Joint Venture Investments and Market Value of the Firm: Evidence from India

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Abstract

The purpose of this study is to measure the impact of joint venture announcements on market value of the firm in India and to determine whether these effects are different for domestic and international joint ventures. The sample includes BSE 500 firms that announced joint ventures during the period from January 1, 2008 to December 31, 2010. Final sample contains 90 joint venture announcements. An Event study methodology is used to examine the share price behavior around such announcements. The evidence indicate that the market reacts significantly on the day of announcement, thus reflecting that it views such decisions as value enhancing .The results indicate significant positive average abnormal returns (0.72%) on the day of announcement and significant positive average abnormal returns during post-announcement period i.e. CAR for day 0 to +5 is 1.45% significant at 10% level of significance. An independent t-test and Non-parametric test (Mann-Whitney test) confirmed that there is no significant difference between market reaction of domestic and international joint ventures.

Keywords: Capital Investment, Joint Ventures, Event Study

I. INTRODUCTION

The growing prevalence of joint ventures (JVs) and other forms of inter-firm collaboration has attracted the attention of many scholars from fields such as economics, international business, marketing, organization theory, sociology, and strategic management. Some of the first evidence on the shareholder wealth effects was presented by McConnell and Nantell (1985). Based upon a sample of 136 U.S. domestic joint ventures from 1972 to 1979, they found evidence of significant positive returns around the time when the joint ventures were announced. Thus, their evidence supported the idea that joint ventures are value creating decisions. Quite a few studies

have exclusively examined international joint ventures and found that joint ventures were value enhancing. Joint ventures are a form of cooperative linkages undertaken to attain the higher level of entrepreneurial capabilities deemed necessary to remain competitive in the emerging global economy. Recent developments in the world economy, technology, and corporate strategy have spurred a surge in joint ventures and prompted a belief that cooperation may be the new form of competition (Contractor and Lorange 1988).

There are very few studies available on market value of joint ventures in Indian context. The effectiveness and performance of joint ventures can be assessed in two ways: by ex post facto indicators such as the extent to which individual and collective goals are met and the net contribution of joint ventures to partners' profit maximizing behaviors or by ex-ante valuations of the long-term potential of joint ventures as reflected in the stock market. In this paper the second way is adopted and examines the stock market reaction to the announcement of joint venture activities. This study extends earlier research as it undertakes announcements of both domestic and international joint ventures and compares their abnormal returns. While the international joint venture can have value for reasons common to the domestic joint ventures, such as technology transfer and realization of production synergies, it may produce additional benefits because it crosses national borders. This is the motivation to study the impact of domestic and international joint ventures on the shareholder's wealth.

The remainder of the paper is organized as follows: section 2 gives literature review of various studies in which wealth effect of joint ventures has been examined. Objectives and hypothesis are also given in this section. Section 3 describes sample selection and methodology. Section 4 presents empirical results of the study, conclusions are also presented in this section.

II. LITERATURE REVIEW

Forming a joint venture is one method of entering new markets, reducing production costs or sharing R&D costs whilst spreading the risk (and return). There is a limited literature on the subject of wealth effects to the announcement of joint venture formation.

Some of the first evidence on the shareholder wealth effects was presented by **McConnell and Nantell (1985)**. Based upon a sample of 136 U.S. domestic joint ventures from 1972 to 1979, they found evidence of significant positive excess returns around the time when the joint

