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Family Ownership and its impact on diversified Indian Business Group Ownership

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Family Ownership and its impact on diversified Indian Business Group Ownership

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Dedication,

This is dedicated to my father, Late Shri Roop Narin Vishwakarma

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Abstract

By using the data on Indian firms on the BSE 500 Index during the period 2005-2006, we find that family ownership affects group affiliated firms more positively than standalone firms. Group affiliated firms underperform initially as compared to standalone firms but after certain threshold of family ownership their performance becomes better than standalone firms. Within diversified Indian Business Group, family ownership affects highly diversified affiliates positively. Effect of family excess vote holdings and involvement of family management is found to be insignificant. We also find that block holders affect firm value negatively. Our results are in contrast with the existing literature of diversification and family ownership on developed market especially, US and UK. Some of our results are consistent with those of Khanna and Palepu (2000). This paper supports most of the findings of Khanna and Palepu based on more complete and reliable data set. In addition, it shows that the superior performance of highly diversified groups is related to greater family ownership.

In the second essay, we examined the issues related to market reaction on IT outsourcing announcement and firm characteristics which induce firms to outsource. We find that IT outsourcing has a strong positive effect on stock prices of announcing firms, especially for longer event windows. We also find that the higher the pre-announcement inefficiency of a firm (as evidenced by lower asset turnover ratios, higher operating cost to sales, and higher cost of good sales to sales), the greater the positive price reaction to the outsourcing announcements. We also find that firms with higher information asymmetry problems (firms in the service industry) elicit a higher positive market reaction at the time of outsource announcement. Finally, firms that are likely to outsource are cost inefficient, and/or are cash needy.

Keywords: Family ownership, diversification, Indian Business Group, IT, outsourcing.

Essay 1

Family ownership and its impact on diversified Indian Business Group

1. Introduction

Indian business consists of state and privately owned firms. Privately owned firms are classified in four segments---Indian Business Groups, Private Standalone-Indian, Foreign Business Houses, and Private Standalone-Foreign (see Appendix). An Indian business group is a collection of affiliates which are often publicly traded independent of each other. Although family ownership prevails in standalone firms as well, family-ownership is predominant with respect to Indian business groups. Large business groups in India are mostly family owned firms started by the family founder and then passed on from one generation to the next.

In emerging markets, including India, information asymmetry and agency conflicts are likely to be more pronounced than in advanced markets. In this environment, the families play a pivotal role in the management of its affiliates by owning a large block of shares, placing family directors on the board, by using excess voting rights through crossholdings, or a combination of all three. Families enjoy several advantages, including capital, labor, and product markets over non-family firms. With a long history and name recognition of the owner-family, affiliated firms are better able to float new product, attract a better-qualified labor force, and gain easier access to financial markets. In additions, in India, as in many emerging countries, where political connections appear to be an integral part of doing business, family owners receive larger information advantage and less bureaucratic hurdles.

Family ownership has disadvantages as well. First, in the context of the Indian regulatory environment, where disclosure rules are not strictly followed or implemented, it is possible for the family to exercise unwarranted control over the group affairs that might be inconsistent with the value maximization goal. Second, in a conflict between minority shareholders and the controlling family, the family is likely to put its own interest before minority shareholders. Third, the family may contribute to the poor performance of an affiliate by retaining (or appointing) a manager who happens to be a family member but who lacks the expertise or talent to carry out managerial responsibilities in a competent manner. Finally, entrenchment, sub-optimal investment, 'socialism' in group, rent seeking behavior among heads of firms, which are common problems in diversified conglomerates, can become more severe when such a conglomerate is headed by a family.

The primary purpose of this paper is to answer the following two questions: 1) What role does family ownership play in explaining the performance of a group affiliate or a standalone firm? 2) Does the performance of a group affiliate relate to the extent of the group's diversification, and if so, can this relation be explained by the extent of family ownership?

Khanna & Palepu (2000) have examined these two issues. However, we believe that a reexamination of their findings is justified for the following reasons. First, Khanna and Palepu's (2000) sample consists of Indian firms in the year 1993. Considering the fact that the economic reforms that have contributed to the unprecedented economic growth of modern India started in 1991, it is safe to say that Indian firms in 1993 did not experience the full benefit of reforms. Our sample on the other hand contains firms in 2006, 15 year after the economic reform was introduced. Second, until very recently, necessary data needed to test relevant hypotheses were not available in a refined form. Subsequent to changes in the disclosure rules in India during 2005-2006, much of the reported data in filings to SEBI

(Securities and Exchange Board of India) have become more precise and reliable. For example, before 2005-2006 the data on family ownership and corporate holding were not reported, forcing Khanna and Palepu to rely on imprecise data or proxies. Third, Villalonga and Amit (2006) suggest that the family ownership effect must be viewed from three dimensions—actual stockholding, the extent of control, and extent of involvement in managing the firm. We contribute to literature by examining the role of the family in terms of all three dimensions. Fourth, we will investigate the role of family ownership in firm performance as the extent of diversification of the group changes. Due to the problem of data availability mentioned above, Khanna and Palepu were not able to perform this type of analysis. Such data are now commercially available.

