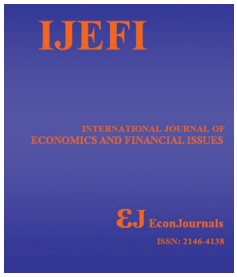

International Journal of Economics and Financial Issues

ISSN: 2146-4138

available at http: www.econjournals.com

International Journal of Economics and Financial Issues, 2021, 11(5), 1-10.

Flagging Determinants for Indian Outbound M&A

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Received: 07 June 2021 **Accepted:** 12 August 2021 **DOI:** https://doi.org/10.32479/ijefi.11715

ABSTRACT

Indian enterprises have succeeded in climbing the ladder of outward M&A transactions and out performing everyone's expectations post 1990s. This paper aims to recalibrate the empirical literature of India's outbound M&A by considering the impact of host market size, appreciation in home currency, India's trade openness and liberalization policies. This study attempts to examine the impact of the host market size, home international reserves and trade openness along with home currency appreciation on the volume of the outbound M&A by Indian firms, using augmented autoregressive distributed lag (augmented ARDL) bounds testing approach. Findings reveal that appreciation of Indian rupee and liberal norms towards trade, i.e. import and export both will inevitably benefit or push the Indian firms to acquire foreign firms overseas, in the short term as well as over the long term. This paper makes an effort to identify and describe the significant factors influencing the outbound M&A deals by Indian firms in the recent years, which were previously proved relevant for group of emerging economies at large.

Keywords: Outbound M&A, India, OFDI, Determinants
JEL Classifications: F21, F23, P45, G34

1. INTRODUCTION

World's economy has witnessed mammoth changes in the pattern and structure of international investment with an increasing participation from firms from developing economies during 2000s. Although this phenomenon of emerging MNCs from developing economies isn't new and has been a central theme in the research work of Lall (1983), but the transformation in the last two decades has been beyond anyone's anticipation. During 1970s, few developing countries like Brazil, Malaysia, India was indulged in OFDI, but their investments were modest. Post 1990s, OFDI of firms from emerging economies spiked, drawing everyone's attention towards it. Among these developing nations, Indian firms made a distinguished mark via magnitude of its overseas investments. This paper aims to test the relevance of previously studied macroeconomic determinants and describe their significance influencing the outbound M&A deals by Indian firms specifically in the current scenario.

This study starts by the following discussions, firstly it outlines the notably increasing contribution of developing countries towards global OFDI surge. Secondly it highlights India's prominence in such foreign investments made by emerging economies.

1.1. OFDI

Developing economies contributed a share of 6.2% in 1990 to total stock of world's OFDI, and this contribution rose to 9.3% in 2000, and further escalated to 14.8% in 2010. OFDI's growing contribution to developing economies' GDP is indicative of proliferating overseas investment which developing economies are indulging in either in form of greenfield investments or brownfield investments. There has been a massive hike in overseas foreign direct investment as it was equivalent to 3.48% of GDP in 1990 and in 2010, this percentage became 13.4% of GDP (almost tripled), leading to an increased research on the impact and determinants of such investments (Tables 1 and 2).

This phenomenal surge in the outward overseas investments from developing economies in both absolute and relative terms can be witnessed through the above-mentioned numbers. But we cannot generalise this trend at all outward investing emerging countries, each country has its own path following a specific trend, making it necessary to determine and analyse India's OFDI path and underlying motivations.

India's OFDI numbers reveal a big picture, a hidden gem in the OFDI global market place, from USD 124 million in 1990, it grew by 12.98% to USD 1733 million in 2000 and further to USD 96900 million in 2010 with a legion percentage of 54.91%. Although India's OFDI was just 0.0055% of the world total ODFI in 1990, but in 2010 it became 0.477 % of total world. Though this magnitude will seem very insignificant in the international context but it is suggestive of the dynamic turn that Indian firms have taken. The number of parent companies grew from 187 in 1990s to 1700 in a decade's time (2000), with a magnificent rise of 809% (Table 3).

In the extant literature of OFDI and outbound M&A, a lot of authors have identified home and host country macroeconomic factors which motivates or forms a conducive environment for outward cross-border foreign investments from emerging economies like Brazil, Hong Kong, India, China, Malaysia, etc. like Goh (2011) studied the Malaysian economic in this respect, and many more like Bhasin and Garg, 2020; Varma et al., 2015; Reddy, 2015; Zhou et al., 2021; Pantelidis and Kyrkilis, 2003; Deng and Yang, 2015. Some country specific studies with respect to macroeconomic factors for Indian outbound M&A has also been carried out (Das and Banik, 2015; Nunnenkamp et al., 2012, Pradhan, 2011; Bhasin et al., 2021). But most of these studies concentrated its research around a group of countries like BRIC nations, ASEAN countries or many towards Chinese economy. (Kayam, 2009; Boateng et al., 2017; Kolstad and Wiig, 2012; Buckley et al., 2007; Nicholson and Salaber, 2013; Ramasamy et al., 2012; Cheung and Qian, 2009)

However, in such a dynamic environment, it becomes very important to test the relevance of previously proved determinants in the recent years, specially in the post 1990s era, where outbound M&A from Indian enterprises expanded excessively.