ventures were announced. Thus, their evidence supported the idea that joint ventures are value creating decisions. Studies of the market response to capital investment announcements by Woolridge and Snow (1990) and Burton *et al.* (1999) contained categories of joint ventures within their studies. **Woolridge and Snow (1990)** identified a positive and significant abnormal return to the announcement of US joint ventures of 0.8% on the event day. **Lee and Wyatt (1990)** measured the wealth effects of international joint ventures on the U.S. firm shareholders and found negative reaction of investors to international joint venture announcements. **Koh and Venkatraman (1991)** examined joint ventures in the information technology sector and reported generally positive market reactions which tend to be greater where the parent companies came from a related sector. **Hu, Chan, and Shieh (1992),** in the study of U.S. joint ventures in China, found that the impact on shareholder's wealth depended upon the degree of international involvement. Low international involvement, as reflected by a small percentage of foreign sales and fewer number of foreign subsidiaries, yielded on average positive effects on shareholder wealth. Companies with high international involvement received no significant positive or negative effects. **Chung *et al.* (1993)** found that announcements of international joint ventures undertaken by US firms have a negative effect on firm value despite the assumption that projects are being motivated by expectations of greater market share or higher profitability. Projects involving more than one foreign partner enjoyed significant positive abnormal returns. **Mohanram and Nanda (1998)** identified strategic considerations, managerial misalignment and complementary resources as the three drivers of the market response to joint ventures investments using a sample of 253 US joint ventures between 1986 and 1993. Pooling of resources was found to positively influence the market reaction, whilst negative reactions were observed for joint ventures which were undertaken by companies with high levels of free cash flow which Mohanram and Nanda (1998) suggested indicates potential for agency costs. Small firms entering into joint ventures with large firms benefited from a signaling effect to achieve positive abnormal returns. **Burton *et al.* (1999)** examined 82 UK joint ventures, finding a positive and significant abnormal return of 1.59%. Burton *et al.* (1999) tested the cross-sectional correlation between abnormal returns and company size, announcement size, the market-to-book ratio and a prior funding dummy variable, but found no significance. **Irwanto *et al.* (1999)** examined the impact of U.S. joint ventures in Asia on shareholder's wealth. It was found that

average abnormal returns on the date of announcement of joint venture were significantly positive. Stockholders that were involved in joint ventures in less developed countries experienced higher abnormal returns than those involved in joint ventures with newly industrialized countries. **Frohls *et al.* (2000)** examined 320 international joint ventures between 1987 and 1992 involving at least one US partner and one partner from an emerging economy or an industrialised G7 country. They found that international joint ventures were wealth creating when partners come from an emerging economy but not from a G7 nation. Frohls *et al.* (2000) also reported that a high insider holding for the US partner (5% to 25%) leads to a more favorable market response. **Chen et al. (2000)** examined the role of investment opportunities and free cash flow in explaining the source of wealth effect of international joint ventures. The results supported investment opportunities hypothesis but not free cash flow hypothesis. **Chang and Huang (2002)** examined the importance of corporate multinationalism and organizational learning in explaining the wealth effects of international joint venture announcements in Taiwan. It was found that firms announcing international joint ventures in countries with no prior operational activity experienced significant favorable market response. **Jones and Danbolt (2004)** examined the impact of joint venture announcements on the market value of U.K. listed companies. It was found that abnormal returns on the day of announcement of joint venture were significantly positive. Cross-sectional results revealed location and project size as important factors in determining the market reaction to joint venture announcements.

These studies provide mixed results as for the wealth effects of joint venture announcements. Most of the studies found positive abnormal returns on the day of joint venture announcements. Very few studies are available for examining the wealth effects of joint ventures in Indian context. No study has been conducted specifically to examine the wealth effects of joint ventures in India. This study is an effort to fill the literature gap and examine the wealth effects of joint ventures in Indian context.

OBJECTIVES OF THE STUDY

1. To examine the effect of joint venture announcements on market value of the firm.
2. To compare the valuation effect of domestic and international joint venture announcements.

RESEARCH HYPOTHESES

H1: The market reaction to announcement of joint ventures will be positive and significant.

H2: The market reaction to announcement of joint ventures will be different for domestic and international partners.

III. DATA AND METHODOLOGY

The sample includes BSE 500 firms that announced joint ventures during the period from January 1, 2008 to December 31, 2010.[1] The announcements are collected from Centre for Monitoring Indian Economy (CMIE) database PROWESS.[2] The articles in the publication that refer to joint venture announcements are carefully reviewed. The initial sample comprises of 578 announcements that refer to joint venture, tie-ups, alliances, and collaborations. Out of these announcements only those are selected that particularly refer to joint venture formation. This resulted for 252 announcements. These set of announcements are furthered screened to extract final sample.

This sample of joint ventures is screened on the basis of following criteria:

1. Only those announcements are considered for the study which mentions information about the approximate size of the investment.
2. Announcement must be in isolation of other announcement which occurs within three days of announcement.
3. Company's daily stock price data should be available for the study period.
4. The announcement that appeared for the first time is only considered, rest of the duplicate announcements are not included in the sample.

