CROSS LISTING AND VALUE CREATION: AN EMPIRICAL STUDY IN INDIAN CONTEXT

HARSHITA GUPTA

Harshita is an Associate Advisor in the field of business valuation and investment banking with Deloitte USI for over a year now. She is an MBA from IIT Delhi, M.Com from Delhi School of Economics and B.Com (Hons.) from Shri Ram College of Commerce. She has been the recipient of Gold Medal for Rank 1 in both DU and IIT. She has also cleared CFA Level II and FRM Level I.

ABSTRACT

The study examines the impact of international cross listing on shareholders' wealth. The dataset consists of 146 instances of first international cross listing by Indian companies during the period 1997-2019. Using event study methodology, the study finds negative abnormal returns around the date of announcement of cross listing. The study also examines various determinants of value creation and results show negative relation of financial leverage and business freedom with abnormal returns. Overall, this provides evidence that shareholders wealth does not increase when Indian companies tap international stock exchanges for raising finance.

Keywords: Cross listing; Global depository receipts; American depository receipts; Cumulative average abnormal returns.

I. INTRODUCTION

With globalisation, companies got an opportunity to expand their wings beyond their local boundaries. The various functions in an organisation like marketing, operations, research and development, all witnessed an international exposure. This global presence also percolated to the function of finance, introducing the international markets as a source of raising funds. One of the most popular ways to tap global equity markets is a depository receipt. It is a financial instrument that represents a foreign company's publicly traded securities.

Issue of Depository receipts (DRs) is highly beneficial for the company. DRs help companies get access to foreign capital markets. This enhances the global presence of the company and helps in getting international attention and coverage. DRs can significantly increase the visibility and public profile of companies located in foreign countries that do not ordinarily garner much attention from investors. International exposure also helps firms in rapid growth and development. DRs also increase the shareholder base of the company.

For the investors too, DRs offer several benefits. The use of DRs provide investors with the ability to invest in a foreign company (with least concerns) about foreign trading practices, differences in tax laws or transactions occurring across borders. DRs also help an investor diversify his portfolio and offers opportunities to benefit from trends and developments outside the home country.

As a part of globalising strategy, Indian government had initiated 2 major steps – allowed FII to invest in India and permitted Indian companies to float their stocks in foreign markets.

However, despite the known benefits of cross listing, firms stay apprehensive of this strategy; a select list of plausible reasons is as follows:

a. It is a costly affair to fulfil all disclosure requirements.

b. It becomes difficult to deal with volatility spill-overs that arise from international trading

c. It is an imperative to ensure that foreigners do not get controlling interest in the company

In view of the above, the study aims to find out if companies have any substantial gains associated with cross listing and identify these gains.

II. OBJECTIVES OF THE STUDY

1. To assess the relationship between international cross listing and shareholders' wealth

2. To identify the plausible determinants of value creation at the time of cross listing

III. LITERATURE REVIEW

Foerster and Karolyi (1999) studied how the stock price performed at the time of cross listing on non-US stocks in the US markets. Cumulative abnormal returns calculated for the event window (-100, +250) show that abnormal returns of 19% are present during the year before the cross listing. During the week of cross listing shareholders have earned additional return of 1.2%. But for the year following the cross listing, shareholders' wealth has decreased by 14%.

Miller (1999) analysed impact of international dual listing on the stock price. During a 10-year study period, from 1985-1995, they studied the first depository receipt issue by 181 firms from 35 countries. It was observed that the positive abnormal returns generated around the announcement date were larger in magnitude as compared to results reported previously. Results also suggested that US exchanges produced highest abnormal returns.

Bancel and Mittoo (2001) studied a sample of 305 firms from France, Italy, Switzerland, Germany, Netherlands, UK that cross listed on foreign exchanges to determine the net benefits from foreign listing. They noted that the perceived net benefits of foreign listing will vary across firms. By collecting data from managers of different companies using a questionnaire, they observed that 60% of managers perceived benefits of cross listing outweigh the cost and 30% of the managers feel the opposite.

