms (Barney, 1991). According to The capability of the firm to deploy its resources in a foreign location is determined by the heterogeneity of the firms in terms of its resources. So, location choice of multinationals is jointly determined by the firms' resources and location factors.

4.2.1 Motives of internationalization and location choice

Motives of internationalization such as market seeking, efficiency seeking, resource seeking and strategic asset seeking motive can also significantly influence the location choice of multinationals. In India, the evidence of market seeking Indian multinationals such as Wipro Ltd. (EN Think Inc, USA; Wipro Chendu Ltd., China), Kerala Ayurbeda Ltd. (Ayurbedic Academy Inc., USA) etc, efficiency seeking multinationals such as Tata Motors (in Thailand), Bajaj Auto Limited (in Indonesia), Elgi Equipments Ltd. (in Indonesia) etc., strategic asset seeking multinationals such as Alkem Laboratories Ltd. (S and B Pharma Inc., USA), Arobindo Pharma Ltd. (Arobindo Pharma USA Inc. NJ), Reliance Polyolefins Ltd. (MPM Bioventures IV, USA) etc. and natural resource seeking multinationals namely ONGC Videsh (in Syria, Vietnam, Iran, Libya, Cuba, Sudan); Indian Oil Corporation (in Nigeria); Oil India Limited (in Libya); Shivvani Oil and Exploration (in Oman), Bharat Petro Resources, Reliance Coal Resources Pvt. Ltd (Netherland), Tata Petrodyne Ltd. (Netherland) etc. indicates that the location distribution of Indian multinationals might have to the large extent been driven by the motives of internationalization of the firms. Taking all these influential factors of location distribution of multinationals into consideration, the analytical framework of the study can be presented as shown in Figure 4.1.

4. 4 Specification of the multilevel parameters of location choice

In the present study, GDP is considered as the proxy to represent market access of the host nation. It is also taken to represent the market seeking motive of internationalization of Indian firms. Since data on wage of laborer is not easily available, so, GDPPC has been taken into account in the present study to substitute labor cost of the host countries following the previous studies (Das and Banik, 2015; Nunnenkemp et al., 2012; Takagi and Shi, 2011). In this respect, GDPPC can also be considered as the proxy of efficiency seeking motive of internationalization of Indian multinational firms. Physical distance between the

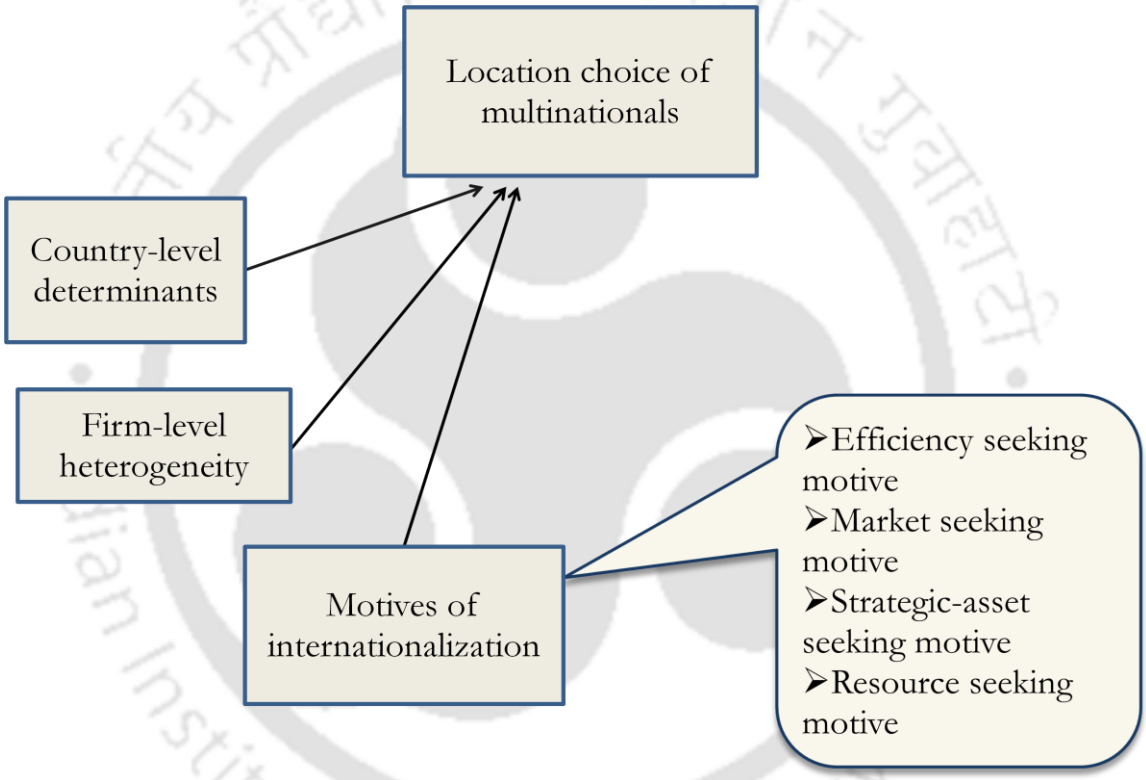


Figure 4.1: Analytical framework of location choice of multinationals

capital cities of the source and destination country is taken into account to proxy the transportation cost of production. Cultural proximity is also of importance in the location determination of foreign direct investment as it can reduce the transaction cost of production (Buckley and Casson, 1976; Buckley et. al, 2012; Buckley et. al., 2007; Lopez-Duarte and Vidal-Suarez, 2013; Nunnenkamp et. al., 2012; Kang and Jiang, 2012; Quer et. al., 2012). Common official language has been taken into consideration as the proxy of cultural proximity. Population density of the host country is taken as the proxy of fixed cost of production following the study of Gauselmann and Marek (2012). To represent the

resource seeking motive of internationalization, the availability of natural resources that is the share of export of fuel of the total export has been taken into account. The number of patent of the host has been taken into consideration to represent the strategic asset seeking motive of internationalization. Moreover, variables such as double taxation treaties (DTT), offshore (OFC) and inward FDI (IFDI) are also taken into account to represent other host-country-specific location drivers such as home-host country linkage, countries with offshore financial centres, and openness of the FDI sector respectively.

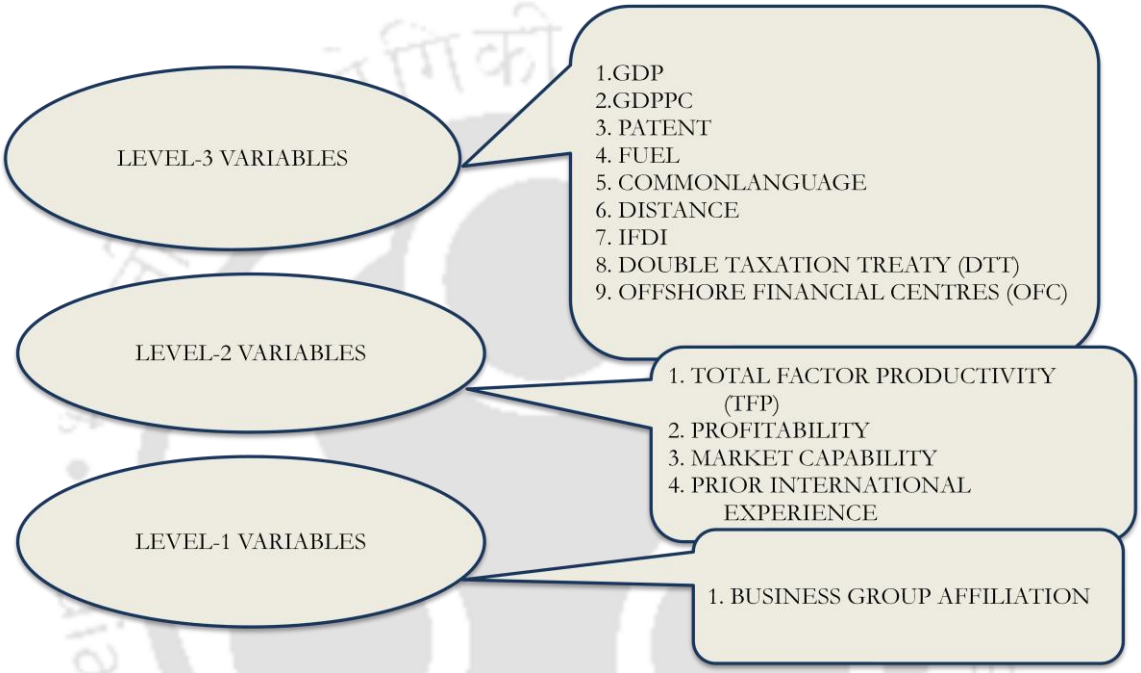


Figure 4.2: Multilevel parameters of location choice

To capture the heterogeneity at the firm-level, the study takes into account *resource-related* variable such as profitability of the firms and firm's affiliation to business group. Moreover, market capability and prior international knowledge have been considered to represent the *dynamic capability-based* and *knowledge-based* parameter of the firms respectively. Apart from these variables, year dummies and sector dummies are also included in the set of drivers of the location distribution of Indian multinationals to capture the sector specific variation and year effect in the location distribution of Indian multinationals. Moreover, a country dummy is also taken into account to capture the country-specific differences (to choose location between the developed and the developing countries) on the location decision of Indian multinationals. The hierarchical structure of the variables which are included in each level of hierarchy is presented in Figure 4.2. In the level-3, host-country location determinants have been considered. In level-2, parameters that represent firm's characteristics have been

included. In level-1, firm's affiliation to business group has been considered. To capture the random effect at level-1, firm's affiliation to a business group is considered as it is one of the important influential factors of multinational activity of the multinationals from the emerging nations as taken in the study of Jain et al. (2015).