The paper proceeds along following lines. Section 2 presents the literature review. Section 3 discusses hypotheses and methodology, while Section 4 presents results. Section 5 concludes.

2. Literature Survey

2.1. Family Ownership and Firm Performance

Several authors (Shleifer and Vishny, 1986, Holderness and Sheehan, 1988, Morck, Shleifer and Vishny, 1989, Denis and Denis, 1994, Anderson and Reeb, 2003, and Villalonga and Amit, 2006) have examined the relationship between large shareholders (including family ownership) and firm performance . These studies have produced mixed results in that some studies find the relation to be positive, while others find this to be negative.

In developing their model, Shleifer and Vishny (1986) argue that in a corporation with many small shareholders, no single stockholder has an incentive to monitor the management. They conclude that having a large minority shareholder solves the problem of monitoring incentive. Holderness and Sheehan (1988) find that family firms' performance is inferior to that of non-family firms.

Anderson and Reeb (2003) examine S&P500 firms and find that family firms perform better than non-family firms. They also find that firm performance is better when a family member (rather than an outsider) serves as CEO. As such, they conclude that founding family ownership is not a less effective organizational structure. They suggest that in well-regulated and transparent markets, family ownership in public firms reduces agency problems. They examine the effect of family ownership and family management but do not distinguish ownership from control.

Villalonga & Amit (2006) contend that to understand the difference between family firms and non-family firms fully, one must distinguish the effect of family ownership, family control, and family management on firm value. They argue that ownership, control and management enter into firm value independently as well as in combination. Family ownership can be seen as an effective way of reducing agency problem arising from owner-manger conflict. But increase in family ownership with better performance of firms can also be seen as endogenous results: family will likely continue its control when firms are profitable. Control measures by large shareholders are generally seen by small shareholders as a way of extracting private benefits. Incentive of expropriation increases when family firms are the largest shareholders with control mechanism, but their incentive to monitor also increases with increase of shareholding. Similarly, family management (having a family member as CEO) can reduce the owner- manager conflict. Thus, a combination of the family

being the largest shareholder of a firm and a family member simultaneously serving as its CEO bring to bear a positive impact on the firm value.

Several studies examine the relation between family ownership and firm performance using non-US data, including Stangeland and Yeung, 2000, Faccio, Lang and Young, 2001, Cornqvist and Nilsson, 2003, and Barontini and Capiro, 2005. Stangeland and Yeung (2000) find that family ownership negatively affects firm performance in Canada. Faccio, Lang and Young (2001) conclude that it is the family ownership in loosely controlled firms that caused the East Asian crisis. They argue that controlling shareholders extract high returns from projects that yield negative returns to the corporation. Loosely affiliated family firms pay much lower dividend to their shareholders, thus increasing the chances of shareholder wealth expropriation. Cornqvist and Nisson (2003) report that Swedish firms in which families control minority shareholders are associated with largest discounts . In contrast to above results, Barontini and Capiro (2005) find that family ownership positively influence firm performance for firms in continental Europe (excluding Ireland and UK). Positive impact continues even when controlling stake is held by descendents as long as the founder is still alive and sits on the board as non-executive directors. However, firm performance of descendant CEO is indistinguishable from that of a non-family firm.

Khanna and Palepu (2000) and Sarkar and Sarkar (2000) analyze performance of affiliates of diversified Indian business groups relative to unaffiliated firms. They also find that insider ownership (an indirect proxy for the family ownership) is positively related to the performance of group affiliates as well as unaffiliated firms. Sarkar and Sarkar (2000) using a data over the 1995-96 period find that firm value increases once the directors holding increases more than 25%. They also find similar effect when foreign holdings or corporate holdings exceed 25%. Using an interaction term they find no significant difference between the effects of insider ownership and corporate holding on group and standalone companies.

2.2. Family Ownership, Diversification, and Firm Performance

A vast body of finance literature examines the costs and benefits of diversification. The literature sites two primary benefits of diversification: "more money" and "smarter money" effect. More money effect proposes that integration of this sort may allow more total external financing to be raised than could be raised by the individual business operating as standalone firm. Smarter money argument proposes that the internal capital market becomes more efficient with diversification.

Lewellen (1971) argues that coinsurance across imperfectly correlated divisions increases the debt capacity of integrated firms. Hadlock, Ryngaert and Thomas (2001) argue that diversification helps to alleviate adverse selection problems. Scharfstein and Stein (1994), Li and Li (1996), Stein (1997) and others also argue in favor of smarter money theory. Graham, Lemmon and Wolf (2002) and Billet and Mauer (2003) find that diversification creates wealth.

Diversification can increase the cost in terms of agency conflict between firms CEO and group owners as suggested by Rajan , Servaes and Zingales (2000) and Scharftein and Stein (2000). The cost may also come in the form of rent seeking behavior of CEOs (Milgoram (1988), Meyer, Milgoram and Roberts (1992), Shleifer and Vishny (1989), Edin and Stiglitz (1995)). Diversified group can make inefficient investment decisions and tends to have a more "socialist" outcome in which weaker divisions (or firms) may get relatively more than it would under the first best case (Rajan Servaes and Zingales (2000), and Scharfstein and Stein (2000)).