Sarkissian and Schill (2004) examined the destination preferences of firms at the time of cross listing. They analysed both country specific and firm specific determinants that affect cross listing and concluded that proximity in terms of geography, culture, economy and industry were significant factors in deciding the destination market for cross listing. These proximity factors help increase information for the investor and provide psychological tolerance even for the foreign investors.

Roosenboom and Dijk (2009) examined different destination markets response to cross listing. They employed the standard event study methodology to assess how stock prices behave at the earliest public announcement of cross listing. They used an event window of 250 trading days around the event under consideration. Results have been calculated using a two factor model for both the domestic and world markets. Focussing on 8 major stock exchanges, they reported abnormal returns of 1.3% for US exchanges, 1.1% for London stock exchange, 0.6% for exchanges in continental Europe and 0.5% for Tokyo exchange. Thus they concluded that destination markets played an important role in valuation effects at the time of cross listing with developed markets generating more returns for the shareholders.

IV. RESEARCH GAPS

On the basis of the review of literature, the following gaps have been identified:

1. Till date, very few studies have been conducted for Indian companies issuing depository receipts in America and the other parts of the world.

2. Only the traditional explanations for value creation to shareholders have been studied in the literature. Various other firm specific and country specific variables can also be plausible determinants for explaining wealth creation for shareholders that have not been considered.

V. DATASET

The study involved 146 Indian companies, that have undertaken ADR/ GDR/ ADS/ GDS from April 1, 1992 to 30th September 2019. This data set consists of only those companies where data was available. Also, only the first international cross listing has been considered; in other words, subsequent cross listings have been excluded.

Data Source and Software

The list of Depository Receipt issues has been taken from PRIME Database. Event study metrics has been used to calculate the abnormal returns.

VI. RESEARCH DESIGN

Event Study

An event study measures the impact of a specific event on the value of a firm using financial market data. Using this method, it can be assessed whether there is an abnormal stock price effect related to an unanticipated event. From this, the importance of the event can be assessed.

To assess the impact of cross-listing on value creation for shareholders, cumulative abnormal returns over multiple event windows around the date of announcement of cross listing have been calculated using the Market Model. In this study, semi-strong form of Efficient Market Hypothesis (EMH) is employed which states that any new information that is communicated to the public about the firms is immediately reflected in the stock prices. Hence the stock price will adjust quickly to indicate the change in the future expected discounted cash flow of the firm

Hypothesis Development

Null Hypothesis: Announcement of cross listing does not lead to abnormal returns; CAAR is statistically zero.

$H_0 = CAAR = 0$

Alternate Hypothesis: Announcement of cross listing does produce abnormal returns; CAAR is statistically different from zero.

$H_1 = CAAR \neq 0$

Estimation Window

An estimation window of 180 days has been considered to estimate the coefficients.

Event Window

Multiple event windows have been considered including (-5, +5), (-3, +3), (-1, +1), (0, 0), (-5, -1), (-3, -1), (1, 3) and (1, 5).

Abnormal returns are defined as per equation A.1 using the Market Model:

$$AR_{it} = R_{it} - E(R_{it}) \tag{A.1}$$

Where

AR_{it} = Abnormal returns of company i at time t

$E(R_{it})$= Expected return on firm i at time t

$$E(Rit) = \alpha_{i} + \beta_i(R_{mt}) + \varepsilon_{it} \tag{A.2}$$

With $E(\varepsilon_{it} = 0)$ and $var(\varepsilon_{it}) = \sigma^2$

Where

$E(Rit)$= Expected return on firm i at time t

α_i = Ordinary Least Square (OLS) estimate of the Intercept of straight line or alpha coefficient of security 'i'

β_i = Ordinary Least Square (OLS) estimate of the coefficient of BSE 200

R_{mt}= Actual return on the market index, BSE 200

ε_{it} = Error term with mean zero and constant variance at time t

Cumulative abnormal returns (CARs) are the summation of the abnormal returns generated by the stock over the event window and are determined as per equation A.2

$$CAR_i = \sum AR_{it} \tag{A.3}$$

Where CAR_i is the cumulative abnormal return for firm i over the event window.