4.3 Methodology

This section discusses the data sources, sample selection and econometric method.

4.3.1 Data Sources

a) Sample selection

In the present study, the selection of the sample of the firms has been done matching the overseas investing firms as listed in RBI overseas database with the firms in the CMIE-prowess database to get information about firm specific attributes. Matching with the prowess database, 42.6%, 41.9%, 39.1% and 36.9% of the total overseas investing firms have been found to have matched with Prowess database in 2008-09, 2009-10, 2010-11 and 2011-12 year respectively. Total numbers of investing firms and matched firms in the respective years is reported in Table 4.1. In the present study, after dropping the firms with missing information, the final sample selected for the analysis contains 518 firms of the total of the matched firms investing in 47 host countries.

b) Firm-level data- Prowess and RBI

In the present study, data on location distribution of firms for the period of 2008-09 to 2011-12 is chosen. To get the firm-level information about OFDI, the dataset released by RBI has been used. RBI has been publishing overseas investing firm-destination data monthly-wise since May, 2007 and it is available up to December, 2012. In this analysis, the actual outflow of FDI (equity + loan) has been considered as the dependent variable.

c) Country-level data

Databases such as UNCTAD database, World Development Indicators (World Bank), IMF and CEPII Gravity dataset have been used in the present study to collect information about the country-level attributes of the host countries.

4.5.2 Econometric method

Since Indian overseas investing firms are nested within a host country. The sharing of the same host country may be a cause of dependency of the observations. The presence of intra-class correlation[25] needs to be checked because it can change in the error variance in the traditional linear model (Sun et al., 2015) and the assumption of independent observations in which the traditional linear model is violated. Further, it leads to increase the probability of type I error[26]. Therefore, in the present study, hierarchical linear modelling (HLM) or mixed multilevel linear model is employed as it is considered as the appropriate methodology to analyze the hierarchical data (Raudenbush and Bryk, 2002). In the present study, three-level mixed multilevel model is employed for the estimation of the parameters. The three-level hierarchical structure of the observations has been taken into accounts as given below:

1) Level-3: host countries of Indian OFDI.
2) Level-2: overseas investing firms.
3) Level-1: individual observations.

In the present study, step-wise method has been followed to include the variables of each level of the hierarchical structure. Steps that taken in the inclusion of variables in the model are:

1) Step I: Null model or unconditional model is run.
2) Step II: All Level-3 variables (country-level variables) have been included. Moreover, time dummies are also included to capture the longitudinal nature of the variables.
3) Step III: Level-2 variables (firm-level variables) have been included in addition to the variables added in Step II. Sector dummies are also included.
4) Step IV: Level-1 variable business group affiliation dummy has been included in the model in addition to the variables added in Step III.

The three-level mixed-effect model can be represented as given in the equation (4.13)[27].

$$Y_{jk} = X_{jk}\beta + Z^{(3)}_{ik} u^{(3)}_{k} + Z^{(2)}_{jk} u^{(2)}_{jk} + \varepsilon_{jk} \quad (4.13)$$

[25] It is an inferential statistics generally used to describe the units in the same group are resembled each other.

[26] Type I error occurs when the true null hypothesis is rejected.

[27] It is taken from, mixed — Multilevel mixed-effects linear regression. Accessible in the given link: https://www.stata.com/manuals/memixed.pdf#memixed.

For $i = 1, \ldots, n_{jk}$ first level observations nested within $j = 1, \ldots, M_k$ second level groups (overseas investing firms) which are nested within $k = 1, \ldots, M$ third level groups (host countries). Group j, k constitutes n_{jk} observations. So, Y_{jk} (dependent variable=OFDI), X_{jk} (set of independent variables) and ε_{jk} each have row dimension n_{jk}. $Z_{jk}^{(3)}$ is the $n_{jk} \times q_3$ design matrix for the third-level random-effects $u_{jk}^{(3)}$, and $Z_{jk}^{(2)}$ is the $n_{jk} \times q_2$ design matrix for the second level random effects $u_{jk}^{(2)}$. Where, $u_j^{(3)} \sim N(0), u_{jk}^{(2)} \sim N(0)$, and $\varepsilon_{jk} \sim N(0, \sigma_\epsilon^2 I)$. $u_j^{(3)}, u_{jk}^{(2)}, \varepsilon_{jk}$ are independent. The first model typically fit when estimating a multilevel model is called the baseline, null or empty model. This model is a model without any predictors and it focuses on assessing whether level-2 and level-3 units differ from each other, on average, on the outcome variable or not. The null model can be expressed as given in equation (4.14),

$$Y_{ijk} = \mu + \alpha_j + \delta_k + r_{ijk} \qquad (4.14)$$

Where, $\alpha_j \sim \text{iidN}(0, \tau_{0,0})$, $\delta_k \sim \text{iidN}(0, \tau_{0,1})$, $r_{ijk} \sim \text{iidN}(0, \sigma^2)$.

The fixed part (μ) of the model is the sample mean. $(\tau_{0,0})$, (σ^2) and (τ_{01}) are the 'random effect parameters', each quantifies the average deviation at each level of hierarchy. $(\tau_{0,0})$= represents the intercept variance of the host countries, (σ^2)=represents the variance of the residuals and (τ_{01})= intercept variance for the overseas investing firms. Estimates of intra-class correlation (ICC) calculated from the null model to examine the dependencies at different level of hierarchical structure, can be calculated as follows,

$$\text{ICC(level3)} = \frac{\tau_{00}}{\tau_{00} + \sigma^2}$$

$$\text{ICC(level2/level3)} = \frac{\tau_{00} + \tau_{01}}{\tau_{00} + \tau_{01} + \sigma^2}$$

$$\text{ICC(level2)} = \frac{\tau_{01}}{\tau_{01} + \sigma^2}$$

If ICC value is less than .05, then it is better to go for linear regression model instead of employing the mixed multilevel regression analysis (Kreft and de Leeuw, 1998). Moreover, to tackle the problem of reverse causality, independent variables are taken one quarter lag of the dependent variable.

4.4 Overview of location distribution of Indian outward FDI

This section of the present chapter gives a glimpse of the location distribution of outward FDI of the Indian multinationals during 2008-09 to 2011-12. In Table 4.1, it can be seen that there is an increase in the number of firms participating in overseas investment. The number of firms found matched with the CMIE-prowess database is also reported in Table 4.1. Moreover, an increase in the number of destinations of overseas investment has also been noticed during the period 2008-2012.

Table 4.1: Destination Countries and Number of Investing Firms (2008-09 to 2011-12)

Financial years	No. of destination countries	No. of firms investing abroad (No. of matched firms)
2008-09	102	1,336 (569)
2009-10	99	1,175 (492)
2010-11	105	1,624 (635)
2011-12	109	1,725 (637)

Source: Calculated, RBI and CMIE-prowess

Table 4.2 shows the total outward FDI and percentage (%) share of the top destination countries of the total outward FDI from India. Singapore and Mauritius are the largest recipients of outward FDI from India amongst other top destinations. It can also be noticed from the result reported in Table 4.2 that most of the top destinations of Indian outward FDI such as British Virgin Island, Cyprus, Mauritius, Singapore, Switzerland, Panama, and Netherlands are the countries having offshore financial centres.

Figure 4.3 and Figure 4.4 shows the pattern of sector-wise distribution of outflow of FDI in the developed and developing countries respectively. It can be seen from the figures (Figure 4.3 and Figure 4.4) that though there is difference in the magnitude of the actual amount of total outward FDI but the distribution of outward FDI from India has followed almost the uniform pattern of distribution across all sectors both in the developed and the developing countries. Manufacturing, financial sector and transport, storage and communication sector of both the developed and the developing countries have been receiving the highest amount of OFDI from India. But the agriculture sector of the developing countries is receiving considerably larger amount of outward FDI from India than the developed countries. The classification of countries between the developed and the developing countries has been done on the basis of the classification of the countries followed by UNCTAD.