2. FOREIGN ACQUISITIONS: INDIAN SCENARIO

The 20th century witnessed a strong activity of Mergers and Acquisitions (M&A) across the globe during several times (Schererand Ross, 1990). Through cross-border M&A, multinational firms strengthened their international position on foreign markets: cross-border M&A progressively replaced Greenfield Investments in Foreign Direct Investment (FDI) over the 1990's. During this period, about 80% of FDI transaction value took the form of M&A. Therefore, facing this major change in FDI composition, it becomes legitimate to enquiry cross-border M&A when examining the decision of international expansion.

In the above background, the increase in overseas acquisitions by Indian firms can be seen as their response to a globalized competition since 1990s. With liberalization and changes in trade, industry, foreign investment and technology policy regime, previously protected Indian companies are exposed to global competition at once. Indian firms increasingly realized that their existing technological and other capabilities accumulated with predominant dependence on protected home markets and under the import substitution policy regime of the past are clearly inadequate to cope with this new competition unleashed by a more liberalized business environment. They are forced to improve their competitive strength immediately and enlarge their position in the world markets. Indian companies realized that adopting a long-term competencies-building strategy with large investment

Table 1: OFDI Statistics

Year	World's OFDI (USD Billion)	Developing Countries' OFDI (USD Billion)	India's OFDI (USD Billion)
1990	2254.903	140.395	0.124
1995	3993.273	311.970	0.495
2000	7408.781	689.882	1.733
2005	11895.765	1194.904	9.741
2010	20310.855	3008.453	96.900
2015	26259.583	5500.005	139.038

Table 2: OFDI's contribution to GDP Statistics

Year	Developing Countries' GDP (USD Billion)	ODFI's contribution to GDP (Developing countries)	India's GDP (USD Billion)	ODFI's contribution to GDP (India)
1990	4035.64	3.47%	320.97	0.04%
1995	6143.19	5.07%	360.28	0.13%
2000	7320.28	9.42%	468.39	0.37%
2005	11284.06	10.58%	820.38	1.18%
2010	21946.81	13.70%	1675.61	5.78%
2015	29298.39	18.77%	2103.58	6.61%

Table 3: Parent Companies and Foreign affiliates as per World Investment Report, UNCTAD, 2000

Region	Parent companies			Foreign affiliates		
	Report 2002	Report 2006	Report 2009	Report 2002	Report 2006	Report 2009
World	64592	77175	82053	851167	773019	807363
Developed Economies	50250	55490	58783	100825	256155	366881
Developing Economies	13492	20238	21425	494900	407001	425258
India	187	1700	815	1416	1493	2242

in R&D, advertising, etc. is relatively more risky and costly than pursuing the route of overseas acquisitions.

M&As in India is largely driven by multinational enterprises is well recognized (Kumar, 2000; Bhoi, 2000), the less known fact is the growing intensity of Indian enterprises to acquire business enterprises overseas. Out of an estimated $236.83 billion value of cross-border M&As involving India as a seller as well as purchaser during 1990-2018, nearly 44% amounting to $105 billion has been accounted by cross-border acquisitions made by Indian enterprises. Indeed, in the late 1990s the value of cross-border acquisitions by Indian firms had continuously accelerated from $57.6 million in 1990 to over $1.105 billion in 2018 (Table 4).

3. DETERMINANTS OF M&A

Over the years, many researchers have come up with theories or applications of the existing theories to explain the growth trajectories of these OFDIs, effect of various factors on expansion of emerging countries' multinationals (individually or in certain groups), their motives, challenges and spillovers (Dunning, 1994; Hymer, 1960; Van Agtmael, 2007; Aulakh, 2007; Blonigen, 2005; Kalotay, 2005; Kumar, 2007; Buckley et al., 2007; Makino et al., 2002; Douma et al., 2006; Lien et al., 2005). It was Dunning (1973) who had published earliest factual work that sought to explain outward foreign direct investment from America and its benefits to UK's economy, but Hymer's work in 1960 made a concrete attempt to elucidate the emergence of outward foreign direct investment. According to his research, major motive behind these Trans National firms were to gain opportunities out of oligopolistic control of the market and locational advantages. Dunning again in 1980 went to explain in length the determinants of outward foreign investment through his Eclectic theory, popularly known as O-L-I paradigm, which primary constitutes of 3 pillars, ownership advantages, location advantages and internalization advantages. (Rasiah et al., 2010)

After Dunning, subsequent researches have built up a base for capturing drivers of outward foreign direct investment flows from emerging economies. Determinants of outward foreign direct investment from emerging economies has been categorized in two sub divisions, macroeconomic determinants and firm level determinants.