The returns are then averaged to obtain the Cumulative average abnormal returns (CAAR).

Regression Model

The regression model tests the various explanatory variables to explain significant influencers of wealth creation for shareholders at the time of value creation.

Null Hypothesis: There is no statistically significant influence of the independent variables on the CAAR

Alternate Hypothesis: There is a statistically significant influence of the independent variables on the CAAR

Table 1.1 provides a list of independent variables used in the study

Table 1.1: List of independent variables used for regression

Variable	Description	Source
Firm specific factors		
Sales growth	Three year growth rate of total sales of the company	ACE Equity
Market related factors		
Market capitalisation to GDP	Log of the absolute difference between home and host country ratios	Global Financial Development, World Bank
Macro-economic factors		
Political risk rating	Measuring perceptions of likelihood of political instability or politically motivated violence	World Governance Indicators
Financial Freedom	Measures banking efficiency and independence from government control and interference in the financial sector	Heritage Foundation
Business Freedom	Measures extent to which regulatory and infrastructure environments constrain the efficient operation of business	Heritage Foundation
Market timing		
Recession	December 2007 – June 2009; dummy variable	NBER's Business Cycle Dating Procedure
Proximity factors		
Cultural distance	Country scores for dimensions of culture	Hofstede's cultural dimensions
Geographical distance	Log of geographical distance between the home and host countries	CEPII database

Regression Equation

$CAR_i = \alpha + \beta_1$ (CAGR) $+ \beta_2$ (Financial Leverage) $+ \beta_3$ (Market cap to GDP) $+ \beta_4$ (Political risk rating) $+ \beta_5$ (Financial freedom) $+ \beta_6$ (Business freedom) $+ \beta_7$ (Recession) $+ \beta_8$ (Culture) $+ \beta_9$ (Geography) $+ \varepsilon_i$ (A.4)

The regression equation used in the study is defined as per equation A.4

EMPIRICAL EVIDENCE

The effects of cross listing on shareholders' wealth

The study estimates the effects of cross listing on shareholder's wealth using Cumulative average abnormal returns (CAAR) around the date of announcement of cross listing in the international market.

Table 1.2 details the cumulative abnormal returns around the date of announcement of cross listing for 146 cross listing announcement events during the period 1997-2019.

Table 1.2: Price reaction around cross listing announcement for the period 1997-2019

Event Window	CAAR	Parametric tests		Non-Parametric tests	
		T test	Patell Test	Corrado Rank Test	Sign Test
(-5, +5)	0.0074	0.4645	-0.9193	0.2113	-0.4840
(-3, +3)	-0.0118	-0.9296	-2.1397*	-1.0976	-1.6721**
(-1, +1)	-0.0067	-0.8076	-1.2883	0.6318	-0.4840
(0, 0)	0.0032	0.6751	0.5758	0.4902	-0.6537
(-5, -1)	0.0267	2.4872*	2.4998*	1.5756	1.3831
(-3, -1)	0.0002	0.0290	-1.1220	-0.2917	-0.4840
(1, 3)	-0.0153	-1.8388**	-2.4789*	-1.6680**	-1.1629
(1, 5)	-0.0226	-2.1002*	-4.1209*	-1.4814	-1.8418**

* indicates significance at 5%; **indicates significance at 10%

The results in Table 1.2 show that market performance is not favourable around the date of announcement of cross listing. Relevant data shows that shareholders are likely to have significant negative abnormal returns of -1.18% in the event window of (-3, +3) (Significant at 5%). The negative returns around the date of announcement might be the result of a pessimistic market perception regarding added risks associated with DRs like currency risk, impact of economic and political problems of host country and asymmetric information.

In the pre-announcement period (-5, -1), it appears that shareholders witness significant positive abnormal returns of 2.67% (Significant at 5%) but the post-announcement period is likely to result in significant losses to the extent of 1.53% and 2.26% in the event windows of (1,3) and (1,5) respectively. The possible reason for the positive pre-announcement returns turning negative after the announcement of cross listing could be that investors tend to be over-pessimistic regarding the risks and probable problems associated with the company going international.