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[1] BSE-500 index represents nearly 93% of the total market capitalization on BSE. BSE-500 covers all 20 major industries of the economy.

[2] CMIE is an independent private sector economic research organization. It provides information solutions in the form of databases and research reports and has built the largest database on the Indian economy and companies.

Of those in the initial sample, 90 announcements meet these selection criteria. These selection criteria help to insure that any wealth effects detected are the result of the joint venture announcement and not due to omitted factors. The necessary share price data and the index data is obtained from website of BSE.[3]

A standard event study methodology is used in the study to examine the market reaction to JV announcements. In this study, as in other studies, the day that joint venture announcement appeared in the newspaper is classified as day zero in event time, t=0. The trading days prior to that day are numbered as event days, t=-1, t=-2, etc. The subsequent trading days are numbered t= +1, t= +2, etc. An event window of 61 days, consisting of 30 days before the event designated as -30 to -1, the event day designated as t = 0 and 30 days after the event as +1 to +30 is constructed. Clean period considered in the study is from -231 to -31 days. The standardized market model is used to determine the predicted returns and to calculate the abnormal returns for each company in the sample. For each company, the standardized market model used to calculate the returns is as follows:

$r_{jt} = \alpha_j + b_j r_{mt} + e_{jt}$

where:

r_{jt} = the return on security j for period t,

α_j = the intercept term,

b_j = the covariance of the returns on the jth security with those of the market portfolio, divided by the variance of the market portfolio's returns,

r_{mt} = the return on market portfolio (BSE 500 Index) for period t,

e_{jt} = the residual error term on security j for period t.

The parameters of this market model (α_j and b_j) were estimated using the estimation period of 200 days in length and ends 31 days before the event date, t=(-231, -31).

The abnormal return (ABR_{jt}) is the difference between the actual return (R_{jt}) and the expected return ($\alpha_j + b_j r_{mt}$) and is calculated using the following equation:

$$ABR_{jt} = R_{jt} - (\alpha_j + b_j r_{mt})$$

The average abnormal reurn (AAR) is the mean of all the companies' abnormal returns for that date:

$$AAR_t = \sum_{(j=1)}^{n} ABR_{jt} / N$$

The cumulative average return (CAR) for each interval is:

$$CAR_{T1,T2} = \sum_{T1}^{T2} AAR_t$$

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[3] = Bombay Stock Exchange is one of the two largest state-of-the-art stock exchanges in India. It commenced operations in 1875 and it is the oldest stock exchange in Asia.

IV. EMPIRICAL RESULTS

In this section the results of the study are presented and analyzed. The major finding of the event study is on the day of the announcement date. The average abnormal returns on the announcement date of a joint venture is positive (0.72%) and statistically significant at 5% as shown in Table 1. These results suggest that investors react favorably to such news, and, hence, it supports the proposition that the announcement of joint ventures increases shareholder wealth. The days after the announcement date show no consistent pattern of the average abnormal returns. On t = +3, there are negative abnormal returns and on day t = +1, t = +2, t = +4, t = +5, there are positive average abnormal results but these are not significant.

Table 1: Average Abnormal Returns

Days Relative to Announcement Date	Average Abnormal Returns (%)	T- statistics
-30	-0.026745173	-0.073950339
-29	0.203876953	0.563719285
-28	-0.329357585	-0.910672932
-27	-0.343568617	-0.949966402
-26	0.431963886	1.194379108