Khanna & Palepu (2000) examine the relation between diversification and family ownership in the context of India. Specifically, they compare the performance of affiliates of diversified Indian business groups relative to unaffiliated firms. Khanna and Palepu (2000) report that firm performance initially decline with group diversification and after certain threshold limit of diversification firm performance increases again. This result is in contrast to studies on US firms which report that the firm value decreases with group diversification. According to Khanna and Palepu, better access to international sources of capital afforded to group affiliated firms in India explains the differences in results. Additionally, they note that internal capital market does not affect affiliated and unaffiliated firms differently. Emerging markets like India are known for severe informational asymmetry, agency problem and lack of proper functioning institutions. The missing functions of institutions make it difficult for both stand alone or smaller groups to deal with external market. However, large groups are capable of replicating the function of intermediating institutions within the organization For smaller firms such replication is difficult or costly. In addition, they propose that the largest and most diversified business groups excel in performance because they can reap the benefits of political connections, especially in India where business is controlled by government through licensing.

3. Hypothesis

3.1. Family ownership and performance of group affiliates and Standalone firms

Sarkar & Sarkar (2000) find that there is no significant difference in the effect of insider ownership in group and standalone firms. Khanna & Palepu (2000), find that insider

ownership (a proxy for family ownership) is positively related to the performance of group affiliates and unaffiliated firms alike.

The presence of family ownership is beneficial to both affiliated and standalone firms. First, family ownership continues to exist from one generation to the next and as such have a long-term business horizon. Second, families are politically well connected and often derive benefits from the government that may not be accessible to other type of owners. Third, the families are revered by many because of their long-standing past as well as many social, religious, and charity activities in which the family owners are often engaged. Finally, a product originating from a family-owned firm is perceived by most Indians as seal of quality.

In this paper, however, we posit that while family ownership is beneficial to both standalone and group-affiliated firms, it provides greater benefits to the latter group, especially in the business environment prevailing in India. Families that own groups are inherently different from those that own standalone firms. A group the culmination of what once was a standalone firm and thus serves as evidence of a successful operation that has withstood the test of time. In other words, families that own groups have been in existence for much longer than the families that own standalone firms, and therefore have to be consistently better performers, generation after generation. Thus, these families accumulate better managerial skills, command a superior brand loyalty, and wield a stronger political muscle.

The family as owner of a group provides an additional benefit that is not available to the family owning a standalone firm. In an economy, where financial intermediaries are not fully developed, external financing is often difficult. In the context of a group, the families often play the role of a financial institution, making it possible for the affiliate to avoid being dependent on external financing alone. Although a non-family group affiliate enjoys some of

the similar advantages over a standalone firm, when compared to a family group affiliate the former is deficient in that it lacks the family history, possesses less political connection, exhibits lesser incentive alignment, and displays a shorter investment horizon (because of continuing changes in the management and ownership). This premise permits us to develop the following hypothesis.

H-1: Family ownership affects performance of group affiliates more positively than standalone firms.

3.2. Performance of group affiliates and extent of diversification

Khanna & Palepu (2000) find a non-linear relation between extent of diversification and firm value of affiliates for Indian Business Group. They find that firm performance initially decline with group diversification and after a certain threshold firm value increases with the group diversification. They propose that the largest and most diversified business groups excel in performance because they can reap the benefits of political connections, especially in India because businesses are controlled by government through licensing. In India, where mature and efficiently functioning intermediaries might not exist at an adequate level, raising funds externally poses a problem. The problem diminishes as the groups become larger, making it easier for them to tap the domestic as well as international markets for external funding. This function is not easily replicated by standalone and affiliates of smaller groups.

As mentioned in conjunction with Hypothesis I, we posit that families that own larger groups are inherently different from the families that own standalone firms and smaller groups. We argue that the families that own larger groups have proved to be more successful

business enterprises over a longer period of time and therefore possess, among other things, bigger political muscle and superior name recognition. Based on this premise, we further argue that the findings of Krishna and Palepu (2000) of superior performance of larger groups might be explained by higher family ownership of these groups. Thus, we hypothesize

H-2: The superior performance of larger groups are related to the extent of family involvement in managing these groups..

4. Data & Methodology

4.1. Data

We confine our sample search to group affiliates and standalone private firms in the BSE 500 (Bombay Stock Exchange) index during 2005-2006. We exclude Government-owned Enterprises, and Joint Sector Industry because their goals are different from those of the firms in privately-owned industries. We exclude Foreign Business Houses because our objective in this paper is to examine the impact of family ownership on the firm value.

We choose 2005-2006 because new disclosure rules became effective this year making the available data more reliable. Under new regulation firms have to disclose detailed information on corporate governance, equity holdings, and equity holding patterns. For example, equity holdings are now separated by promoters[1] and non-promoters[2] holdings. Promoters' holding are further categorized into Indians and foreigners, while non-promoters

[1] All individuals and their relatives, corporate bodies/trusts/partnership or any other type of entity, institutions, non-institutions who promoted/ founded the company and/ or who acquired the company, and are presently in 'control' of the company.

[2] Non-Promoters are defined by SEBI (Securities and Exchange Board of India) as shareholders with no relation with the firm other than via equity holdings this includes institutions, non-institutions, and individuals.

holdings are separated by institutional and non-institutional holdings. Our sample consists of 214 firms which we obtain form the PROWESS database available through the Centre for Monitoring the Indian Economy (CMIE).