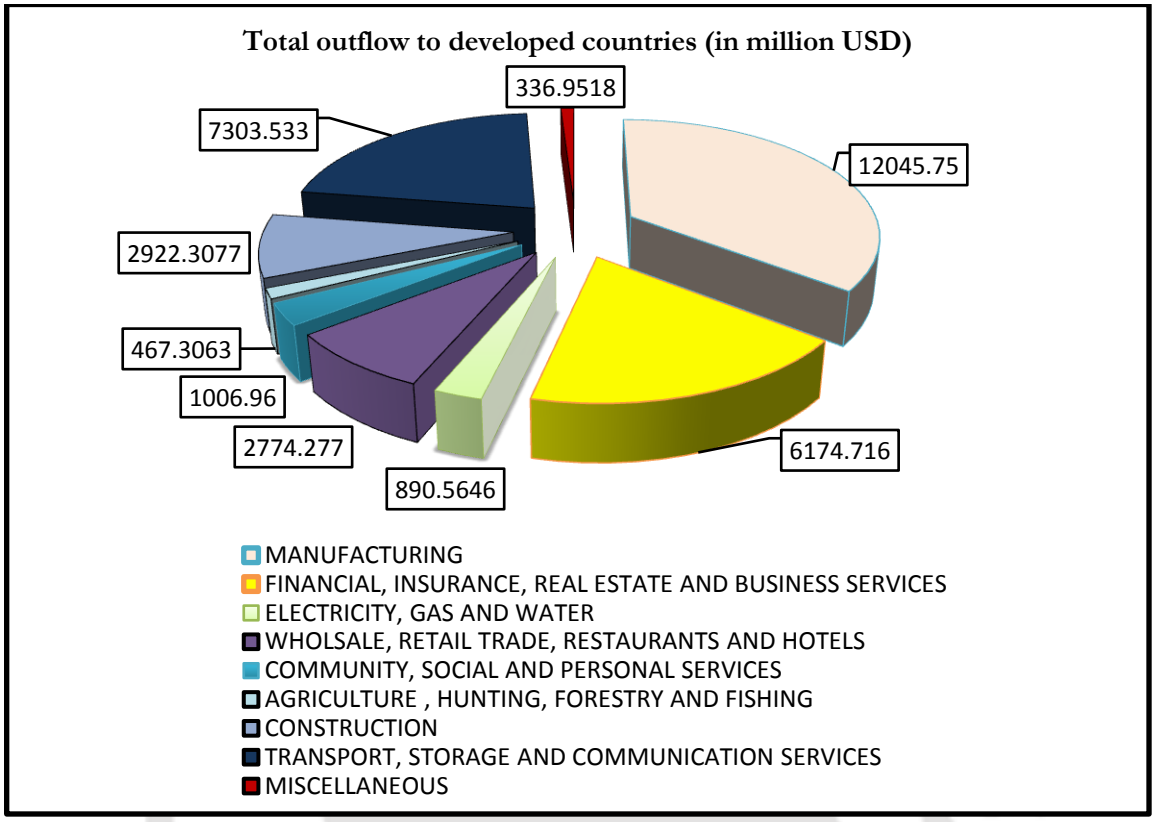
Table 4.2: Top destination countries of Indian outward FDI (in million USD)

Year	2008-09		2009-10		2010-11		2011-12	
Destination	total	% share	total	% share	total	% share	total	% share
Australia	147.22	0.86	73.53	0.41	234.25	0.53	2363.93	9.35
British Virgin Island	512.67	2.99	759.46	4.22	855.84	1.95	1481.04	5.86
Cyprus	2278.20	13.29	591.44	3.29	513.37	1.17	518.79	2.05
Mauritius	2651.20	15.46	2573.66	14.31	13106.86	29.83	5425.62	21.46
Singapore	4137.20	24.13	7062.97	39.27	11856.27	26.99	4961.18	19.62
Switzerland	410.84	2.396	182.02	1.01	400.27	0.91	898.06	3.55
United State Of America	1432.90	8.36	2035.06	11.31	2168.55	4.94	1415.95	5.60
United Kingdom	793.46	4.63	517.76	2.88	705.05	1.61	1492.36	5.90
United Arab Emirates	908.90	5.30	1971.00	10.96	1922.91	4.38	958.34	3.79
Panama	29.45	0.17	42.30	0.24	220.56	0.50	1874.24	7.41
Netherlands	676.97	3.95	2177.50	12.11	8260.97	18.81	1637.38	6.48
Total (top destinations)	13979.01	81.52	17986.69	99.99	40244.90	91.61	23026.88	91.07
Total OFDI	17147.42	100	17987.25	100	43929.18	100	25283.65	100

Source: Calculated, RBI

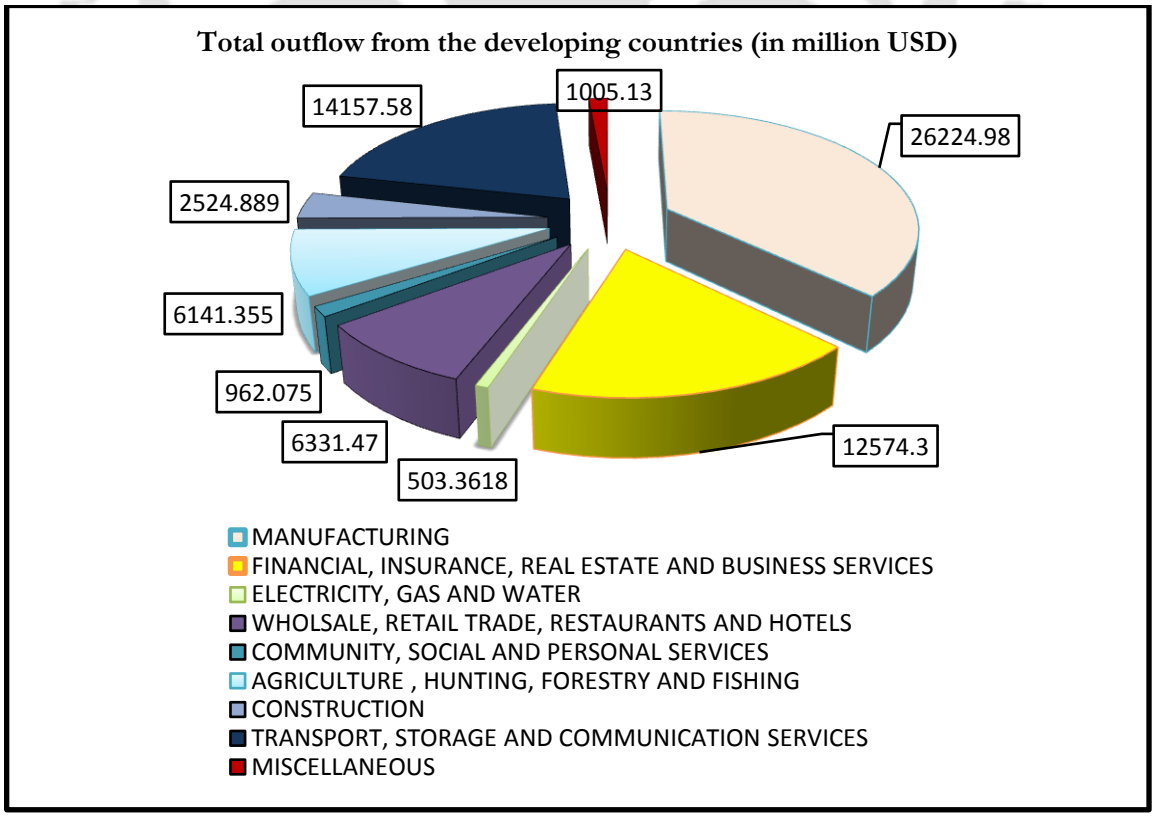
Sectoral distribution of outward FDI from India during 2008-09 to 2011-12 is presented in Table 4.3. It shows that almost all sector of Indian economy have experienced an increase in the magnitude of overseas investment along with the increase in the number of destination. But the magnitude of manufacturing sector has experienced a fall of its share and the amount of total overseas investment during 2008-2012.

Figure 4.3: Sectoral distribution of outward FDI in the developed countries



Source: Calculated, RBI

Figure 4.4: Sectoral distribution of outward FDI in the developing countries



Source: Calculated, RBI

Table 4.3: Distribution of Indian Outward FDI over sectors of the destination countries during 2008-09 to 2011-12

Sector (of Destination Countries)	2008-09			2009-10			2010-11			2011-12		
	US$ Million	% of total	No. of Destination countries	US$ Million	% of total	No. of Destination countries	US$ Million	% of total	No. of Destination countries	US$ Million	% of total	No. of Destination countries
Agriculture and mining	591.17	3.45	29	868.13	4.83	29	2593	5.90	36	2556.4	10.11	46
Manufacturing	9048.12	50.88	76	7250.17	40.31	65	14732	33.54	71	7240.5	28.64	78
Financial sector	3908.3	21.97	55	2893.35	16.09	49	7068	16.09	51	4879	19.30	55
Non-financial sector	3883.03	21.83		6864.97	38.17		18799.9	42.79		10465.3	41.39	
1.Community, social and personal services	1096.3	6.17	25	354.789	1.97	19	730.2	1.66	23	424.42	1.68	26
2.Transport, storage and communication services	1005.9	5.67	19	3027.56	16.83	21	13905	31.65	24	3522.3	13.93	32
3.Wholesale, retail trade, restaurants and hotels	1245.99	7.01	41	1721.28	9.57	45	3144	7.16	42	2994.4	11.84	45
4.Construction	409.57	2.30	33	947.286	5.27	36	848.3	1.93	28	3242	12.82	32
5.Electricity, gas and water	125.27	0.70	10	814.05	4.53	9	172.4	0.39	15	282.2	1.12	19
Miscellaneous	353.47	1.99	15	110.634	0.62	17	735.5	1.67	11	142.51	.56	11

Notes: Total Outward FDI constitutes equity, loan and grant. Community, social and personal services; transport, storage and communication services; wholesale, retail trade, restaurants and hotels; construction and electricity, gas and water collectively represent the non-financial sectors of the destinations. Financial sector includes financial, insurance, real estate and business services.