Macroeconomic determinants refer to country specific factors ranging from natural endowments to skilled labor, technological capabilities to institutional environment, political stability and government policies to level of economic development, market size to its growth potential and so on, these are similar for all the firms (domestic or foreign) operating in a country. These factors are liable for either encouraging or discouraging firms making foreign investments. MNCs are exposed to two sets of macroeconomic determinants, first are home country determinants, also known as push factors for investing overseas, and second set consists of host country determinants which work as pull factors for investing overseas. Every MNC is constantly interacting with its home and host country environment, and hence these factors are responsible for creating a conducive atmosphere for overseas investments to take place (Gammeltoft et al., 2010). These country specific factors are dynamic in nature, i.e. they continuously evolve with the country's level of development, as a consequence of its policies, natural endowments, market potential and action of economic agents. Firms utilize these country specific assets to develop and organize their own production process efficiently, so as to serve domestic and foreign markets profitably (Pantelidis and Kyrkilis, 2005).

Indians firm have primarily opted to invest overseas via Merger and acquisitions transactions. UK government have announced India as the top third country in the list of its host countries for making FDI investments, and also being a source of our 9000 plus jobs. (RBI Bulletin, 2019). To name a few latest M&A examples, OYO an India -based start-up Acquired Danamica - a Copenhagen based firm indulged in data science in September 2019. Sun pharmaceuticals of India raised its stake to 96.96% in PJSC Biosintez of Russia in March 2019. In February 2019, an Indian auto components company, JBM group bought majority stake in German company, Linde-Weiman, producer of structural components and assemblies.

Government of India also have taken initiatives to encourage overseas investments from India. India's public sector undertaking (PSU'S) have future plans to acquire projects in Russia's oil and Gas fields. RBI, the central bank of India has also put a step forward to stimulate overseas investments like policy measure to ensure availability of adequate foreign exchange reserves. RBI relaxed norms for investing overseas by removing the bar on ceiling for raising funds via pledging of assets and shares, domestic or foreign. Along with this, the government also upraised the ceiling for annual foreign investment from USD 75,000 to USD 125,000 for establishing wholly owned significant overseas investment in mining, oil, pharmaceutical and affairs has taken a step to plant a direct air and sea link between Latin America and India.

Table 4: Value of M&A deals in India

Year	Value of M&A deals in India (Purchaser) (UDS Million)	Value of M&A deals in India (Seller) (USD Million)	Total number of M&A deals in India (USD Million)	Purchases as a % of total number of deals
1990	57.6	5.0	62.6	92.01%
1995	25.3	224.1	249.4	11.29%
2000	589.0	708.4	1297.4	45.39%
2005	1939.0	697.5	2636.5	73.54%
2010	26642.0	5612.6	32254.6	82.59%
2015	−612.5	1323.4	710.9	−86.16%
2018	1105.1	33178.3	34283.4	3.22%
1990-2018	105009.6	131815.6	236825.2	44.34%

4. MODEL AND DATA

The theoretical model of OFDI in this study considers several key factors that could influence a firm's decision to invest abroad.

Hypothesis 1. Indian outbound M&A is associated positively with absolute host market size.

In the eclectic theory of FDI, Dunning (1980, 1982) focused on locational advantages as third significant composite of factors while elucidating on investment flows across borders. Possessing their firm specific endowments, every firm would wish to select a host country with advantages like large markets, high growth potential, and opportunities for exploiting economies of scale leading to utilization of resources in the most efficient manner (Dunning, 1982; UNCTAD, 1998).

Firms from emerging economies step outside to capture the untapped demand for their product hence preferring to invest in countries that have larger market size. Along with this they rely on investing abroad for increasing its global presence, explore strategic opportunities, diversification overseas and establishing brand value worldwide.A number of researchers have found convincing market seeking evidences for outward foreign direct investment (Taylor, 2002; Zhang, 2003; Chakrabarti, 2001; Cheung and Qian, 2009; Mottaleband Kaliranjan, 2010; Goh, 2011; Kolstadand Wiig, 2012; Ramasamy et al. 2012; Luoand Tung, 2007; Dasand Banik, 2015; UNCTAD report, 1998; Buckleyet al., 2007; Buckley et al., 2006). In Nunnenkamp et al. (2012) empirical research while host country's GDP impact was significant but it weakened over the later years of the chosen sample, suggesting the change in relevance of host country market size.