We obtain various accounting and financial data from PROWESS. We hand-collect family ownership data (family ownership percentage, CEO and Chairman of firm, and family membership on the board) from respective firm's annual reports. Since we are able to hand-collect the necessary proxies for family involvement in "management" for only 175 firms, we limit our analyses to this smaller sample when we include all three dimensions of ownership as defined by Villalonga and Amit (2006).

4.2. Methodology

4.2.1. Impact of Family Ownership on Firm Value

To test for the possible impact of family ownership, family excess vote holdings and family management, we employ the following basic model for all our tests:

$$\text{Tobin } q \text{ or ROA} = \beta_0 + \beta_1(\text{GROUP}) + \beta_2(\text{FAM\%}) + \beta_3(\text{VOTE}) + \beta_4(\text{MGMT}) + \beta_5(\text{BLOCK\_NP}) + \beta_6(\text{DIR}) + \beta_7(\log \text{SALES}) + \beta_8(\log \text{AGE}) + \beta_9(\text{BROAD\_IT}) + \beta_{10}(\text{BROAD\_CONST}) + \beta_{11}(\text{BROAD\_OTHER}) + \varepsilon \quad \ldots\ldots (1)$$

To test for the possible differential impact of family ownership on group affiliates and standalone firms, we employ equation 1 and add on interaction term for each of the three dimensions of ownership as suggested by Villalonga and Amit (2006). The resulting regression model we test is as follows:

Tobin *q* or ROA = β_0 + β_1(GROUP) + β_2(FAM%) + β_3 (VOTE)+ β_4 (MGMT) + β_5 (*INTERACTION BETWEEN GROUP AND EACH DIMENSION OF OWNERSHIP*) + β_6 (BLOCK_NP) + β_7 (DIR) + β_8 (log SALES) + β_9 (log AGE) + β_{10} (BROAD_IT) + β_{11} (BROAD_CONST) + β_{12} (BROAD_OTHER) + ε ..... (2)

As stated before, we employ the smaller sample (175) when we include MGMT and DIR in any equation. The variables are defined below.

Firm Performance: Consistent with Bebchuk et al (2000), Khanna and Palepu (2000), Barontini and Caprio (2005) and Villalonga and Amit (2006). and Villalonga and Amit (2006), we use **Tobin's *q*** as proxies for market performance and **ROA** for operating performance**.**

Tobin's q = [market value of equity + book value of preferred stock + book value of debt]/ [(book value of assets)] (We calculate market value of equity using closing stock prices on the last trading day of the year.)

ROA = [(net income + interest) * (1-tax rate))]/(total assets)

These definitions of Tobin's q and ROA are not without limitations. Tobin's *q* varies positively with the growth of the firm. This relation might introduce biases in results when comparing firms at different stages of their life cycle. If firm A is in the early stage of the life cycle and B is in the later stage, the q of A is likely to be higher than that of firm B. In this case, the differential q is due the difference in the age of the two firms and might be completely unrelated to the degree of family ownership. The accounting treatment in India

leads to additional downward bias in ROA. For example, Indian accounting practice recognizes investments at cost lower than market value, and recognizes profit only when dividends are received for inter-corporate investments (Khanna and Palepu, 2000). In spite of the limitations, we use these two measures since they have been frequently used by researchers.

GROUP = This is a dummy variable which takes on a value one when the firm is affiliated to a group, 0 otherwise.

FAM% = Percentage of all classes of shares held by the family as a group or as an individual. For the purpose of measuring family holdings, we follow the Villalonga and Amit (2006) approach by considering all co-trustees and directors associated with the family as family members. The assumption is that if these people are beneficiaries of the family, then their incentives are also aligned with those of the family. This figure is available through equity holding information disclosed by firm under the category Promoters- Individual and Hindu Undivided Family.

VOTE= Percentage of votes owned by the family in excess of the percentage of shares they own;[3]In Indian context excess vote holding over share holding can be calculated by taking a difference of shareholding of corporate bodies (promoters) and shareholding of Individuals and Hindu Undivided Family (HUF). Shareholdings

[3] Villalonga and Amit (2000) describe that excess voting may come from various sources: multiple share classes, pyramids, cross-holdings, and voting agreements. Multiple share classes are voting structures such that the firm has issued two or more classes of stock with differential voting rights. Pyramids are control structures whereby the family holds shares in the firm through one or more intermediate entities such as trusts, funds, foundations, limited partnerships, holdings, or any other form of corporation of which the family owns less than 100%. Cross-holdings are control structures in which the firm owns shares in a corporation that belongs to the family's chain of control in the firm. Voting agreements are pacts among shareholders that result in the family's holding voting power over a larger number of shares than what it owns with investment power.

under corporate bodies (promoter) include all the shares held by family or friends of family indirectly through institutions or non-institutions.

MGMT = This is a dummy variable which takes on a value of one if CEO is a family member, 0 otherwise;

Control Variables:

SALES: The natural log of Sales. (Sales indicate the future opportunities as well as present opportunities of firm. We control for sales because momentary sales can influence firm value.)