Source: Calculated, RBI

4.5 Construction of the variables

Construction of dependent variable

$$OFDI_i(f) = \log(\text{equity} + \text{loans})$$

Construction of independent variables

1) GDP = natural log of gross domestic product of the host country.
2) GDPPC = Gross domestic per capita of the host country.
3) PATENT = $\frac{(\text{Resident Patent} + \text{Non} - \text{resident Patent})}{\text{GDP}}$ of the host country.
4) FUEL = % share of fuel export to the total merchandised export.
5) IFDI = $\frac{\text{Inward FDI}}{\text{GDP}}$ of the host country.
6) DTT Dummy = if Indian signs double taxation treaty with the host = '1' or '0' otherwise.
7) OFC Dummy = host with offshore financial centres = '1' or '0' otherwise.
8) Common language Dummy = host with common official language = '1' or '0' otherwise.
9) TFP = Total factor productivity = constructed by using Levinson and Petrin Methodology (2003).
10) Prior international experience = {ratio of average earning of foreign exchanges from export of goods and services (2003-2012)}/ average sales (2003-2012).
11) Market capability = {advertising expenses + marketing expenses (rebates and discount expenses, sales promotion expenses) + distribution expenses}/total sales.
12) Profitability = Share of PBDITA to total income
13) Business group Dummy = '1', if the firm is affiliated with a business group or '0' otherwise.
14) Year dummies = Three year dummies such as $\text{Dummy}_{2008-09}$, $\text{Dummy}_{2009-10}$, and $\text{Dummy}_{2010-11}$ are created for 2008-09, 2009-10 and 2010-11 respectively (2011-12 is considered as the base year).
15) Sector dummies = manufacturing sector dummy {'1' = if firm belongs to manufacturing sector (NIC code 10-32) or '0' otherwise} and service sector dummy {'1' = if firm belongs to service sector (NIC code 55-98) or '0' otherwise}.
16) Developed country Dummy = if the host country is a developed country = '1' or '0' otherwise.

4.6 Description of variables/direction of relationship and data sources

Type of the variables, direction of relationship of the explanatory variables with the dependent variable and detail about data sources have been described in Table 4.4.

Table 4.4: Definition of variables/direction of relationship and data sources

Variable type	Direction of relationship	Source
OFDI (Continuous)		Reserve Bank of India
GDPPC (Continuous)	+	World Development Indicators, World Bank
GDP (Continuous)	+	World Development Indicators, World Bank
Common language Dummy (Dichotomous)	+	CEPII Gravity dataset, http://www.cepii.fr/anglaisgraph/bdd/distances.htm
DTT Dummy (Dichotomous)	+	UNCTAD, Country-specific list of double taxation treaty
PATENT (Continuous)	+	World Development Indicators, World Bank
Resource (Continuous)	+	World Development Indicators, World Bank
FDI Openness (IFDI) (Continuous)		World Development Indicators, World Bank
OFC Dummy (Dichotomous)	+	IMF and Financial Stability Forum (Source: Zoromè, 2007, Table X)
Prior international experience (Continuous)	+	Prowess, CMIE
Business group Dummy (Dichotomous)	+	Prowess, CMIE
Manufacturing sector Dummy (Dichotomous)	+/-	Constructed using two digit NIC code from PROWESS, CMIE.
Service sector Dummy (Dichotomous)	+/-	Constructed using two digit NIC code from PROWESS, CMIE.
Market capability (Continuous)	+	Constructed, PROWESS, CMIE
TFP(Continuous)	+	Constructed, PROWESS, CMIE
Profitability (Continuous)	+	Constructed, PROWESS, CMIE
Population density (Continuous)	-	CEPII Gravity Dataset, http://www.cepii.fr/anglaisgraph/bdd/distances.htm
Distance (Continuous)	-	CEPII Gravity Dataset, http://www.cepii.fr/anglaisgraph/bdd/distances.htm
Developed country Dummy	+	UNCTAD Classification of countries

4.7 Description of the sample

A brief description of the sample has been reported in this section. The frequency of observations over the years is shown in Table 4.5. In the sample, there are a total of 962 observations and the observations are distributed almost uniformly over the years.

Table 4.5: Year-wise distribution of observations

Year	Frequency	Percentage (%)	Cumulative %
2008-09	223	23.18	23.18
2009-10	240	24.95	48.13
2010-11	257	26.72	74.84
2011-12	242	25.16	100
Total	962	100	

Sector-wise distribution of the observations of the sample is presented in Table 4.6. It can be observed from the sector-wise distribution of observations that manufacturing sector constitutes the largest number of observations and it is almost 59.04% of the total observations of the sample.

Table 4.6: Sector-wise distribution of observations

Sector	Freq. (observations)	% share	Cumulative %
Manufacturing sector	568	59.04	59.04
Others	140	14.55	73.6
Service sector	254	26.4	100
Total	962	100	

Table 4.7 shows the categorization of the observations of firms into two categories of observations- observations of firms affiliated to the business group in one category and not-affiliated to the business group are in the another category. It can be seen from the analysis that, observations of firms which have affiliation to the business groups is almost 54.57% which is higher than the observations of firms which do not have affiliation to the

Table 4.7: Categorization of firm (affiliation to business group)

Category	Freq. (observations)	% share	Cumulative %
Not affiliated to business group	437	45.43	45.43
Affiliated to business group	525	54.57	100
Total	962	100	

business groups. Table 4.8 presents the number of host nations of Indian outward FDI and the number of entries into the hosts. It is seen from the distribution of Indian multinationals in the host nations that the number of entry into the host nations of the

sample is not evenly distributed. Countries such as United Arab Emirates, United States of America, United Kingdom, Netherlands, and Hong Kong etc. have been noticed having large number of entries (firms) in comparison to other destinations of Indian OFDI.

Table 4.8: Sample of destination countries and no. of Indian multinationals

Name of countries	No. of Entry	Name of countries	No. of Entry	Name of countries	No. of Entry
(1)Australia	13	(17)Ethiopia	2	(33)Luxembourg	2
(2)Bangladesh	9	(18)France	6	(34)Malaysia	8
(3)Belgium	3	(19)Gabon	1	(35)Mexico	3
(4)Brazil	10	(20)Germany	12	(36)Morocco	1
(5)Canada	9	(21)Indonesia	17	(37)Mozambique	3
(6)China	19	(22)Ireland	3	(38)Netherlands	33
(7)Cyprus	17	(23)Italy	5	(39)New Zealand	1
(8)Czech Republic	3	(24)Japan	5	(40)Nigeria	6
(9)Denmark	1	(25)Kenya	2	(41)Oman	3
(10)Egypt	4	(26)Hong Kong	22	(42)Panama	2
(11)Philippines	5	(27)Spain	4	(43)Turkey	1
(12)Qatar	2	(28)Sri Lanka	12	(44)United Arab Emirates	77
(13)Romania	1	(29)Sudan	1	(45)United Kingdom	42
(14)Russia	3	(30)Sweden	1	(46)United States Of America	106
(15)Saudi Arabia	4	(31)Switzerland	14	(47)Vietnam	3
(16)South Africa	14	(32)Thailand	4		

Table 4.9 shows the division of the observations into two groups – one is the group of observations of countries which have signed the double taxation treaties with India and

Table 4.9: Categorization of countries (double taxation treaty)

Category	Freq. (observations)	% share	Cumulative %
Not signed double taxation treaty (DTT)	80	8.32	8.32
Signed double taxation treaty (DTT)	882	91.68	100
Total	962	100	

another one is the observations of countries which have not signed. But observations of countries those have signed the double taxation treaties is the larger than the observations of countries which have not signed the double taxation treaties with India. Table 4.10

Table 4.10: Categorization of countries (common official language)

Category	Freq. (observations)	% share	Cumulative %
Not having common official language	409	42.03	42.03
Having common official language	553	57.97	100
Total	962	100	

presents the categorization of the observations into two groups –one constitutes the observations of countries those having the common official language and another one consists of observations of countries not-having the common official language. Larger number of observations has been seen in the group of observations of countries having the common official language. The divide of countries (observations) into two groups of observations – one includes the observations of the countries having offshore financial centres or another one is the group of observations of countries which do not have financial centres, is displayed in Table 4.11. It is seen from the Table 4.11 that the observations of countries having offshore financial centres are less than the observations of countries not having offshore financial centres.

Table 4.11: Categorization countries (having and not having offshore financial centres)

Category	Freq. (observations)	% share	Cumulative %
Not having offshore financial centres (OFCs)	751	78.07	78.07
Having offshore financial centres (OFCs)	211	21.93	100
Total	962	100	

Table 4.12 reports the division of observations of the sample of hosts into two groups- observations of the developed countries and the observations of the developing nations. The result reported in the Table 4.12 shows that the number of observations of the developed countries group is larger than the observations in the developing countries group.

Table 4.12: Categorization of countries (developed and developing countries)

Category	Freq. (observations)	% share	Cumulative %
Developing countries	426	44.28	44.28
Developed countries	536	55.72	100
Total	962	100	

4.8 Results

This section presents the result of the study.