Hypothesis 2. Liberalization of India's capital outflows will tend to increase India's outbound M&A

and

Hypothesis 3. Trade openness is expected to be positively associated with India's outbound M&A

Smooth and voluminous flow of foreign direct investment is a direct consequence of the degree of openness of an economy towards unrestricted capital flows. Firstly, liberal capital regime with absent or minimal controls promotes greater flow of funds across economies (Scaperlanda, 1992). Secondly, an economy with existing export orientation allows companies to gather knowledge about demand and supply conditions of proposed host destination, their legal system, prevalent business practices, know how required to sustain foreign operations, etc. All these constitutes the necessary background for switching of internationalization mode from exporting to outward foreign direct investment (Kogut, 1983; Buckley et al., 2007, Goh, 2011;Kyrkilis and Pantelidis, 2003). As per Buckley et al. (2007), foreign direct investment is also a supportive strategy to give some backing to domestic exporters and stimulating higher earning for them. Thirdly, companies may resort to outward foreign direct investment in host economies whose export give a tough competition to native firms of home economy. Here OFDI takes a pure form of retaliation to cope up with import competition (Pantelidis and Kyrkilis, 2003). Banga(2007) suggests that "Trade can have two potential effects on outward FDI from developing countries, i.e. higher exports may assure existing markets and therefore lower the risks attached to such investments and higher imports into the country may have a displacement effect on investment, which may look outward into economies with lower manufacturing cost and higher access to larger markets."

Hypothesis 4. An appreciation of the Indian rupee exchange rates leads to an increase in India's outbound M&A

Currency strength appreciation facilitates OFDI flows, as the buying capacity of the currency increases in real terms (Das, 2013). Aliber (1970) encompassed that companies whose countries' currency is strong, have better financial backing for supporting their foreign investments than companies whose countries' currency is weak relatively. As a consequence of appreciation of home economy's currency, the capital requirements of investing abroad lowers, thus enabling easier capital acquisition than in case of depreciated home currency (Benassy-Quere et al., 2001; Das, 2013; Kohlhagen, 1997). Along with this, appreciation of home currency also curtails the relative attractiveness of exports as a mode of expanding overseas, thus turning companies towards choosing outward foreign direct investment for exploration of markets abroad (Pantelidis and Kyrkilis, 2003). Bhasin and Jain (2013) also support this inference and states that "Appreciation of the home country currency makes exports less competitive as they become relatively expensive for foreign buyers. So OFDI becomes cheaper mode for servicing foreign market."

Pantelidis and Kyrkilis (2005) had a different view in correlating exchange rate and outward foreign direct investment by looking at imperfections of capital markets. They pointed out that when a company raises money from international markets, interest rates charged are inclusive of premium which accounts for specific credit risk of a country whose currency dominates the debt. With the strengthening of currency, the premium for credit risk reduces thus lowering the cost of raising money. Thus, firms capitalize on low currency premiums and choose countries with weaker currency as their investment destinations with an objective of earning higher expected profits than companies belonging to host destination.

To investigate the effects of host market size, real effective exchange rate, international reserve and trade openness on the number of outbound cross border acquisitions made by Indian firms, the following equation (1) has been specified based on the theoretical discussions and previous studies:

$$\ln (ACQt) = \beta 0 + \beta 1 \ln (HOSTt) + \beta 2 \ln (IRt) + \beta 3 \ln (REERt) + \beta 4 \ln (TOt) + Ut \quad (1)$$

Where,

ACQ = India's outbound acquisitions by

- Measure:Volumeofoutwardcross-borderM&AbyIndianfirms
- Timeperiod:1994-2018
- Source:UNCTAD

HOST=Host country market size
- Weighted average GDP percapita of top ten host countries
- Time period: 1994-2018
- Source: World Development Indicators

IR = Liberalization of India's capital outflows
- International reserve sheld by RBI, Central Bank of India
- Time period: 1994-2018
- Source: Euromonitor

REER = Appreciation of the Indian rupee exchange
- Measure: Real effective exchange rate
- Time period: 1994-2018
- Source: BIS

TO = Trade Openness
- Measure: Exports plus Imports, divided by GDP
- Time period: 1994-2018
- Source: World Development Indicators, UNCTAD

5. METHODOLOGY AND EMPIRICAL RESULTS

This study aims to understand the impact of host countryvariable sonFDI flow.the period of study is1994-2018.

Dependent variables:The number of out boun dcross-border acquisitions by Indian firms(ACQ)is adependent variable to analyse the determinants of growth of such inorgani coverse as investments by Indianfirm.