-25	0.321925278	0.890122622
-24	-0.163690582	-0.452604067
-23	-0.017181564	-0.047506984
-22	-0.296117289	-0.818763595
-21	-0.057489602	-0.158958612
-20	-0.143964711	-0.39806208
-19	-0.019075819	-0.052744594
-18	-0.041284783	-0.114152325
-17	-0.110953233	-0.306785424
-16	0.39957429	1.104821953
-15	-0.314789789	-0.870393013
-14	-0.15679918	-0.433549357
-13	-0.055116499	-0.152396988
-12	-0.244012813	-0.674694843
-11	0.05020768	0.138824114
-10	-0.005558693	-0.015369772
-9	-0.572968104	-1.584255435
-8	-0.028124483	-0.077764129
-7	-0.129372194	-0.357713806
-6	-0.037750989	-0.104381395
-5	0.335435293	0.927477781
-4	-0.047840599	-0.132279142
-3	-0.235620072	-0.651488933
-2	0.117124888	0.323850034
-1	0.040754551	0.112686235
0	**0.727334266****	**2.011077501****
1	0.163888073	0.453150129
2	0.121741735	0.336615606
3	-0.112982413	-0.312396101
4	0.09993538	0.276321085
5	0.456107286	1.261135552
6	-0.186027588	-0.514365834
7	0.08580573	0.237252637
8	0.001729633	0.00478243
9	-0.04676319	-0.129300107
10	-0.164761541	-0.455565267
11	0.450527161	1.24570652
12	0.326567209	0.902957551
13	-0.052841288	-0.146106035
14	-0.288492144	-0.797680088

15	0.22753544	0.629134945
16	-0.123179862	-0.340592024
17	0.037647869	0.104096268
18	0.330268419	0.913191388
19	-0.044850944	-0.124012751
20	0.354968977	0.981488372
21	-0.119045706	-0.329161092
22	0.144090314	0.398409374
23	0.451467831	1.248307469
24	-0.468899782	-1.296506774
25	-0.218982612	-0.605486399
26	-0.171717715	-0.474799069
27	-0.103517629	-0.286225996
28	0.071857399	0.198685537
29	-0.092978771	-0.257086078
30	0.031266944	0.086453025

****= Significant at 5% level of significance**

Table 2 presents the Cumulative Average Abnormal Returns (CAR) for the sample firms for different window periods. The CAR for [0, +1] and [0, +5] is positive and significant at 10%. There are no other significant results found around the announcement date but CAR is positive for all the window periods. These results indicate that impact of the joint venture announcement persists in the post-event period that is why significant results are found for day t = 0 to +1 and t = 0 to +5.

Table 2: Cumulative Abnormal Returns.

Period relative to the announcement	**CAR (%)**	**T-Statistics**
[-10, +10]	0.582086968	0.351214945
[-5, +5]	1.665878387	1.388806404
[-2, +2]	1.170843513	1.447800129
[-1, +1]	0.931976889	1.487781914
[-5, -1]	0.209854061	0.259493888

[0, +1]	**0.891222339***	**1.742472068***
[0, +5]	**1.456024327***	**1.643568333***
[0, +10]	1.146007371	0.955401299

***= significant at 10% level of significance**

The results indicate that H1 is accepted as there are significant positive abnormal returns on the event day. This result is consistent with McConnell and Nantell (1985) and Jones and Danbolt (2004). Other studies by Woolridge and Snow (1990) and Burton *et al*. (1999) found a positive impact for joint ventures in the developing country of China. Nevertheless, these results are in contrast to Lee and Wyatt (1990) and Chung, Koford, and Lee (1993).

Domestic and Foreign Joint Venture Announcements

Joint Venture announcement in which partner is from foreign country is classified as international joint venture and where partner is local, as domestic joint venture. There are significantly positive average abnormal returns (0.78%) for domestic joint ventures on the day t= 0 and for international joint ventures, positive average abnormal returns (0.62%) are found on the day t = 0 but these are not significant. Independent samples t-test and Mann-Whitney U test are conducted to examine the difference in market reaction of domestic and international joint ventures by comparing their average abnormal returns. The results of both the tests confirmed that there is no significant difference in market reaction of domestic and international joint ventures as p> .05 in both the tests. So H2 is rejected.

Conclusion

This study examines whether the market views joint venture announcements by a firm as value enhancing by taking a sample of 90 such announcements during the period of 2008-10. An event study is conducted and abnormal returns are computed using standardized market model. The result clearly suggests that there is a positive and significant reaction by the stock market to the announcement of joint ventures. Thus, the Indian stock market rewards joint venture investment decisions and views them as enhancing shareholder value. The study also analyzes whether there

is significant difference between market reaction of joint venture with domestic partner and with international partner. An independent samples t-test and Mann-Whitney test confirmed that there is no significant difference between market valuation of domestic and international joint ventures.