AGE: The natural log of years since the firm's inception. (Age of the firm can affect the firm value since older firms can provide entry barrier to new firms. However, starter firms with new concepts and better technology can also grab the market.)

DIR: Number of non-family outside directors (i.e., directors that are not managers as well, either active or retired), divided by the total number of directors on the Board. Weisbach (1988) suggests that proportion of outside directors act as proxy for board independence and we expect that higher the degree of board independence, the stronger the monitoring role the board can provide.

BLOCK_NP: The percentage of shares held by non-promoter block holders is defined by SEBI as shareholders with no relation with the firm other than via equity holdings (This group includes institutions, non-institutions, and individuals. The presence of block holders can influence the management and control of family.

Non- promoters block holders can enhance or reduce the effectiveness of family control. Demsetz and Lehn (1985) suggest that a large shareholders, unaffiliated with management, can monitor management well which decreases the chances of expropriation. Shleifer and Vishny (1986) argue that unaffiliated large shareholders can also facilitate changes in control. However, Anderson and Reeb (2003), Villalonga and Amit (2006) on US market and Sarkar & Sarkar (2000), Kumar (2004) and Khanna & Palepu (2000) on Indian markets, find coefficient of non-promoters block holders negative. Non-promoter block holders can also lead to conflict between institutional interest and shareholders' interest. At times, even nominees of institutional investors are perceived as conflict-makers. For example, Hindustan Lever Ltd, an Indian blue chip company, simply refused to induct anybody on its board from institutional investors

Industry Control Variables: Firm value differs systematically on the type of industry. To control potential differences among industries, we use four control variables: **Broad_Manu** (control for Manufacturing industry); **Broad_IT** (control for IT Industry); **Broad_Const** (control for Construction industry); and **Broad_Other** (control for all other industry).

4.2.2. Family Ownership and Extent of Group Diversification

To examine the impact of diversification on the performance of business groups, we use the following OLS regression.

Tobin *q* or ROA = β_0 + β_1(FAM%) + β_2(VOTE)+ β_3 (MGMT)+ β_4 (BLOCK_NP) + β_5 (DIR) + β_6 (IND#) + β_7 (IND# * IND#) + β_8 (log

SALES) + β_9 (log AGE) + β_{10} (BROAD_IT) + β_{11} (BROAD_CONST) + β_{12} (BROAD_OTHER) + ε .....(3)

Regression 3 adds IND# and IND# * IND# to Regression 2 minus the interaction term**.** IND# * IND# is used to see if a non-linear relationship exists**.**

IND#: It measures the number of industries in which the group is involved.[4]

We divide our sample by the extent of diversification based on the results we receive by further analysis of the regression using Equation 3 above.

Tobin *q* or ROA = β_0 + β_1(FAM%) + β_2(VOTE)+ β_3 (MGMT) + β_4 (BLOCK_NP) + β_5(DIR) + β_6(DIV2_7) + β_7 (DIV8+) + β_8 (log SALES) + β_9 (log AGE) + β_{10} (BROAD_IT) + β_{11} (BROAD_CONST) + β_{12} (BROAD_OTHER) + ε .....(4)

Regression 4 adds the following variables to Equation 3 replacing IND# and IND# * IND#:

DIV1: It is a dummy variable which is equal to 1 if it is standalone firm or when the group concentrates in one industry;

DIV2_7: It is a dummy variable which is equal to 1 if group is involved in two to seven industries, it is zero otherwise.

[4] CMIE data provides two types of industry coding: CMIE codes and NIC codes (which is similar to SIC codes for US firms). We use the broad category of NIC codes to determine the number of industries participated in by a business group.

DIV8+: It is a dummy variable which is equal to 1 if group is involved in eight or more industries, it is zero otherwise.

Finally, in order to examine the impact of the broader definition of ownership---- ownership percentage, control, and management---- on the value of an affiliate depending on the extent of diversification, we use the following three regressions.

$$\text{Tobin } q \text{ or ROA} = \beta_0 + \beta_1(\text{FAM\%}) + \beta_2(\text{VOTE}) + \beta_3(\text{MGMT}) + \beta_4(\text{BLOCK\_NP}) + \beta_5(\text{DIR}) + \beta_6(\log \text{SALES}) + \beta_7(\log \text{AGE}) + \beta_8(\textit{INTERACTION-1}) + \beta_9(\textit{INTERACTION-2}) + \beta_{10}(\text{BROAD\_IT}) + \beta_{11}(\text{BROAD\_CONST}) + \beta_{12}(\text{BROAD\_OTHER}) + \varepsilon \ldots\ldots \quad (5)$$

INTERACTION: To explore the issue of differential impact of family ownership, family excess vote holdings, and family management on the value of an affiliate depending on the extent of diversification, we interacted a dummy variable, DIV2_7 & DIV8+ with each variable. Hence, we will have following variables as our interaction term:

1. ***INTERACTION-1*= (DIV2_7 * FAM%), (DIV2_7 * VOTE) and (DIV2_7 * MGMT) & *INTERACTION-2*= (DIV8+ * FAM%), (DIV8+ * VOTE), (DIV8+ * MGMT) :** The coefficients on the interaction terms picks up the difference, if any, in the effect of family ownership, family excess vote holding, and family management between affiliate of less diversified and affiliate of highly diversified groups.