Independent variable:As per the survey of extant literature,the independent variable stakenare
- weighte daverage GDP percapita of top ten host countries where Indianfirms made acquisitions as a proxy for host country market size(HOST),
- international reservesheld by RBI(central bank of India) as a proxy for liberal policy on capital outflows(IR),
- the degree of trade openness was measured by the home country'strade(i.e.,the sum of exports and imports) as a proportion of its GDP(TO)and
- the real effective exchange rate(REER) index of the home country is proposed as aproxy for the rupee exchange rates.

All variables are express edinlog arithmic for minor dertoobtain the linear and morestationary behaviour.

The period of study consists of 24 years of annual observations from 1994 to 2018. The descriptive statistics shown in Table 5 above, exhibits that the average ACQ is 3.68 with standard deviation of 1.13. The average for HOST is 10.46 with standard deviation of 0.26, the average for IR is 11.625 with the standard deviation of 1.104, the average for REER consumption is 4.54 with standard deviation of 1.104, the average TO is -1.02 (the negative sign is due to presence of very small values i.e. <1 in the database) with standard deviation of 0.33

All the variables are left skewed except REER which is positively skewed. Kurtosis statistic of the variables shows that all variables are platykurtic (short tailed or lower peak) A Jarque–Bera test shows that the residuals all variables are normally distributed.

5.1. Time Series Econometrics Analysis

Using the time series data often include the possibility of obtaining spurious regression. Therefore, it is necessary to test the stationary of the variables in the model. At the same time, converting a series to be stationary, by using the difference, to study the direction of relation among variables may lose a valuable long-term relationship among the variables. The Augmented Dickey-Fuller (ADF) test will be used to investigate if the variables have a unit root or not, and confirming then results with Phillip Perron test.

The Augmented Dickey-Fuller (ADF) test is a modification of the DF test and involves augmenting the Dickey-Fuller equation by lagged values of the dependent variable. This test is based on following model:

$$\Delta Yt=\alpha+\beta*T+(\rho-1)*Y_{t-1}+\delta*\Delta Y_{t-1}+e_t \quad (2)$$

Table 6 below presents the results of ADF and PP at level and at first difference. According to results of both the tests, ln (REER) and ln (TO) are stationary at level form at 5% significance level whereas, ln (ACQ), ln (HOST) and ln (IR) are stationary at first difference at 5% significance level. In this situation we can apply ARDL approach to cointegration.

Table 5: Descriptive Statistics in eviews

Descriptive statistical analysis					
	LNACQ	LNHOST	LNIR	LNREER	LNTO
Mean	3.683	10.465	11.625	4.540	−1.020
Median	4.007	10.543	12.044	4.539	−0.897
Maximum	5.209	10.837	12.861	4.635	−0.583
Minimum	1.386	9.989	9.768	4.463	−1.605
Std. Dev.	1.134	0.269	1.104	0.045	0.338
Skewness	−0.672	−0.259	−0.510	0.386	−0.332
Kurtosis	2.342	1.596	1.641	2.203	1.616
Jarque-Bera	2.335	2.330	3.009	1.284	2.453
Probability	0.311	0.311	0.222	0.526	0.293
Sum	92.095	261.633	290.641	113.508	−25.522
Sum Sq. Dev.	30.863	1.741	29.291	0.049	2.757
Observations	25	25	25	25	25

Table 6: Unit Root Test Result in e-views

Variables	ADF test		PP test		Status
ACQ	−1.936	−5.898*	−1.947	−5.955*	Stationary at first difference
HOST	−1.402	−3.707*	−1.362	−3.511*	Stationary at first difference
REER	−4.67*	--	−4.303*	--	Stationary at level
IR	2.060	−2.229*	3.104	−2.119*	Stationary at first difference
TO	−2.264*	--	−2.067*	--	Stationary at level

Engle and Granger (1987) test, maximum likelihood-based Johansen (1988; 1991) and Johansen and Juselius (1990) tests are the most widely used methods to investigate cointegration (long-run equilibrium relationship) among variables. These methods necessitate that all the variables included in the model must be stationary at first difference, i.e. I(1). Poor performance in the case of small sample is another limitation of these methods. Autoregressive distributed lag (ARDL) approach to cointegration avoids the said limitations. Pesaran et al. (1996) and Pesaran et al. (1999) developed this approach whereas Pesaran et al. (2001) developed it further. Due to various econometric advantages over other methods of cointegration this approach has gained wide acceptance. This approach, contrary to other approaches, does not necessitate all the variables to be integrated of the same order, i.e., I(1). This approach is equally good if all variables in a model are I(0) or I(1) or even fractionally integrated (Pesaran and Pesaran, 1997). Pesaran et al. (1999) argued that ARDL approach to cointegration provides robust results and super consistent estimates of the long-run coefficients in case of small samples.