4.8.1 Descriptive statistics and multicollinearity test

Descriptive statistics such as number of observations, mean, standard deviation, maximum and minimum value of the variables of the variables have been reported in Table 4.13. Total number of observations in the sample is 962. However, a few variables such as FUEL, Profitability, GDPPC, Market capability and PATENT have fewer observations than the

Table 4.13: Descriptive statistics

Variable	No. of obs.	Mean	Std. Dev.	Min	Max
TFP	946	588.96	1190.59	0.42	13619.39
Population density	962	390.28	1218.59	2.77	6734.86
FUEL	839	13.87	19.25	0.0004	92.99
Profitability	947	21.80	23.56	-245.95	97.41
Prior international experience	962	0.37	0.35	0.00003	2.20
DTT Dummy	962	0.92	0.28	0	1
OFC Dummy	962	0.22	0.41	0	1
Common language Dummy	962	0.58	0.49	0	1
GDPPC	954	30617.64	18905.72	302	112029
OFDI	962	0.05	1.10	-4	3.76
Market capability	916	0.05	0.07	0	0.93
DISTANCE	962	8.68	0.59	7.57	9.73
GDP	962	27.68	1.86	23.04	30.37
PATENT	816	2.02E-08	1.77E-08	3.13E-10	7.76E-08
Manufacturing sector Dummy	962	0.55	0.50	0	1
Service sector Dummy	962	0.26	0.44	0	1
Business group Dummy	962	0.55	0.50	0	1
IFDI	962	0.05	0.11	-0.44	0.74

4.14: Multicollinearity test of the variables

Variable	VIF	Square root of VIF	Tolerance	R-Squared
GDP	4.82	2.20	0.21	0.79
GDPPC	1.11	1.05	0.90	0.10
DISTANCE	2.65	1.63	0.38	0.62
PATENT	2.89	1.70	0.35	0.65
IFDI	2.39	1.55	0.42	0.58
Population density	3.80	1.95	0.26	0.74
FUEL	1.29	1.14	0.78	0.22
Profitability	1.12	1.06	0.90	0.10
Prior international experience	1.23	1.11	0.81	0.19
Developed country Dummy	2.24	1.50	0.45	0.55
DTT Dummy	2.88	1.70	0.35	0.65
OFC Dummy	2.10	1.45	0.48	0.52
Common language Dummy	1.16	1.08	0.86	0.14
Business group Dummy	1.20	1.10	0.83	0.17
Market capability	1.07	1.03	0.94	0.07
Manufacturing sector	2.48	1.57	0.40	0.60
Service sector Dummy	2.49	1.58	0.40	0.60
TFP	1.17	1.08	0.85	0.15
Mean VIF	2.07			

measured by considering the size of the VIF. A rule of thumb is that if VIF>10 then the multicollinearity is high. Tolerance is also reported which can be used as the reciprocal of the VIF. The square root of the VIF indicates how much larger the standard error is compared with what it would be if the variance were not correlated with the other predictor variables in the model. If square root of VIF is $\left(\sqrt{4.82} = 2.2\right)$, it implies that the standard error of the coefficient of the predictor variable is 2.2 times larger compared with what it would be if the variance were uncorrelated with the other predictor variable.

4.8.2 Econometric analysis

(1) Result of the regression of the null or unconditional model

At first, null or unconditional model is run to derive the intra class correlation and reliability statistics for the selection of the model between the random intercept only model and

Table 4.15: Fixed portion of the unconditional or null model

OFDI	Coefficient	std. error	z	p>z	[95% Confidence interval]	
Intercept	-0.07333	0.06844	-1.07	0.285	-0.2074	0.0609

random slope model for the regression analysis. Also, it is run to compare the deviance[28] of the null model with the models which include the parameters at each level of hierarchy.

Table 4.16: Random part of the unconditional or null model

Random-effects parameters	Estimate	Std. error	[95%	Confidence interval]
$(\tau_{0,0})$	0.06422	0.03999	0.0189	0.2176
$(\tau_{0,1})$	0.57055	0.06807	0.4516	0.7209
(σ^2)	0.6139	0.04187	0.5370	0.7017

Comparison of the models with the null model gives information about the fitness of the model with the inclusion of additional variables in each level of multilevel modelling. The result of the fixed-effect portion of the null model is presented in Table 4.15 and random part is in Table 4.16. Table 4.17 reports the broken down of the observations by the

[28] Deviance can be used to compare multilevel models. It is used to test the hypothesis that additional model parameters do not improve the fit model. Deviance can be calculated as,

$\text{Deviance} = -2 * (\text{loglikelihood(LL)of the model})$

Smaller deviance is better. If the addition of more parameter to a model reduces deviance, that is acceptable.

samples of host nations and overseas-investing firms which is also derived from the null model. The intra-class correlation (ICC) is derived from the null model or the

Table 4.17: Broken down of the observations by the samples of host nations and overseas-investing firms (derived from unconditional model)

Group Variable	No. of Groups	Observation per group		
		Minimum	Average	Maximum
Host country	47	1	20.4	207
Investing firms	518	1	1.9	4

unconditional model and the result is reported in Table 4.18. The deviance of the null model is 2771.81. The intra-class correlation estimated from the null model at different levels shows that,

(A) At level-3, ICC=0.051, implies that random effects compose approximately 5.1% of the total residual variance. The finding of the value of ICC above 0.05 at level-3 in our study justifies the choosing of multilevel regression model for our analysis.

(B) While at level 2, ICC=0.456926, shows that 45.69% of the variation on outward FDI is explained by the firm-level heterogeneity. The high value of ICC compared to ICC between 0.05 and 0.2 at level 2 allows choosing a three-level model for the present analysis (Snijders and Boskers, 1999).

(C) At level-3 and level-2 together, ICC=0.508357, indicates that random effects compose approximately 50.84% of the total residual variance.

Table 4.18: Result of residual intra-class correlation (derived from the unconditional model)

Level	Intra-class correlation
(1) Level-3	0.051431
(2) Level-2	0.456926
(3) Level-2 and Level-3	0.508357

After the estimation of ICC, the next step is to choose the mixed multilevel model between the random intercept only model and random slope model. The selection of the appropriate model of mixed multilevel model between random intercept only model and random slope model is done on the basis of the reliability test statistics which is derived from the unconditional model. The reliability estimation of the unconditional model is done as below:

$$\text{Reliability test} = \frac{\text{true score of variance}}{\text{observed score of variance}}$$

True score of variance is the intercept variance and observed variance is the residual variance of the unconditional model. Raudenbush and Bryk (2002) mention that if reliability estimate is more than 0.1 it implies that intercepts vary randomly and the random intercept only model of regression is to be preferred to the random slope model. In the present study, the reliability estimate of the unconditional model at level-3=0.10461 and at level-2=0.929385. Both estimates are found to be greater than 0.1, so, the current study approaches the random intercept only model for the mixed multilevel regression analysis.

(2) Result of the regression of mixed multilevel model

The result of the mixed multi-level regression model is reported in Table 4.19. In Model 1, only country-level (level-3) variables have been included. Time dummies have also been included to capture the longitudinal nature of the variables. The results shows that coefficient of GDP ($\beta = 0.1078$, $p<0.05$) is significant at 5% level of significance. The coefficient of PATENT ($\beta = -667813$, $p<0.05$) is also found significant at 1% level of significance but the negative sign of the coefficient is not consistent to the expected sign. The coefficient of the OFC ($\beta = 0.36298$, $p<0.05$) is significant at 5% level of significance. The likelihood ratio test statistics (Chi2=77.91, $p<0.001$) shows the fitness of the model. Deviance statistics is also presented to make the comparison of the model with the null model.

In Model 2, firm-level (level-2) variables have been included along with the country-level variables. Moreover, the sector dummies are also added to the model. The result shows that the coefficient of GDP ($\beta = 0.09875$, $p<0.05$) is significant at 5% level of significance. Likewise, the coefficient of PATENT ($\beta = -810629$, $p<0.05$) is also found significant at 5% level of significance and the sign of the coefficient is negative. The coefficient of the offshore financial centres OFC Dummy ($\beta = 0.29508$, $p<0.05$) is significant at 5% level of significance. The coefficient of firm-level parameter TFP ($\beta = 0.000114$, $p<0.05$) is significant at 1% level of significance. The coefficient of Profitabilty ($\beta = 0.00404$, $p<0.10$) is also found significant at 10% level of significance. The coefficient of Prior international experience ($\beta = 0.24637$, $p<0.10$) is found significant at 10% level of significance. The likelihood ratio test statistics (Chi2=64.94, $p<0.001$) shows that the model fits well. However, coefficients of the sector dummies and time dummies are not found to be statistically significant.

