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## **The Impact of Cross Listings on Indian Stock Returns**

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**Abstract:**

*Cross listings enables the various investors to gain exposure internationally & in portfolio diversification. The present study analyses the impact of cross listings through ADRs and GDRs on the local stock market returns. Average abnormal returns have been calculated for 25 days event window. The results indicate that there is a decline in the stock returns after the cross listings.*

**Keywords:** *Cross listings, ADRs, GDRs, Event study, abnormal returns.*

### **1. Introduction**

The economic reforms in India since LPG took place in 1991 have accelerated growth, enhanced stability & strengthened the economy. There has been a great transformation in money markets, government securities market & foreign exchange market over the period. Indian securities market plays a crucial role in financing the growing needs of various sectors of the economy. Investors are looking for investment opportunities globally beyond the boundaries of their countries. Listings through DRs in foreign countries has given opportunities for companies looking to trade into new markets, get new customers, get new investments and raise more capital in international markets through listing and trading. In 1980's and in the first half of the 1990's, the fragmentation of the capital markets was the main motivation for the managers to consider an cross border listing as a means of overcoming investment difficulties in other countries and making a company's shares available to foreign investors.

Cross listing of shares means a firm lists its shares on foreign stock exchanges in addition to its domestic local stock exchange. Generally such company's list primarily on a local stock exchange and its secondary listing is on an exchange in another country. Cross border listing has become one of the sources for the integration of global securities markets. From the view of various investors, cross listing eliminates some of the uncertain events and costs involved in making direct listing in foreign markets. Cross listing through DRs is more beneficial than direct listings as it offers an easier and flexible procedure with less stringent rules & regulations for individual companies to enter overseas markets according to their needs. Depository receipts which is an equity instrument representing shares listed on foreign stock exchange, are still very little known in the Indian people although their history reaches back to 1927. The listing of a local stock on a foreign exchange through a depository receipts avoids the company from many stringent regulatory requirements in comparison to those who list their shares directly on a foreign stock exchanges, thereby enabling the investors to realize dividends and capital gains in another market.

DRs are of different types American depository receipts (ADRs), Global Depository Receipts (GDRs) & Indian depository receipts (IDRs). These are global registered shares on the basis of the countries where they are issued and listed. While ADRs are issued and listed only in the US markets, GDRs are simultaneously issued and listed in more than one market, typically in the European and US markets.

ADRs and GDRs represent a simple and cost-effective way for various investors to gain international exposure and portfolio diversification. The ADR trading process is efficient, by passing many of the hurdles and costs associated with direct listing in equity shares of foreign companies. ADRs offer issuing company access to the world's largest and most active capital market. Explicitly, the objective of the present research paper is to examine the impact of cross listings on the stock returns.

### **2. Review of Literature**

An extensive body of literature deals with the impact of cross listings on the underlying stocks. While considering impact of cross listing, the degree of integration between local and foreign markets plays a vital role. Alexander & Janakiraman (1988) investigated by taking the sample of Canadian and non-Canadian firms whose stocks were listed internationally. The study observed a decline in expected returns of Canadian firms & the decline is smaller than in non-Canadian firms. Nalinprava & Manish (2014) examined impact of cross listings of ADR on the Indian stock market. The shares of cross listed stocks experienced abnormally higher returns

prior to cross listing & less returns thereafter. Forester & Karolyi, (1993), Strickl, Lins & Zenner (2003) stated international listings provides companies with greater access to global markets, leading to enhanced visibility, liquidity & simultaneously has less risk exposure. There results indicate that there is a decline in the abnormal returns after foreign listing. Doukas & Switzer (2000) found that there is a positive stock market reaction to the announcement of listings in the US stock market by 79 Canadian firms. On the contrary, Howe & Kelm (1987) stated there is an increase in the cost of capital post listing. Callaghan, Kleiman & Sahu (1999) states that ADRs perform brilliantly the stock market index during short & long term holding periods from the date of issue.

**3. Research Methodology**

The study includes companies that were listed on a foreign stock exchange & continued trading in the home market. The impact of cross listing on stock returns has been captured using event study methodology.

To conduct an event study, the following terms need to be understood, event of interest, event window, the length estimation window, and estimation model.(Mehta, Jain & Yadav, 2014) The event of interest for the present study is the announcement of listing on a foreign market. The event window has been chosen 0 to +25, 0 depicts the announcement date, -25 is the 25<sup>th</sup> day time period prior the announcement date & +25 is the 25 days’ time period after the announcement date. The choice of event period is a critical question because the length of the estimated reliable parameters is weighted against the other events probably affects the data& parameter estimates.10 companies have been taken for the study.To get announcement dates for the companies different news websites & finance websites have been used. Listing dates for the calculation were taken from the website BNY MELLON DR directory. The daily stock trading turn over data of the companies used in this study are calculated from the data available from yahoo finance & Google finances. Index values were downloaded from National stock exchange.