Due to unavailability of family management (MGMT) data for all the firms, we get results for only 175 observations. Results when using all 214

firms but without the MGMT interaction term are available on request from the author.

5. Results and Analysis

5.1. Summary Statistics

TABLE 1: This table reports descriptive statistics of firms affiliated with diversified Indian business groups relative to those firms that are not affiliated. P/B is an approximation to Tobin's q, measured as [market value of equity + book value of preferred stock + book value of debt]/ [(book value of assets)] , where we calculate market value of equity using closing stock prices on the last trading day of the year. ROA is measured as [(net income + interest) * (1-tax rate))]/(total assets). Sales and Assets are in Rupees millions. Age reflects the number of year since incorporation. Family ownership stake is the percentage of all classes of shares held by the family as a group or as an individual. Family excess vote holdings are the percentage of votes owned by the family in excess of the percentage of shares they own. Non-promoters shareholdings is the percentage of shares held by non-promoter is defined by SEBI (Securities and Exchange Board of India) as shareholders with no relation with the firm other than via equity holdings (This group includes institutions, non-institutions, and individuals). Less diversified (Div2_7) is a dummy variable which is equal to 1 if group is involved in two to seven industries, it is zero otherwise. Highly diversified (Div8+) is a dummy variable which is equal to 1 if group is involved in eight or more industries, it is zero otherwise. For Panel A: The first two columns report means for group affiliates and non-group firms; significance levels are based on two-tailed difference of mean t-tests. The last two columns report medians of group affiliates and non-group firms; significance levels are based on Wilcoxon signed-rank tests of the difference of medians. For Panel B: All significance levels refer to comparisons of group affiliates of different group diversification and group size categories of non-group firms. Two-tailed t-tests are used for the pair-wise, comparision of means, and Wilcoxon signed-rank tests are used for the pair-wise comparisons of median. The sample contains Indian private firms (group or standalone) from manufacturing and service industry listed in Bombay Stock Exchange (BSE-500) during year 2005-2006.

PANEL: A – Summary Statistics & Ownership Structure

	Mean		Median	
	Group Affiliates	Non-Group Affiliates	Group Affiliates	Non-Group Affiliates
Summary Statistics				
Number	153	63	153	63
SALES (in Rs. Millions)	27764.82	6822.23[a]	9283.60	2803.70[a]
ASSETS (in Rs. Millions)	33650.37	8240.09[a]	12911.80	4023.50[a]
AGE (YEARS)	35.36	21.43[a]	28	18[a]
P/B	5.434	5.539	4.770	4.140
ROA	0.085	0.097	0.074	0.085
Ownership Structure				
FAMILY OWNERSHIP (%)	7.737	27.182[a]	1.290	23.290[a]

Table 1, cont.

FAMILY EXCESS VOTE HOLDING	29.392	6.915[a]	32.230	0.000[a]
NON-PROMOTERS HOLDING	50.476	54.325	52.540	55.730

PANEL: B - The Extent of Diversification by Indian Business Groups

Affiliation	Number of Firms	Number of Groups	Total Assets (Rs. Millions)	Percentage of Sample Assets	P/B		ROA	
					Mean	Median	Mean	Median
Full Sample	214		5600332.00	100.00	5.465	4.675	0.088	0.076
Non-Group	63		519125.60	9.27	5.539	4.140	0.097	0.085
All Groups	151	103	5081207.00[a]	90.73	5.434	4.770	0.085	0.074
one	43	39	930278.10[a]	16.61	5.925	5.840	0.098	0.084
less(2-7)	83	57	3254434.00[b]	58.11	4.897	4.410	0.077	0.073
high(8+)	25	7	896494.40[a]	16.01	6.373	5.200	0.087	0.063

[a] **significant at 1%** [b] **significant at 5%** [c] **significant at 10%**

Panel A of Table 1 reports the summary statistics of firm attributes of group affiliates and non-group Affiliates. The group affiliates are significantly larger in terms of sales and assets and they are older in age as compared to unaffiliated firms. The mean (median) sales of group affiliated firms in year 2005-2006 is 27764.82 (9283.60) million Indian rupees which is 307% (231.11%) times bigger than unaffiliated firm. Affiliated firms mean (median) age is 35 yrs (28yrs) which is 14 years (10 years) older than unaffiliated firms. Our univariate test shows that, despite these differences in sales, assets and age there is no significant difference in mean and median values of P/B and ROA of affiliated and unaffiliated firm.

Panel A also shows that family ownership is much lower in an affiliate than in a standalone firm: 7.7% vs. 27.18%. However, in terms of excess vote holdings, a family exercises much greater control in affiliates than in standalone: 30% vs. 7%. The average asset size of a group affiliate is more than four times as big as a standalone firm.

Panel B of Table 1 compares some characteristics between less diversified and more diversified groups. The univariate analysis suggests that firms which are less diversified (2-7) has P/B value of 4.9 compared to P/B of 5.5 for standalone firms. P/B of a more diversified (8+) group, however, is larger than that of a standalone firm (6.4). ROAs show a similar pattern. Pair wise comparison tests of group affiliates of different diversified groups and standalone firms as well non-diversified group affiliates show that there is no statistically significant difference in their mean or median P/B or ROA. However, pair-wise comparison tests show that there are significant differences in asset sizes among the firms in 3 categories: less diversified, more diversified groups, and standalone firms. One reason for the total asset size of the less diversified group being the highest is that this group dominates in number in the sample.