Table 4.19: Result of mixed multilevel regression-I

	Model 1		Model 2		Model 3	
Fixed Effect Parameters	Estimate	p-value	Estimate	p-value	Estimate	p-value
Intercept	-3.206***	0.006	-4.6234***	0.000	-4.69***	0.000
	(2.78)		(-4.02)		(-4.10)	
GDP	.1078**	0.034	.09875**	0.047	.097**	0.049
	(2.12)		(1.99)		(1.97)	
GDPPC	-3.44e-07	0.882	-1.18e-06	0.614	-3.53e-08	0.988
	(0.15)		(-0.50)		(-0.01)	
PATENT	-667813*	0.097	-810629**	0.043	-77654**	0.050
	(-1.66)		(-2.03)		(-1.96)	
FUEL	-.000027	0.995	-.00426	0.318	-.005	0.248
	(-0.01)		(-1.00)		(-1.15)	
DISTANCE	-.000195	0.999	.11462	0.488	.12	0.458
	(-0.00)		(0.69)		(0.74)	
Population density	-.000028	0.666	-2.48e-06	0.969	-2.44e-06	0.969
	(-0.43)		(-0.04)		(-0.04)	
DTT Dummy	.1651	0.550	.31824	0.240	.29	0.277
	(0.60)		(1.17)		(1.09)	
OFC Dummy	.36298**	0.015	.29508**	0.045	.27*	0.064
	(2.44)		(2.00)		(1.85)	
Common language Dummy	.08758	0.346	.15924*	0.094	.143	0.131
	(0.94)		(1.68)		(1.51)	
TFP			.000114***	0.009	.0001**	0.040
			(2.59)		(2.05)	
Market capability			-.71989	0.278	-.54	0.368
			(-1.08)		(1.06)	
Profitability			.00404*	0.052	.004**	0.049
			(1.94)		(1.97)	
Prior international experience			.24637*	0.071	.227*	0.096
			(1.81)		(1.66)	
$Dummy_{2008-09}$	-.06039	0.540	-.05782	0.563	-.068	0.497
	(-0.61)		(-0.58)		(-0.68)	
$Dummy_{2009-10}$	-.00256	0.979	-.04692	0.633	-.052	0.595
	(0.03)		(-0.48)		(-0.53)	
$Dummy_{2010-11}$	-.019995	0.827	-.00483	0.958	-.012	0.897
	(-0.22)		(-0.05)		(-0.13)	
Manufacturing sector Dummy			-.00957	0.948	-.033	0.820
			(-0.07)		(-0.23)	
Service sector Dummy			.10859	0.502	.065	0.686
			(0.67)		(0.40)	
Business group Dummy					.2714***	0.007
					(2.67)	
Random-Effects Parameters	Estimate (std. err.)	95% conf. interval	Estimate (std. err.)	95% conf. interval	Estimate (std. err.)	95% conf. interval
Residual (σ^2)	.62623	.5317003-	.60078	.50673-	.5988	.50-
	(.05228)	.7375649	(.0522)	.7123	(.0547)	.72
$(\tau_{0,0})$	6.37e-22	1.77e-28-	1.51e-18	6.23e-26-	7.71e-19	1.41e-30-
	(4.91e-21)	2.29e-15	(1.31e-17)	3.67e-11	(1.06e-17)	4.22e-07
Intercept Variance $(\tau_{0,1})$	.57763	.44235-	.49394	.36306-	.48026	.329-
	(.07864)	.754282	(.07758)	.67199	(.0927)	.701
Model summary						
Deviance	2216.08		2030.68		2017.14	
Log likelihood Ratio (p>Chi2)	77.91(0.0000)		64.94(0.0000)		63.05(0.0000)	
Observations	769		723		721	

Note: *, p<.10, 10% level of significance**, p<.05, 5% level of significance***, p<.01, 1% level of significance. Figures in the parenthesis are t value and in brackets are their respective p-values.

Table 4.20: Result of mixed multilevel regression-II

	Model 4			Model 5		
Fixed Effect Parameters	Estimate	t-value	p-value	Estimate	t-value	p-value
Intercept	-4.7714***	-4.19	0.000	-4.90***	-4.1	.0000
GDP	.10054**	2.05	0.040	0.09*	1.75	0.081
GDPPC	-3.31e-08	-0.01	0.989	-1.21E-07	-0.1	0.959
PATENT	-775541**	-1.97	0.049	-5989268	-1.5	0.134
FUEL	-.00499	-1.19	0.233	-0.0036	-0.86	0.392
DISTANCE	.11874	0.73	0.468	0.139	0.86	0.392
Population density	.0000295	0.44	0.657	8.00e-06	0.13	0.897
IFDI	.560074	1.10	0.272	.292	0.55	0.579
DTT Dummy	.30251	1.13	0.257	0.24	0.89	0.376
OFC Dummy	.26304*	1.82	0.069	0.22	1.52	0.129
Common language Dummy	.14774	1.56	0.119	0.1103	1.17	0.24
TFP	.00011**	2.35	0.019	0.00003	0.6	0.548
Market capability	-.6589	-1.00	0.316	-0.495	-0.75	0.451
Profitability	.00411**	1.99	0.046	0.004**	1.99	0.046
Prior international experience	.24844*	1.88	0.061	0.26*	1.92	0.054
$Dummy_{2008-09}$	-.06818	-0.68	0.494	-0.07	-0.73	0.466
$Dummy_{2009-10}$	-.05136	-0.52	0.600	-0.06	-0.6	0.546
$Dummy_{2010-11}$	-.012178	-0.13	0.894	-0.028	-0.31	0.759
Business group Dummy	.288234***	2.80	0.005	0.28***	2.8	0.005
TFP×Population density	-4.70e-08	-1.54	0.123			
Developed country Dummy				0.12	0.85	0.397
TFP×Population density×Developed country Dummy				7.91E-07***	3.14	0.002
Random-Effects Parameters	Estimate (std. err.)	[95% conf. interval]		Estimate (std. err.)	[95% conf. interval]	
Residual variance (σ^2)	.59758 (.08028)	.459245-.777586		0.44082 (0.80762)	0.44082-0.80762	
Intercept variance $(\tau_{0,0})$	1.44e-21 (1.67e-20)	1.81e-31-1.15e-11		1.00E-38 (4.94E-06)	1.00E-38 - 4.94E-06	
$(\tau_{0,1})$	.478953 (.08028)	.3281759-.6990021		0.213413 (1.02487)	0.213413-1.02487	
Model Summary						
Deviance	2014.84			2006.97		
Log likelihood Ratio (Probability >Chi2)	64.74 (0.0000)			62.23 (0.0000)		
Observations	721			721		

Note: *, p<.10, 10% level of significance
**, p<.05, 5% level of significance
***, p<.01, 1% level of significance
Figures in the parenthesis are t value and in brackets are their respective p-values.

[Sector dummies are not included in Model 5 as with the inclusion of it deviance of the model increases which is not desirable regarding the fitness of the model.]

In Model 3, Business group dummy (level-1) variable has been included along with the level-2 and level-3 variables. The coefficient of GDP ($\beta = .097102$, $p<0.05$) is significant at 5%

level of significance. The coefficient of PATENT (β = -77654, $p<0.05$) is also found significant at 5% level of significance. The coefficient of the OFC (β = .270817, $p<0.05$) is significant at 1% level of significance. However, other country-level variable such as GDPPC, Population density, DTT Dummy, Common language Dummy, DISTANCE, IFDI are not found statistically significant (in Model 1, 2, and 3). The coefficient of Profitability (β = .004078, $p<.10$) is also found significant at 5% level of significance. The coefficient of Prior international experience (β = .2265813, $p<0.10$) is found significant at 10% level of significance. The coefficient of TFP (β = .000091, $p<0.05$) is significant at 5% level of significance. Market capability is also not found significant. The coefficient of Business group dummy (β = .27141, $p<0.01$) is found having significance at 1% level of significance in explaining the location distribution of Indian multinationals. The likelihood ratio test statistics (chi2=63.05, $p<0.001$) shows that the model fits well.

In Model 4, reported in Table 4.20, one additional variable - the interaction of TFP with the population density is added to see whether firm with high TFP intends to incur the fixed cost of establishing a subsidiary in a foreign location or not. The coefficient of the interaction of TFP with Population density (β = -4.70e-08, $p>0.10$) is not statistically significant. So, it can be said that firms even with high TFP are not intended to compensate the high fixed cost of locations while establishing subsidiaries. In Model 5, the interaction of TFP with Population density and developed country dummy is added to see whether firms with high TFP can compensate the high fixed cost of the destination country or not if the potential of growth of the country is high or not. The coefficient of the interactive variable (β = 7.91E-07, $p<0.01$) is found significant at 1% level of significance. The finding of significance of the coefficient indicates that Indian multinationals with high TFP incurs the fixed cost of establishing a subsidiary in a location with high fixed cost if the country is a developed country. The finding of the present study is consistent to the study (Aw and Lee, 2008). The study finds that the most productive Taiwanese firms are likely to choose to invest in the developed country such as USA than other countries although the fixed cost of production is high in those countries. Sector dummies are not included in Model 4 and Model 5.

Significance of log likelihood ratio presented in each of the models indicates that the models fit well. With the given Log likelihood statistics presented in each of the models, it is possible to compare the models. The deviance of each of the models which shows the

Table 4.21: Result of mixed multilevel regression-III

	Model 6		
Fixed Effect Parameters	Estimate	t-value	p-value
Intercept	-4.10137***	-3.01	0.003
GDP	.0822077	1.53	0.126
GDPPC	6.71e-08	0.03	0.977
PATENT	-6298537	-1.43	0.152
FUEL	-.0034175	-0.79	0.428
DISTANCE	.0932295	0.56	0.575
Population density	7.95e-07	0.01	0.990
IFDI	.4975754	0.96	0.337
DTT Dummy	.2536033	0.94	0.349
OFC Dummy	.2286314	1.57	0.116
Common language Dummy	.1377363	1.46	0.146
TFP	.0000868**	1.96	0.050
Market capability	-.6692864	-1.02	0.307
Profitability	.0040824**	1.99	0.047
Prior international experience	.2061527	1.35	0.176
Business group Dummy	.2733***	2.72	0.007
Developed country Dummy	.1111967	0.75	0.454
Prior international experience×Population density×Developed country Dummy	.000306	0.43	0.665

Random-Effects Parameters		Estimate (Std. Err.)	[95% Conf. Interval]
Residual variance	σ^2	.6018675 (.0505797)	.5104671- .7096335
Intercept Variance	$(\tau_{0,0})$	4.80e-22 (3.33e-21)	6.13e-28- 3.76e-16
	$(\tau_{0,1})$	.475712 (.0710059)	.3550519-.6373771

Model Summary	
Deviance	2015.43
Log likelihood Ratio (Probability >Chi2)	64.54 (0.0000)
Wald Chi2 (Probability>Chi2)	76.86(.0000)
Observations	721

*, p<.10, 10% level of significance
**, p<.05, 5% level of significance
***, p<.01, 1% level of significance
Figures in the parenthesis are t value and in brackets are their respective p-values.