$$\Delta\ln(ACQt) = \beta0 \sum\beta1i\ \Delta\ \ln(ACQt-i) + \sum\beta2i\Delta\ln(HOSTt-i) + \sum\beta3i\Delta\ln(IRt-i) + \sum\beta4i\Delta\ln(TOt-i) + \sum\beta5i\Delta\ln(REERt-i) + \sum\beta6iln(ACQt-1) + \sum\beta7iln(HOSTt-1) + \sum\beta8iln(IRt-1) + \sum\beta9iln(TOt-1) + \sum\beta10iln(REERt-1) + Ut \quad (3)$$

Considering above advantages of ARDL approach to cointegration, we specify the following model:

Where Δ is the first difference operator, q is optimal lag length, β1, β2, β3, β4and β5 represent short-run dynamics of the model and β6, β7, β8, β9 and β10 are long-run elasticities

In order to find the long-run relationship as given in equation (1), we conducted bounds test of equation (3) using F-statistic with two bounds, i.e., lower bound and upper bound. The null hypothesis assumes no cointegration among variables. If the value of Fstatistic is greater than the upper bound then the null hypothesis is rejected and if it is less than lower bound then null hypothesis is accepted and if it falls between the lower and upper bounds the test is inconclusive.

Optimal lag selection

- AIC: Akaike information criterion - 1
- SC: Schwarz information criterion - 1

$$\Delta\ln(ACQt) = \beta0 \sum\beta1i\ \Delta\ \ln(ACQt-i) + \sum\beta2i\Delta\ln(HOSTt-i) + \sum\beta3i\Delta\ln(IRt-i) + \sum\beta4i\Delta\ln(TOt-i) + \sum\beta5i\Delta\ln(REERt-i) + \lambda ECt-1+ \varepsilon t \quad (4)$$

After testing cointegration we use Akaike information criterion (AIC) to select the optimal lag length of variables. An error correction version of equation (3) is given as below:

Results of long-run relationship are sensitive to lag-length selected in the model (Bahmani-Oskooee and Bohal, 2000). Table 7 below presents that the computed value of F-statistic (3.93) is greater than the upper bound value of F-statistic which helps us to reject the null hypothesis of no long run relationship. Therefore, we conclude that there is long-run relationship among the variables.

Table 8 above reveals that TO is the most significant factor of outbound M&A by Indian firms. The effect of TO on ACQ is significant at 1% level of significance. The coefficient (2.62) of ln (T0) shows that one unit increase in TO leads to over 2 times increase in ACQ in the long-run. Host market size (HOST) is another significant factor of Indian overseas cross border M&A. At 5% level of significance, the effect of HOST on ACQ, as opposed to general theory discussed, is negative, however supportive of Nunnenkamp's (2012) research where the impact of host country market size weakened over a number of years. Market size of host country appeared to have dominated outbound investing Indian firms' motive over the past (Boateng et al., 2017; Malhotra et al., 2011; Pradhan, 2003; Uddin and Boateng, 2011; Varma et al., 2015), but this seems to working in a opposite manner now. Possible reasons could be overriding saturation of host country markets, leaving less scope or providing greater survival challenge for new M&A establishments. Emergence of niche markets and its fructifying scope is another plausible reason for aiming host countries with smaller market size. The coefficient (–3.87) of lnHOST indicates that one unit increase in host market size of investment decreases the volume of outbound M&A activity by 3.87 times in the long-run. Appreciation of home currency (REER) being significant at 5% level, also acts as a push factor for inorganic Indian OFDI, with an intensity of 5.61 times. Liberalisation extent denoted by international reserves held by the government is significant at 10% level, but insignificant at 5% of significance level with a P = 0.06 and positive coefficient of 0.92. Present study supports the findings of Benassy-Quere et al. (2001), Das (2013), Kohlhagen (1997), Nunnenkamp et al. (2012), Kogut (1983), Buckley et al. (2007), Goh (2011), and Pantelidis and Kyrkilis (2003; 2005)

Table 9 contains the results of error correction representation of the selected ARDL model. Coefficients of the variables with "D" sign show the short-run elasticities. Results represent that in the short-

Table 7: F-Bounds test in eviews

F-Bounds Test				
Null Hypothesis: No levels relationship				
Test statistic	Value	Significance Interval	Lower Bound I(0)	Upper Bound I(1)
F-statistic	3.934	10%	2.2	3.09
k	4	5%	2.56	3.49

Table 8: Long Run ARDL Result in e-views

Long run Coefficients of ARDL (1,0,1,0,0) Model			
Dependent Variable: lnACQ			
Regressor	Coefficient	Standard Error	P-value
Constant	10.54	15.15	0.49
lnHOST	−3.87	1.65	0.03**
lnIR	0.92	0.47	0.06***
lnREER	5.61	2.19	0.02**
lnTO	2.62	0.69	0.0015*

*, **, and *** show significance level at 1%, 5% and 10% respectively.