Given this position, it would be interesting to see what the investor's reaction would be to the actual implementation of these announcements as this study only captures the announcement impact. Future research could also be focused to include cross-sectional analysis of abnormal returns against a set of independent variables which might be expected to influence the magnitude and sign of abnormal returns. These independent variables could be firm size, project size, location, etc. Industry –wise analysis can also be performed to find the market value of joint ventures in different industries.

REFERENCES

Blose, L.E., Shieh, J.C.P. (1997), 'Tobin's q-ratio and market reaction to capital investment announcements, *Financial Review*, 32, pp. 449-476.

Burton, M.B., Lonie, A.A. and Power, D.M. (1999), 'The stock market reaction to investment announcements: The case of individual capital expenditure projects', *Journal of Business Finance and Accounting*, 26, 5&6, pp. 681-708.

Chang, S.C. and Huang, P.C. (2002), 'Corporate multinationalism, organizational learning, and market reaction to international joint ventures: Evidence from Taiwan', *Global Finance Journal*, 13, pp. 181-194.

Chen, S.S., Ho, K.W., Lee, C.F. and Yeo, G.H.H. (2000), 'Investment opportunities, free cash flow and market reaction to international joint ventures', *Journal of Banking & Finance*, 24, pp. 1747-1765.

Chen, H., Hu, M.Y. and Shieh, J.C.P. (1991), 'The wealth effect of international joint ventures: The case of US investment in China', *Financial Management*, 20, pp. 31-41.

Chung, I.L., Koford, K.J. and Lee, I. (1993), 'Stock Market Views of Corporate Multinationalism: Some Evidence from Announcements of International Joint Ventures', *The Quarterly Review of Economics and Finance*, 33, 5, pp. 275-293.

Contractor, F. and Lorange, P. (1988), Cooperative Strategies in International Business, Lexington Books.

Frohls, M.A., Keown A., McNabb, M. and Martin, J. (1998), 'Growth Opportunities, Corporate Governance and the Market Value of Multinational Joint Ventures' *Managerial and Decision Economics*, 19, 1, pp. 13-29.

Field, A., (2006) Discovering Statistics Using SPSS, Second Edition, Sage Publications.

Gupta, A. and Banga, C. (2009), 'Capital Expenditure Decisions and the Market Value of the Firm', *The IUP Journal of Applied Finance*, 15, 12, pp. 5-17.

Hu, Michael Y., Haiyang Chen and Joseph C Shieh (1992), "Impact of U.S. – China Joint Ventures on Stockholders' Wealth by Degree of International Involvement," *Management International Review*, 32, pp. 135-48.

Irwanto, A., Vetter, D.E. and Wingender, J.R. (1999), 'The influence of U.S. joint ventures in Asia on shareholder wealth', *Journal of Financial and Strategic Decisions*, 12, 1, pp. 33-40.

Jones, E. and Danbolt, J. (2004), 'Joint Venture Investments and the Market Value of the Firm', *Applied Financial Economics*, 14, 18, pp. 1325-1331.

Koh, J. and Venkatraman, N. (1991), 'Joint venture formations and stock market reactions: An assessment in the information technology sector, *Academy of Management Journal*, 34, pp.869-892.

Lee, I. and Wyatt, S.B. (1990), 'The effects of international joint ventures on shareholder wealth, *The Financial Review*, 25, 4, pp. 641-649.

McConnell, J.J. and Nantell, T.J. (1985), 'Corporate combinations and common stock returns: The case of joint ventures', *Journal of Finance*, 40, pp. 519-536.

Merchant, H. and Schendel, D. (2000), 'How do international joint ventures create shareholder value?' *Strategic Management Journal*, 21, 7, pp. 723-737.

Mohanram, P. and Nanda, A. (1998), 'When do joint ventures create value?' available at http://papers:ssrn.com/so13/papers.cfm?abstract_id=7382&rec=1&scrabs=485668, accessed on 28th January, 2012 at 6.30 p.m.

Reuer, J.J. and Koza, M.P. (2000), 'Asymmetric information and joint venture performance: Theory and Evidence for domestic and international joint ventures' *Strategic Management Journal*, 21, 1, pp. 81-88.

Woolridge, J.R. and Snow, C. (1990), 'Stock market reaction to strategic investment decisions', *Strategic Management Journal*, 11, 5, pp. 353-363.