[Note: sector dummies and time dummies are not included in the regression as with the inclusion of it deviance of the model increases which is not desirable for the fitness of the model.]

deviance of the current model from the baseline model with the inclusion of additional variable in each level of hierarchy is also presented.

In Model 6, as reported in Table 4.21, one additional variable that is the interaction of Prior international experience with Population density and Developed country dummy has been added to see whether international experience can act as a source of ownership advantage to

compensate the high fixed cost of establishing a subsidiary or not while deciding a location for overseas investment. The finding of insignificance of the coefficient of the interaction of Prior international experience with the population density and developed country dummy ($\beta = 0.000306$, $p>0.10$) indicates prior international experience cannot compensate the fixed cost of establishing a subsidiary while choosing a location for OFDI even if in the country is a developed country. The significance of the coefficient of interaction of Prior international experience variable with Population density variable is also checked but the coefficient is not found significant (result is not reported).

4.9 Discussion of the results

The finding of significance of the coefficient of GDP (in Model 1, 2, 3, 4, and 5) shows that market is still a very important factor of location distribution of Indian multinational. However, the finding of significance of the variable is not consistent to the previous studies (Buckley et al., 2012; Das and Banik, 2015; Pradhan, 2011; Rajan, 2009) but consistent to the theoretical evidence[29]. Emphasizing the role of market of the host country on the location distribution of FDI, Gauselmann and Marek (2012) says that market seeking motive has been presumably taken as a very important variable of location decision of FDI. The finding of positive association of the variable with the actual OFDI from Indian firms reveals that location determination of Indian multinationals is highly motivated by the market seeking motive. However, the coefficient of GDPC is not found statistically significant (in Model 1, 2, 3, 4, and 5) but the negative sign of the coefficient is consistent to the expected sign of the coefficient. The finding of insignificance of the coefficient of the variable also supports the previous studies (Battat and Akyut, 2006; Lecraw, 1973 etc.) as they have explained that efficiency seeking motive is not of the drivers of location distribution of outward FDI from the developing countries. However, the finding of insignificance of the variable is contrary to the findings of the previous studies (Das and Banik, 2015; Nunnenkamp et al., 2012). Moreover, the finding of the negative but statistically significant coefficient of PATENT (in Model 1, 2, and 3) indicates that location distribution of outward FDI from Indian firms is negatively associated with the increase in the number of patents in the host country. Though, there is evidence of participation of Indian multinational in strategic asset seeking motive of internationalization but the finding of insignificant and negative coefficient of the strategic asset seeking variable is not surprising for Indian multinationals' location decision.

[29]Investment Development Path Approach explains that multinationals of a country which is in the 'third stage' of investment development path are primarily market seekers (Dunning, 1980).

Low absorptive capability[30] of firms to adopt new and sophisticated technology may be one of the core reasons of the reluctance of the multinationals to acquire strategic assets of the host country. In India, though sectors such as ICT, Pharmaceutical etc. have been undertaking expenditure on R&D sector but the presence of protectionists barrier (fiscal/non-fiscal), regulatory barriers, rules and regulations, government control have been acting as a barrier to expand their expenditure focusing attention in R&D sector of the country (Bhattacharya and Lal, 2008). Previous studies (Hattari and Rajan, 2010; Rajan, 2009) also find that location distribution of Indian multinationals is not primarily driven by the strategic asset seeking motive of international expansion. The variables that captures the 'Proximity concentration' such as Distance and common language dummy are not found significant to influence the location distribution of Indian multinationals which were the important location driver of the past wave of outward FDI from India. The finding of significance of the coefficient of OFC dummy (in Model 1, 2, 3, and 4) is consistent to the previous studies (Das and Banik, 2015; Nunnenkamp et al., 2012, Pradhan, 2011) and the direction of relationship is also in the same line with the sign of the expected direction. The significant amount of flow of outward FDI from India to the countries with having offshore financial centres such as Singapore, Netherland, Hong Kong, Cyprus, Switzerland etc. indicates the increasing preference of Indian multinationals to locate their overseas investment in these locations to avail the financial benefits offered by these centres. Moreover, the finding of significance of the coefficients of the firm-specific variables (level-2 variables) such as TFP (in Model 1, 2, 3, and 4), Prior international experience, business group affiliation dummy, Profitability (in Model 1, 2, 3, 4, and 5) indicates the role of firm level determinants on the location distribution of Indian multinationals. However, the finding of insignificance of the coefficients of the sector dummies (in Model 1, 2, and 3) and time dummies (in Model 1, 2, 3, 4, and 5) respectively, indicates that the sector specific and time specific variation do not have significant influence on the location distribution of Indian multinationals. The finding of the insignificance of sector dummies is consistent to the previous study (Das and Banik, 2015).

[30]Absorptive capability is low because a) R&D expenditure of firm from the developing countries contains a small portion of the total sales (2% to 3% only), b) low capital base of the firms and use of tacit knowledge in their production function (Elia and Santangelo, 2012) c) institutional barriers (Bhattacharya and Lal, 2008).

4.10 Conclusion

In conclusion, it can be said that motives and both the country-level and firm-level factors have significant influence on the location distribution of Indian multinationals. The study explores a few unexplained facts about the location distribution of the new wave of outward FDI from India.

The study finds that amongst the country-level factors, market size of the host captured by GDP of the host country still plays an important role in the location decision of Indian multinationals. The finding of insignificance of the GDPPC which represent the labour cost of the host country and also considered as the proxy of efficiency seeking motive is found to have insignificant impact on the location distribution of Indian multinationals. So, it can be said that labour cost of the host country is not important parameter that can drive the location distribution of Indian multinationals. However, the negative sign of the variable is consistent to the expected sign. Moreover, finding of significant but negative coefficient of PATENT which is the representation of the strategic asset of the host country and also the proxy of strategic asset seeking motive is contrary to the expected direction of relationship. The coefficient of resource seeking variable is also insignificant in explaining location distribution of Indian multinationals. Finding of insignificant impact of efficiency seeking, resource seeking and strategic asset seeking variables declines the role of multiple motives of Indian multinationals in driving their location distribution.

The study also rules out the importance of 'proximity-concentration' (physical proximity and cultural proximity) on driving the location distribution of the new wave of outward FDI from the Indian multinationals although the past wave of outward FDI from India was significantly driven to a large extent by the existence of physical proximity and cultural proximity to the host. However, countries having offshore financial centres are the most preferable destination of the new wave of OFDI from Indian multinational firms.

The finding of significance of the firm specific variable such as Total factor productivity (TFP), Business group dummy, Prior international experience, and Profitability of the firm indicates that the firm-level determinants can have significant influence on the location choice of Indian multinationals. Though total factor productivity is considered as the important source of heterogeneity at the firm level in the previous studies to influence the location choice of multinationals but the present study reveals that other firm specific characteristics such as prior international experience of the firm, profitability of the firm and

the firm's affiliation to the business group can also have significant impact on the location distribution of Indian multinationals apart from the total factor productivity of the firms. However, the capability of the firms captured in terms of marketing capability is not an important driver of location distribution of Indian multinationals.

Moreover, another important finding of the study is that the firms with higher total factor productivity intend to invest in the countries with high fixed cost if the country is a developed country. But the firms with higher total productivity do not intend to invest in the countries with higher fixed cost although they are capable of dealing with the fixed cost of the host country to set up a subsidiary. The study also reveals that firms do not intend to incur higher fixed cost to establish subsidiaries with the increase in the prior international experience of the firms even if the host country is a developed country.

Chapter 5
Findings, By way of Conclusion and Prospects of Future Research

The current study is motivated by the recent growth of the magnitude of outward FDI from India, change in its location distribution and increase in the number of firms participating in OFDI. The study is an effort to unravel a few unexplored and under researched issues related to the outward FDI of India which are considered to be very important in the literature of international business studies. A brief discussion of the major findings, conclusion and prospects of future research is presented in this chapter.