Table 9: Short Run ARDL Result in e-views

Error Correction Representation of the Selected ARDL (1,0,1,0,0) Model			
Dependent Variable: D(lnACQ)			
Regressor	**Coefficient**	**Standard Error**	**P-value**
Constant	11.61	17.29	0.51
LnACQ (−1)	−1.10	0.23	0.0003*
D(lnHOST)	−4.26	2.10	0.05***
lnIR(−1)	1.01	0.59	0.10
D(lnREER)	6.18	2.50	0.02**
D(lnTO)	2.88	0.95	0.007*
D(lnIR)	2.16	0.42	0.0001*
CointEq (−1)	−1.101	0.199	0.00*

R^2 = 0.61, Adjusted R^2 = 0.596, DW=2.04

*, **, and *** show significance level at 1%, 5% and 10% respectively.

Table 10: Serial Correlation Test Result in e-views

Bruesh-Godfrey serial Correlation LM Test			
Null hypothesis: No serial correlation at up to 2 lags			
F-statistic	0.333	Prob. F(2,15)	0.721
Obs *R-squared	1.020	Prob. Chi-square (2)	0.600

run TO once again is the most significant determinant along with IR (significant at 1% level) of ACQ. REER is positively significant at 5% level, while in the short run too, HOST is negatively significant at 10% level. The coefficient of error correction term (–1.101) is significant at 1% level. Highly significant negative sign of the error correction term reinforces the existence of long-run relationship among the variables. However, the speed of adjustment from previous year's disequilibrium in manufacturing value added to current year's equilibrium is only 110%.

5.2. Diagnostic Tests

We tested the stability of the selected ARDL based on error correction model using cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residuals (CUSUMSQ) stability testing technique presented by Brown et al. (1975). CUSUM and CUSUMSQ plots have been shown in Figure 1 and 2 respectively. Since both the plots remain within critical bounds at 5% level of significance, we conclude that the model is structurally stable.

The below mentioned results of two tests help us to run some residual diagnostics. Table 10 displays the result for checking serial correlation via Bruesh-Godfrey serial correlation LM test. We need to make sure our residuals are not serially correlated (quintessential for faultless results). We can conclude there is absolutely no problem of serial or autocorrelation in the data as value of probability Chi-square is 0.6003 i.e. more than 0.05. Serial correlation exists where probability of Chi-square P-value of observed R square is <5%. For testing the presence of problem of heteroskedasticity in the residuals, Bruesh Pagan Godfrey test was conducted with EViews software. Table 11 displays the results for the same. The thumb rule for heteroskedasticity test is that the probability of chi square in Bruesh Pagan Godfrey test should be more than 5%. Since p value is 0.9044 or 90.44%, we can be sure that the data set doesn't suffer from the problem of heteroskedasticity i.e. the data set is homoscedastic.

Table 11: Heteroskedasticity Test Result in e-views

Heteroskedasticity Test: Bruesh-Pagan-Godfrey			
Null hypothesis: Homoskedasticity			
F-statistic	0.715	Prob. F(6,17)	0.642
Obs *R-squared	4.840	Prob. Chi-square (6)	0.564
Scaled explained SS	2.160	Prob. Chi-square (6)	0.904

Figure 1: Plot of cumulative sum of recursive residuals

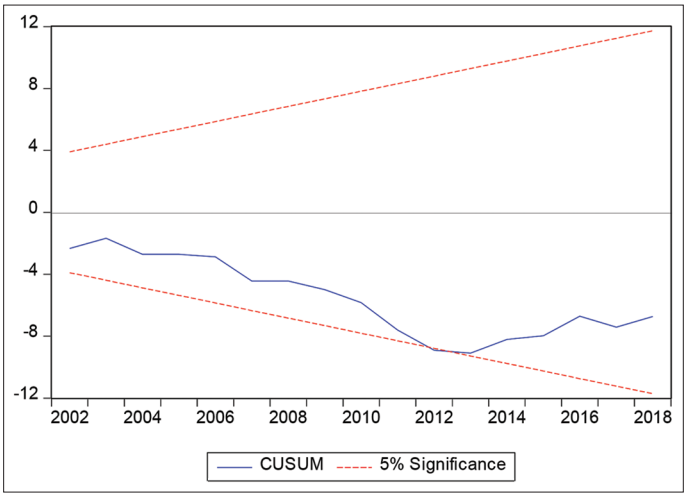
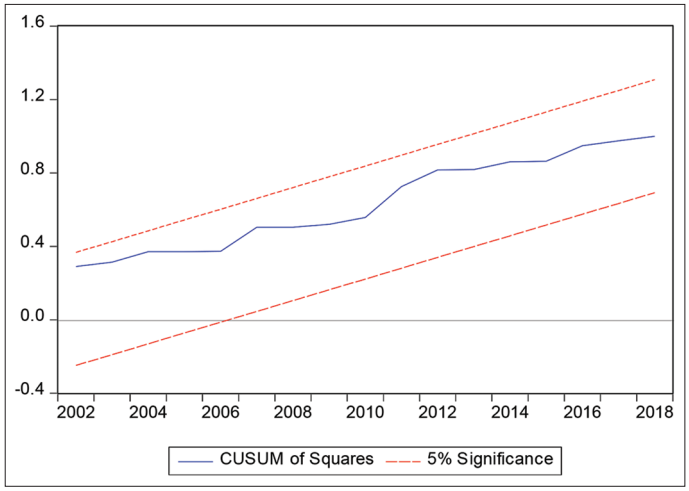