In the present study both ADRs & GDRs has been included for research. The traditional single factor market model has been applied to estimate the expected returns. It involves the computation of regression of a stock returns against a stock market index. For the present study, the value weighted market index, NSE has been used for regression. The regression equation is

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \epsilon_{i,t}$$

Where  $\alpha_i$  &  $\beta_i$  are the estimated parameters,  $R_{i,t}$  is the return on stock i at time t,  $R_{m,t}$  corresponding return on NSE. The abnormal returns are

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t})$$

The average abnormal return  $AAR_t$  is the sample mean of abnormal returns on a particular day

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it}$$

N is the number of companies in the sample. To get the accumulated impact of the event during a time period, Cumulative average abnormal returns (CAARs) are computed. CAAR means sum of the daily average abnormal returns over the time period starting at  $\tau_1$  through time  $\tau_2$ , also called the event window.

$$CAAR_i(\tau_1, \tau_2) = \frac{1}{N} \sum_{t=\tau_1}^{\tau_2} AAR_{i,t}$$

The test statistics for AAR on day t during the event period & CAAR for the event window is

$$t\text{-statistics} = \frac{CAAR_t}{(\tau_2 - \tau_1 + 1)^{\frac{1}{2}} S(AAR_t)}$$

In the above equation S is standard deviation.

Empirical results:-

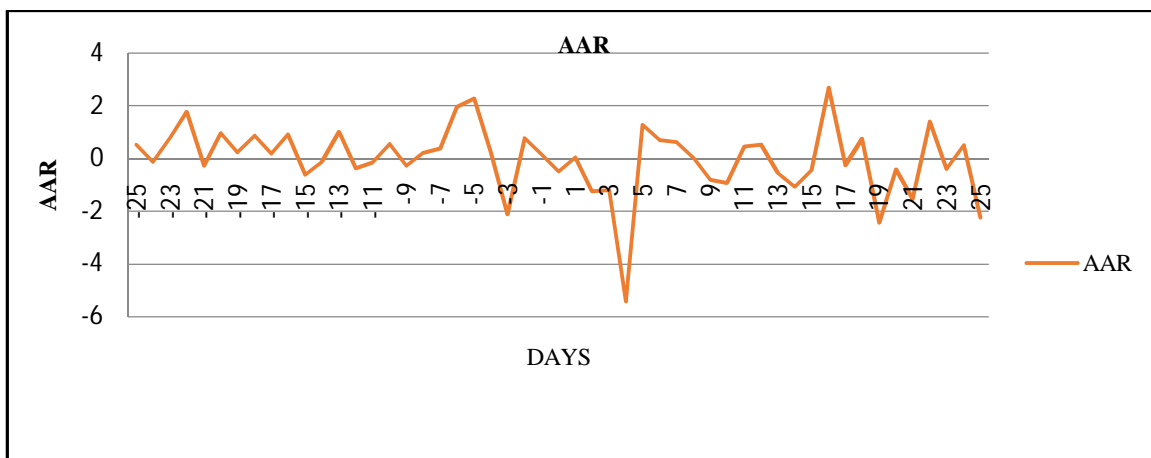


Figure 1: Average Abnormal Returns during the event window

Table reports the event study results conducted to find the impact of cross listings announcement on stock returns.

Days	AAR	CAAR	AAR t	CAAR t
-25	1	0.526306	0.954511	1.773389
-24	0	0.411467	0.818878	2.132713**
-23	1	1.209441	1.313834	4.975957***
-22	2	2.986426	3.662123***	2.249793**
-21	0	2.732318	-1.41233	2.449846**
-20	1	3.702022	3.862176***	3.379049***
-19	0	3.944383	-0.48313	1.100843
-18	1	4.809128	1.58397	-1.00153
-17	0	5.008752	-2.5855	0.083449
-16	1	5.934752	2.668946***	2.238665**
-15	-1	5.322189	-0.43028	-1.21529
-14	0	5.194007	-0.78501	1.794902*
-13	1	6.211548	2.57991***	0.88799
-12	0	5.843091	-1.69192	-2.41955
-11	0	5.709051	-0.72763	-0.06204
-10	1	6.273746	0.665588	-2.46587
-9	0	6.019788	-3.13146	-1.82078
-8	0	6.242123	1.310678	1.095554
-7	0	6.622892	-0.21512	4.901338***
-6	2	8.584519	5.116462***	12.8772***
-5	2	10.86418	7.760741***	7.962856***
-4	0	11.10835	0.202115	-6.12781
-3	-2	8.992837	-6.32992	-4.18457
-2	1	9.767981	2.145347**	2.207317**
-1	0	9.944736	0.06197	-1.94142
0	0	9.471807	-2.00339	-1.17949
1	0	9.534112	0.823904	-2.90892
2	-1	8.310086	-3.73282	-7.23166
3	-1	7.125344	-3.49884	-5.918
4	-5	1.716298	-2.41916	0.459486
5	1	2.996162	2.878649***	4.60898***
6	1	3.702689	1.730331*	2.768377***
7	1	4.34373	1.038046	1.221707
8	0	4.379894	0.183661	-2.97697
9	-1	3.582864	-3.16063	-6.08673
10	-1	2.659738	-2.9261	-2.55657
11	0	3.113814	0.369532	1.441084
12	1	3.661322	1.071551	-1.20007
13	-1	3.134085	-2.27162	-6.15461
14	-1	2.064621	-3.88298	-4.73595
15	0	1.636383	-0.85297	8.569976***
16	3	4.332371	9.422944***	8.092535***
17	0	4.097462	-1.33041	0.99471
18	1	4.863533	2.325119**	-6.78025
19	-2	2.440061	-9.10537	-9.03181
20	0	2.027955	0.073555	-3.0384
21	-2	0.493203	-3.11195	1.229511
22	1	1.89275	4.341463***	3.83944***
23	0	1.501654	-0.50202	0.33775
24	1	2.005906	0.839774	-4.77518
25	-2	-0.22687	-5.61496	-5.61496