5.2. Impact of Family Ownership on Group Affiliates and Standalone

TABLE 2: This table reports OLS regressions examining differential impact of family ownership on group affiliates and standalone firms' performance. Dependent variable is P/B in panel A which is an approximation to Tobin's q. This is measured as [market value of equity + book value of preferred stock + book value of debt]/ [(book value of assets)] , where we calculate market value of equity using closing stock prices on the last trading day of the year. Panel B uses ROA as dependent variable, measured as [(net income + interest) * (1-tax rate))]/(total assets). The independent variables are a set of firm-specific attributes, family ownership, excess vote holdings, group dummies, and industry dummies. Family (Non-family) firms refer to those firms with (without) one or more family members are officers or directors, own 5% or more of the firm equity, either individually or as a group. Family ownership stake (FAM%) is the percentage of all classes of shares held by the family as a group or as an individual. Family excess vote holdings (VOTE) is the percentage of votes owned by the family in excess of the percentage of shares they own. Non-promoters block holders (BLOCK_NP) shareholdings is the percentage of shares held by non-promoter block holders is defined by SEBI (Securities and Exchange Board of India) as shareholders with no relation with the firm other than via equity holdings (This group includes institutions, non-institutions, and individuals). The group dummy (GROUP) measures membership in a diversified group. The sample contains Indian private firms (group or standalone) from manufacturing and service industry listed in Bombay Stock Exchange (BSE-500) during year 2005-2006. (Refer to Equation 2.)

Included observations: 214	(Panel: A) Dependent Variable: P/B		(Panel: B) Dependent Variable: ROA	
Variable	Coeff.	Coeff.	Coeff.	Coeff.
C	5.956[b]	5.745	0.020	0.028
	(0.018)	(0.027)	(0.614)	(0.474)
GROUP	-1.808[b]	0.034	-0.045[a]	-0.037[a]
	(0.052)	(0.967)	(0.002)	(0.003)
FAM%	-0.027	0.012	0.000	0.000

Table 2, Contd.

	(0.276)	(0.589)	(0.420)	(0.993)
(GROUP)*(FAM%)	0.084[a]		0.001[c]	
	(0.007)		(0.061)	
(GROUP)*(VOTE)		-0.013		0.001[c]
		(0.705)		(0.092)
VOTE	0.007	0.007	0.000	-0.001
	(0.719)	(0.849)	(0.418)	(0.216)
BLOCK_NP	-0.043[b]	-0.046[b]	-0.001[b]	-0.001[b]
	(0.021)	(0.016)	(0.024)	(0.012)
LOG(SALES)	0.313[c]	0.260	0.008[a]	0.008[a]
	(0.095)	(0.170)	(0.007)	(0.009)
LOG(AGE)	-0.035	-0.105	0.016[a]	0.015[b]
	(0.927)	(0.786)	(0.008)	(0.015)
BROAD_CONST	1.273	0.979	-0.030[b]	-0.033[b]
	(0.179)	(0.306)	(0.044)	(0.024)
BROAD_IT	0.515	0.524	0.072[a]	0.071[a]
	(0.500)	(0.501)	(0.000)	(0.000)
BROAD_OTHER	-0.362	-0.440	-0.011	-0.008
	(0.583)	(0.518)	(0.294)	(0.445)
R-squared	0.098	0.066	0.285	0.282
Adjusted R-squared	0.053	0.020	0.249	0.247
Durbin-Watson stat	1.685	1.682	1.677	1.684
F-statistic	2.201[b]	1.430	8.075[a]	7.982[a]
	(0.019)	(0.169)	(0.000)	(0.000)

[a] **significant at 1%** [b] **significant at 5%** [c] **significant at 10%**

Table 2 reports the impact of family ownership on the performance of group affiliates and standalone firms based on Equation 2 stated above. Panel A uses P/B while Panel B uses ROA as the dependent variable. The most noteworthy result reported in Panel A is that although initially group affiliates perform poorer than standalone firms, the gap narrows as family ownership percentage increases. For standalone firms, the impact of every 1% increase of family ownership on P/B is -0.02%. However, for group affiliates, this impact is about 0.084%. This difference in a sample, where average P/B is 5.45, is economically and statistically significant. In other words, the value of a group affiliate increases by 0.06% (= -0.02706 +0.083553) with every 1% increase of family ownership. This finding is in contrast to the findings of Khanna and Palepu (1999) and Sarkar and Sarkar (2000). Both studies

report that the effect of insider ownership is not significantly different between group affiliates and standalone firms. Figure 1 shows that after 21.64% of family ownership, groups perform better than standalone firms. Table 2 also reports the interaction of family excess vote holding with group. However, the result is not significant.

This result is in contrast to Villalonga & Amit (2006) for US firms where they find that the family excess vote holding negatively affects the firm performance. The difference in the two results may be attributed to the possibility that cross-holdings by families are not perceived in India to cause increased agency costs.