Determinants of wealth effects of cross listing

This section analyses the possible determinants of value creation for shareholders due to cross listing. Table 1.3 reports regression results on the effect that the independent variables have on the CAAR.

Table 1.3: Results of regression for different event windows for 146 firms for the period 1997-2019

Independent variable	Event Window							
	(-5,+5)		(-3,+3)		(-1,+1)		(0,0)	
	Coef.	T statistic	Coef.	T statistic	Coef.	T statistic	Coef.	T statistic
CAGR	0.000119	0.005894	0.011515	0.569819	0.008743	0.477789	0.001717	0.335262
Financial Leverage	-0.00127	-0.15447	-0.01778	-2.16386*	-0.01088	-1.46188	0.000663	0.318158
Market cap to GDP	-0.04855	-0.38827	0.185621	1.480929	0.116183	1.023606	-0.0029	-0.0912
Political risk rating	0.003778	1.073253	-0.0047	-1.33087	-0.00449	-1.40577	0.000336	0.375555

Financial freedom	-0.0009	-0.43268	0.000494	0.238178	0.000862	0.458803	-0.00044	-0.84276
Business freedom	0.000112	0.063763	-0.00291	-1.65543**	-0.00257	-1.61258	0.003	0.069236
Recession	-0.00092	-0.01463	0.01536	0.242931	0.034094	0.595464	-0.01421	-0.8868
Culture	0.196704	1.041336	-0.16736	-0.88386	-0.17884	-1.04303	-0.0265	-0.00054
Geography	-0.34472	-1.2547	0.138645	0.503423	0.224252	0.899181	0.0296	0.42399
R^2	0.027035482		0.064588		0.036758		0.026912	

* indicates significance at 5%, **indicates significance at 10%

The Table reports coefficients of the regression model, run for 146 instances of international cross listing undertaken by Indian companies during the period 1997-2019. The explanatory power of the model (as shown by R^2) is poor for all event windows. Findings indicate that financial leverage and business freedom have a negatively significant relation with abnormal returns.

Leverage has a negative effect on abnormal returns generated around cross listing. The various risks associated with higher leverage may be the reason investors prefer low-levered firms.

A surprising observation is that higher business freedom in home and host country produces lower wealth benefits for shareholders. Regulatory freedom is believed to be an important aspect of financial market return, but the results produce a negative coefficient of business freedom which shows that market performance improves with higher government regulations. Regulations in the form of higher transparency and disclosures might build confidence among investors, thus generating positive returns.

VII. CONCLUSION

There are some select observations.

First, in the context of cross listing by Indian companies, shareholders have witnessed losses around the date of announcement of cross listing. This is contrary to existing literature which provides evidence that shareholders' wealth increases around cross listing. Negative returns in Indian context could be due to the pessimism of the investors regarding additional risks that the company will face after an international listing. There is also a transition observed from positive pre-announcement returns to negative post-announcement returns.

Second, the study also examines the determinants of value creation to shareholders due to cross listing. Only two significant variables could be observed when regression was run on all 146 instances of cross listing. Both financial leverage and business freedom affect cumulative average abnormal returns in a negative way. While it is appropriate to note that returns are lower for high-levered firms, it is a puzzle to note that higher business freedom to operate negatively influences abnormal returns. This shows that regulations in the form of disclosures and greater transparency boost the confidence of investors when stocks are listed in a foreign exchange.

In sum, it is reasonable to conclude that market performance does not improve after cross listing. Despite negative returns, firms continue to list their shares abroad. The possible explanation of this could be that in order to achieve long run targets, cross listed firms are ready to accept the short-term losses.

VIII. REFERENCES

[1] Abdallah, A. A. N., & Ioannidis, C. (2010). Why do firms cross-list? International evidence from the US market. *The Quarterly Review of Economics and Finance*, *50*(2), 202-213.

[2] Adelegan, O. J. (2009). *The impact of the regional cross-listing of stocks on firm value in sub-Saharan Africa* (No. 9-99). International Monetary Fund.

[3] Anderson, C. W., Fedenia, M., Hirschey, M., & Skiba, H. (2011). Cultural influences on home bias and international diversification by institutional investors. *Journal of Banking & Finance*, *35*(4), 916-934.