Table 1: average abnormal returns (AARs),  
Cumulative average abnormal returns(CAARs) and test statistics on and around the cross listings  
\*\*\*, \*\*, \* significant at 1%, 5% & 10%

Table depicts AAR, t-statistics & CAAR for each day in the event window. An AAR, CAAR & t-statistics value has been calculated using event study. Ms- excel have been used for calculations. Figure 1& 2 shows the values of CAAR & AAR corresponding to each day of the event window.

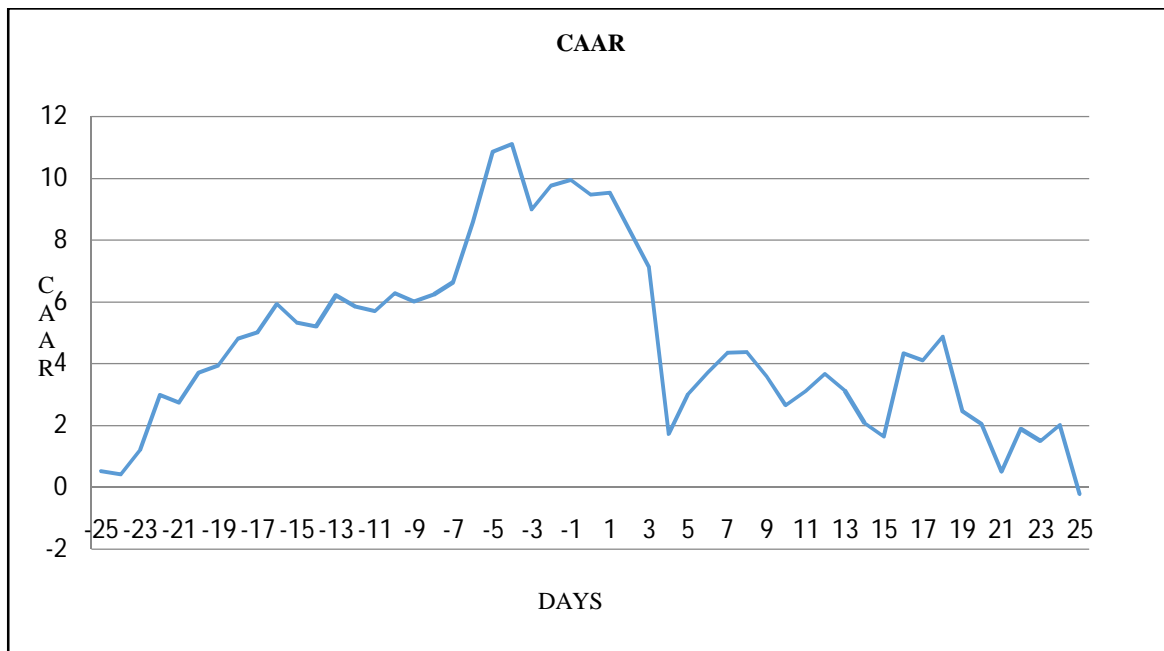


Figure 2: Cumulative Average Abnormal Returns during the event window

Table 1 depicts 25 days pre announcement of cross listing, starting from day  $t_{(-25)}$  to day  $t_{(-1)}$ , there is a positive average abnormal returns. The returns are positive for 23 days while they are negative for only 2 days. From the 23 positive AAR values, 7 values are statistically significant at 1%, 1 is significant at 5%. The negative returns are not significant on any of the 2 days. During the post announcement window from day  $t_{(1)}$  to day  $t_{(25)}$ , the pattern of positive AARs changes to negative pattern of returns. It has been observed that the AARs values are negative for 10 days, 0 for 7 days, positive for 8 days. From the 8 positive AAR values of post announcement, 3 values are significant at 1%, 1 value is significant at 5% & 1 value is significant at 10%.

The returns are cumulated over the event window to assess the net magnitude of the overall performance of the stocks. From the CAAR t- statistics values 5 values are significant at 1%, 5 values are significant at 5%, 1 value is significant at 10%. During post announcement window, it has been observed that 5 values are significant at 1% & 1 value at 5%.

#### 4. Conclusion

From the present study it can be concluded that stock returns are affected by the cross listing announcements. It has been observed positive average abnormal returns prior to cross listings announcement, AAR is insignificantly negative after the cross listings. Hence, it be concluded that cross listings through ADRs and GDRs does not get any significant financial benefit for the stock investors.

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