5.1 Major findings

5.1.1 Indian's outward foreign direct investment position: role of the home country macroeconomic factors:

- By employing the VEC modelling, the study finds that there is the presence of long-run relationship among the variables of the system whereas in the short-run, causality among the system variables is found to be absent. The absence of short-run causality indicates that past changes of the home-country macroeconomic factors as specified in the VEC model do not cause contemporaneous changes on the net outward FDI from India, and vice-versa. The finding of significance of the coefficient of the variables such as GDP per capita, exchange rate and trade openness at 1% level of significance in the long-run shows that all the macroeconomic variables specified in the model have significant impact on net outward foreign direct investment of the country in the long-run.
- The impulse response function that is derived from the VEC estimate shows that net foreign direct investment responds to the shock in each of the system variables. The study also finds that innovations/shocks on each of the system variables have permanent impact on net outward foreign direct investment of the country.
- The FEVD function derived from the VEC estimate shows that the changes in net foreign direct investment is weakly endogenous to the change in the variables specified in the system of equations. The study finds that trade openness is the prime source of innovation which constitutes the largest share of the total forecast error variance of the system variables beside net outward foreign direct investment.

Innovation in GDP per capita can only explain the largest share of forecast error variance of net outward foreign direct investment of India.

- Sensitivity analysis shows that the coefficient of the year dummy which is introduced to capture the effect of abnormality of years on the system variables is not found significant. Moreover, the inclusion of the variables exogenously into the VECM does not have influence on the significance and direction of relationship among the variables of the system. The little change that is noticed in the value of the coefficients of the variables is almost negligible.
- The forecasting of VEC estimates shows that the model reliably predicts the variables of the system.

5.1.2 Conceptualizing the drivers of internationalization of Indian firms

- The study finds that the internationalization of Indian firms is not usually driven by the conventional source of ownership advantage alike the multinationals from the developed countries. The study shows that in the absence of conventional sources of ownership advantage, the depth of prior knowledge of the firm about the market and profitability of the firm are two factors which have been found consistently significant amongst all the parameters specified in the study, in influencing both the decision and the intensity of internationalization of Indian firms. From the finding of the significant effect of the depth of prior knowledge which is captured by the intensity of export of the firms on the internationalization, it can be considered that the growth of internationalization of the Indian firm is an incremental commitment to a market through the gradual learning about the market as exporter. So, the knowledge of the firm in term of depth of prior knowledge of a firm is a very important driver of internationalization of Indian firms. But the length of prior knowledge which is an alternative way of measuring prior knowledge captured by the length (years) of foreign presence is not found significant in influencing the growth of internationalization of Indian firms. In contrast, the finding of negative coefficient of the variable indicates that the increase in the length of foreign presence of firms negatively impacts the growth of internationalization of Indian firms.
- Moreover, profitability of the firm is the only resource base variable to significantly drive the Indian firms to get involved in the process of internationalization. But other parameters of resource base of the firm such as size of firms, firm's affiliation

to a business group, total factor productivity, debt, cash flow of the firms are not found be significant in describing the growth of internationalization of Indian firms (simultaneously influencing the decision and intensity of internationalization). However, a few variables such as size of the firm and total factor productivity of firms have significant impact on the decision of internationalization of Indian firms but are not found significant on explaining the intensity of internationalization of the firms. Moreover, variables such as cash flow of the firms and firm's affiliation to the business group have been found having significant impact on the intensity of internationalization but not found to be influential to impact the decision of internationalization of Indian firms.

- Furthermore, dynamic capability of the firms captured by the two aspects of dynamic capability such as marketing and innovative capability is not found to be significant on driving the internationalization of Indian firms.
- In the present study, nature of competition of the firms within the industry is not found having significant impact on the internationalization of Indian firms. However the coefficient of the unconcentrated industry dummy is found having significant and positive impact on the decision of internationalization of Indian firms but not found significant in influencing the intensity of internationalization of the firms. The coefficient of the moderately concentrated industry dummy is found negative and insignificant in explaining the internationalization of Indian firms. The finding of negative coefficient of the moderately concentrated industry dummy indicates that the presence of moderate concentration within the industry influences negatively the decision of Indian firms to participate in internationalization. Therefore it can be said that the competitiveness within the industry might have positive influence on the growth of internationalization of Indian firms.
- Moreover, the coefficients of the year dummies have not been found to have insignificant impact on the internationalization of Indian firms. But, the coefficients of manufacturing sector dummy and service sector dummy have been found significant in the decision of internationalization of Indian firms although the coefficients of the variables have not been seen having significant impact on the intensity of internationalization of Indian firms.

5.1.3 Location choice of Indian multinational: exploring the role of motives, country-level and firm-level determinants

- Regarding the location distribution of Indian multinationals, the study finds that the motives of internationalization, the country-level determinants and firm's characteristics act simultaneously to decide the location for investment. The presence of heterogeneity at the firm-level can have a very significant role to play on the location distribution of outward FDI from Indian multinationals.
- The study also reveals that though multiple motives of internationalization has been noticed to be a very important feature of the location distribution of emerging multinationals, but the presence of multiple motives is found absent in driving the location distribution of Indian multinationals. Only market seeking motive is found significant on influencing the location distribution of the multinationals. Resource seeking and market seeking motives are not found to have significant impact on the location distribution of Indian multinationals. Although the strategic asset seeking variable has been found to have significant impact but the finding of negative coefficient of the variable is contrary to the expected direction of relationship.
- The variables that represent proximity concentration such as distance between the host and source country and common official language are also found insignificant in the location distribution of the new wave of OFDI from Indian multinational firms which were the prime driver of location distribution of the first wave of outward FDI from India. But the finding of significance of offshore financial centres dummy indicates that Indian multinationals are motivated to get availed the financial benefit offered by the offshore financial centres. But other location specific determinants such as DTT, IFDI are also not found significant. From the finding of the study it can be said that there is a shift from the traditional to the unconventional location determinants in the location determinants of the new wave of OFDI from Indian.
- The study reveals that though total factor productivity is considered as an important source of heterogeneity at the firm level in the previous studies but other firm specific characteristics such as prior international experience of the firm, profitability of the firm and the firm's affiliation to the business group can also have significant impact on the location distribution of Indian multinationals. But the dynamic capability of firms captured in terms of market capability of the firms is not found as an important driver of location distribution of Indian multinationals.
- Moreover, another important finding of the study is that firms with higher total factor productivity intend to invest in a country with high fixed cost of production

only if the country is a developed country. But firms with higher total productivity do not intend to invest in the countries with higher fixed cost though they are capable of incurring the high fixed cost of the host country to set up a subsidiary. Moreover, the study also reveals that firms with higher level of prior international experience do not intend to incur higher fixed cost of production to establish subsidiaries even if the host country is a developed country.

5.2 Conclusion

1) The time series analysis of the data shows that there is the presence of dynamic relationship between macroeconomic factors and net outward FDI from India. Therefore, regarding the research question "Can the macroeconomic environment of the country explain the dynamics of the foreign direct investment position of the country?" the study reveals that macroeconomic environment of the country captured by GDP per capita, trade openness and exchange rate can explain the dynamics of foreign direct investment position of the country.
2) Regarding the drivers of internationalization of Indian firms, it has been found that in the absence of traditional ownership advantage of the emerging multinationals, prior international experience or gradual learning about a market and firm's performance in terms of profitability of the firm are of the important drivers of the decision and the intensity of internationalization of Indian firm whereas the nature of competition of the firms within the industry and dynamic capabilities of firms are found to have insignificant impact on the internationalization of Indian firms. Answering the research question "What drives the growth of internationalization of Indian firms?" the study reveals that prior knowledge of firms and firm resource base are two very important drivers of internationalization of Indian firms whereas dynamic capability of the firms and the nature of competition of the firms within the industry are not very influential to drive the growth of internationalization from Indian firms.
3) Investigating the location distribution of Indian multinationals, the study reveals that location distribution of Indian multinationals is not driven by multiple motives. It has been observed from the study that market seeking motive captured by GDP of the host country is dominantly influencing the location distribution of Indian multinationals. The study also reveals that countries having offshore financial centre are also attractive destination of Indian multinationals. Moreover, it has also been found from the study is that apart from the location determinants, firm's

characteristics can also play an important role in influencing the location distribution of Indian multinational. The study reveals that though prior international experience is an important source of ownership advantage of Indian multinational firms, but total factor productivity of the firms can play the decisive role in the location distribution of the firms. Answering the third research question of the present research "Which factors do influence the location distribution of Indian multinationals?" the study concludes that motives, country-level parameters and firm-level characteristics can have significant role to play on the location decision of Indian multinationals.

However, the finding of significance of the coefficient of the prior international experience in terms of the depth of prior knowledge of the firms both in the location distribution of Indian multinationals and also in explaining the growth of internationalization of Indian multinationals indicates that the gradual learning about the foreign market is a very important source of ownership advantage of Indian multinationals which can influence not only the decision and intensity of internationalization of Indian firms but also the location distribution of Indian multinationals.

5.3 Prospect of future research

(1) While investigating the dynamic relationship between macroeconomic environment and net outward FDI from India, there are only 35 observations for the time series econometric analysis. So, there is the prospect of improving the finding of the study with the inclusion of more observation. Moreover, the consideration of all possible structural and cyclical effects may also improve the finding of the study which is a part of the future research agenda.

(2) Regarding the conceptualization of the drivers of internationalization of Indian firm, the study also suggest that the consideration of the both aspects of internationalization such as asset augmentation and asset exploitation motive of internationalization in defining the drivers of internationalization of Indian firms to enrich the finding of the study. So, while conceptualizing the driver of the growth of internationalization of Indian firms, both these aspects of internationalization may be taken care of in the future research.

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