[4] Bancel, F., & Mittoo, C. (2001). European managerial perceptions of the net benefits of foreign stock listings. *European financial management*, *7*(2), 213-236.

[5] Bianconi, M., & Tan, L. (2010). Cross-listing premium in the US and the UK destination. *International Review of Economics & Finance*, *19*(2), 244-259.

[6] Bris, A., Cantale, S., & Nishiotis, G. P. (2007). A breakdown of the valuation effects of international cross-listing. *European Financial Management*, *13*(3), 498-530.

[7] Brown, S. J., & Warner, J. B. (1985). Using daily stock returns: The case of event studies. *Journal of financial economics*, *14*(1), 3-31.

[8] Dodd, O. (2013). Why do firms cross-list their shares on foreign exchanges? A review of cross-listing theories and empirical evidence. *Review of Behavioural Finance*, *5*(1), 77-99.

[9] Doidge, C., Karolyi, G. A., & Stulz, R. M. (2004). Why are foreign firms listed in the US worth more?. *Journal of financial economics*, *71*(2), 205-238.

[10] Foerster, S. R., & Karolyi, G. A. (1999). The effects of market segmentation and investor recognition on asset prices: Evidence from foreign stocks listing in the United States. *The Journal of Finance*, *54*(3), 981-1013.

[11] Ghadhab, I., & Hellara, S. (2016). Cross-listing and value creation. *Journal of Multinational Financial Management*, *37*, 1-11.

[12] Grinblatt, M., & Keloharju, M. (2001). How distance, language, and culture influence stockholdings and trades. *The Journal of Finance*, *56*(3), 1053-1073.

[13] Hail, L., & Leuz, C. (2009). Cost of capital effects and changes in growth expectations around US cross-listings. *Journal of financial economics*, *93*(3), 428-454.

[14] Michael, H., Pagano, M., Randl, O., & Zechner, J. (2008). Where is the Market? Evidence from Cross-Listings in the US. *Review of Financial Studies*, *21*, 725-761.

[15] Lau, S. T., Diltz, J. D., & Apilado, V. P. (1994). Valuation effects of international stock exchange listings. *Journal of banking & finance*, *18*(4), 743-755.

[16] Lee, I. (1991). The impact of overseas listings on shareholder wealth: The case of the London and Toronto stock exchanges. *Journal of Business Finance & Accounting*, *18*(4), 583-592.

[17] Lee, D. (2004). Why does shareholder wealth increase when non-US firms announce their listing in the US?.

[18] McWilliams, A., & Siegel, D. (1997). Event studies in management research: Theoretical and empirical issues. *Academy of management journal*, *40*(3), 626-657.

[19] Miller, D. P. (1999). The market reaction to international cross-listings:: evidence from Depositary Receipts1. *Journal of Financial economics*, *51*(1), 103-123.

[20] Mittoo, U. R. (2003). Globalization and the value of US listing: Revisiting Canadian evidence. *Journal of Banking & Finance*, *27*(9), 1629-1661.

[21] Portes, R., & Rey, H. (2005). The determinants of cross-border equity flows. *Journal of international Economics*, *65*(2), 269-296.

[22] Roosenboom, P., & Van Dijk, M. A. (2009). The market reaction to cross-listings: Does the destination market matter?. *Journal of Banking & Finance*, *33*(10), 1898-1908.

[23] Sarkissian, S., & Schill, M. J. (2003). The overseas listing decision: New evidence of proximity preference. *The Review of Financial Studies*, *17*(3), 769-809.

[24] Sarkissian, S., & Schill, M. J. (2008). Are there permanent valuation gains to overseas listing?. *The Review of Financial Studies*, *22*(1), 371-412.

[25] Serra, A. P. (1999). Dual-listings on international exchanges: the case of emerging markets' stocks. *European Financial Management*, *5*(2), 165-202.

[26] Stulz, R. M. (1999). Golbalization, corporate finance, and the cost of capital. *Journal of applied corporate finance*, *12*(3), 8-25.