Figure 2: Plot of cumulative sum of squares of recursive residuals



6. CONCLUSION

This study attempts to examine the impact of the country variables like host market size, home international reserves and trade openness along with home currency appreciation on the volume of the outbound M&A by Indian firms. To test this, we adopted ADF and PP for testing stationarity and Bounds ADF for analysing the short term and long-term relationship. Finally testing the stability of the model along with presence of heteroskedasticity and serial correlation in the model.

The unit root test shows that time series of REER (real effective exchange rate taken as proxy for appreciation of home currency) and TO (exports plus imports as a percentage of GDP taken

as a proxy for India's trade openness) were stationary at level. While ACQ (volume of outbound M&A by Indian firms), HOST (weighted average GDP per capita of top ten host countries as a proxy for host market size) and IR (International reserves held by Indian Government as a proxy for liberalisation policy) were stationary at first difference. Due to difference in stationarity of variables at different levels along with smaller sample size, we rule out the checking cointegration via Johansen test and choose Bounds test instead. Bounds test confirm the presence of cointegration i.e long term relationship in the model equation.

Long term ARDC test prove that there is no unique long-term relationship exists between international Reserves (IR) and volume of outbound Indian M&A while host market size, appreciation of home currency and India's increased proportion of export and import in India's GDP impacts over the number of acquisitions made by Indian firms overseas.

The sign and P-value of error correction term coefficient confirmed the existence of long run relationship. The ECT results also confirms that disequilibrium in the model equation will converge or brings itself back to equilibrium.

Short term results via error correction presentation of the chosen ARDL model hints that appreciation of home currency, increased export and import transaction value and solid holding of international reserves by Indian government positively pushes Indian firms to make foreign acquisitions, while host market size did not bear any short-term impacts on the same.

Finally, stability diagnostics and residual diagnostics reassure the fitness of model, with absence of any structural breaks, and the data competence too, confirming the fact that it is homoscedastic and free from serial correlation, Making the results reliable.

The study helps in better understanding of determinants of outbound M&A transactions by Indian firms, and helps to formulate push policies to encourage the same. Apparently, India's M&A activity strongly responds towards appreciation in home currency and India's trade openness, both in the short run as well as the long run.

Real effective exchange rates have a positive impact on volume of outbound M&A activity from India. This further substantiates the earlier studies by Pantelidis and Kyrkilis (2003 and 2005) and goes well with the theoretical argument (Aliber, 1970) that countries with strong currencies, motivate firms to invest overseas, lowering the capital requirement of investing abroad thus making outbound acquisitions easier on financial front. The strengthening of Indian rupee, will promote exports and increase the international reserves leading to betterment of India's balance of payments. Also, Indians firms should look forward to successful investment in countries whose currency is weaker, thus lowering the operating and investing cost resulting in higher profit figures. This conclusion goes well with the negatively significant impact of the host country size on outbound Indian M&A, akin to the researchers conducted by Nunnenkamp et al. (2012), Ramasamy et al. (2012) and Pradhan (2011). Large market size characterized by high GDP per capita of a country, henceforth implying developed countries as sources of large host market size, i.e. having stronger currency as compared to Indian currency. This reassures our empirical result of appreciation of home currency being a positively significant determinant.

Trade openness also being a positively significant determinant of overseas acquisitions by Indian firms, reaffirms the research results of Bhasin and Jain (2013), Das (2013), Haiyan (2017). Trade openness have been approximated by proportion of total trade (export and import) to GDP of India. India Government thus needs to take initiative in framing liberal trade policies, resulting in rising proportion of trade activities and thus increased outward cross border acquisitions. Also, Indian firms having prior experience of exporting to a host country, generally develops the necessary background of knowledge regarding the destinations legal system, prevalent business practices and other essential know-hows of sustaining a successful business model, thus this export experience acts as a motivator for making such foreign investment. Hence the findings of the paper establish key takeaways for our Indian enterprises as well as policy makers for "going-out" and expanding across border.

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