FIGURE 1. This figure is based on results from Table 2, Panel A. P/B value is calculated by keeping BLOCK_NP, LOG(SALES), LOG(AGE), BROAD_CONST, BROAD_IT, AND BROAD_OTHER equal to zero.

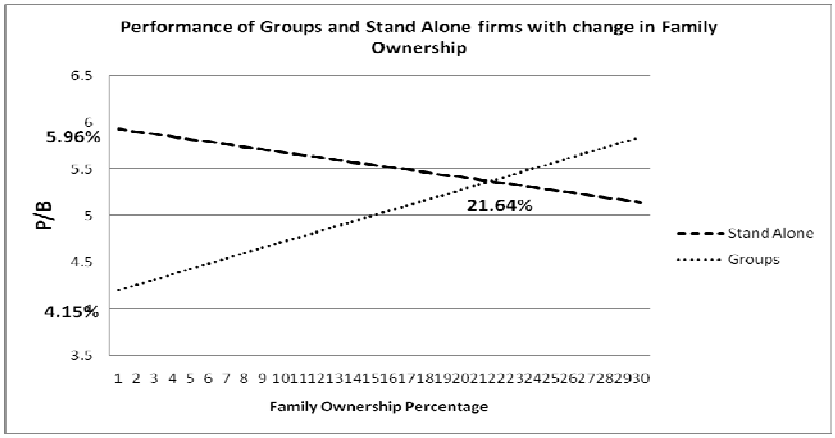


Table 2 results also shows that concentration of family ownership works in opposite direction in case of stand-alone and group firms, with the effect of family ownership being negative on standalone but positive on group affiliates. This result is inconsistent with what Sarkar & Sarkar (2000) and Khanna & Palepu (2000) find. Our result suggests that opportunities for entrenchment increase with the increase of family ownership in standalone firms. Also, when family ownership increases in a business group, resulting benefits discussed earlier increases the value of group affiliates. Another result of Table 2 is that the effect of non-promoters blockholders is negatively related to firm performance, signifying

that that outside blockholders cause friction in firm's management rather than providing monitoring service for minority shareholders. This result is consistent with the finding of Sarkar & Sarkar (2000) and Khanna & Palepu (2000).

Table 2, Panel B repeats the analysis of Panel A with ROA as the dependent variable. Results are similar to those reported in Panel A. Keeping all other factors constant, ROA of a group firm is 0.045 percentage point lower than a standalone firm. For group firms, the differential of family ownership, as compared to standalone firms, is 0.001% higher and statistically significant. Firm value of a group firm increases 0.001% with every 1% increase of family ownership. Also interaction term of family excess vote holdings and group dummy is significant which indicates that family excess vote holding has more positive impact on group affiliated firms. Firm value of a group affiliate increases 0.001% with every 1% increase of family excess vote holding.

TABLE 3-1: This table reports OLS regressions examining differential impact of the broader definition of family ownership--- ownership percentage, control and management---- on group affiliates and standalone firms' performance. Dependent variable is P/B in panel A which is an approximation to Tobin's q. This is measured as [market value of equity + book value of preferred stock + book value of debt]/ [(book value of assets)] , where we calculate market value of equity using closing stock prices on the last trading day of the year. Panel B uses ROA as dependent variable, measured as [(net income + interest) * (1-tax rate))]/(total assets). The independent variables are a set of firm-specific attributes, family ownership, excess vote holdings, group dummies, and industry dummies. Family (Non-family) firms refer to those firms with (without) one or more family members are officers or directors, own 5% or more of the firm equity, either individually or as a group. Family ownership stake (FAM%) is the percentage of all classes of shares held by the family as a group or as an individual. Family excess vote holdings (VOTE) is the percentage of votes owned by the family in excess of the percentage of shares they own. Family Management (MGMT) is a dummy variable, it takes on a value of 1 if CEO is a family member, 0 otherwise. Non-promoters block holders (BLOCK_NP) shareholdings is the percentage of shares held by non-promoter block holders is defined by SEBI (Securities and Exchange Board of India) as shareholders with no relation with the firm other than via equity holdings (This group includes institutions, non-institutions, and individuals). Proportion of outside directors (DIR) is number of non-family outside directors (i.e., directors that are not managers as well, either active or retired), divided by the total number of directors on the Board. The group dummy (GROUP) measures membership in a diversified group. The sample contains Indian private firms (group or standalone) from manufacturing and service industry listed in Bombay Stock Exchange (BSE-500) during year 2005-2006. (Refer to Equation 2.)

Included observations: 175	Panel (A) Dependent Variable: P/B			Panel (B) Dependent Variable: ROA		
Variable	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
C	7.113[b]	6.487[b]	7.820[b]	0.039	0.040	0.054
	(0.023)	(0.041)	(0.018)	(0.410)	(0.407)	(0.284)
GROUP	-2.314 [b]	-0.052	-1.423	-0.035[b]	-0.028[b]	-0.036[b]

Table 3-1, contd.

	(0.033)	(0.954)	(0.224)	(0.037)	(0.038)	(0.043)
(GROUP)*(FAM%)	0.092[a]			0.001		
	(0.011)			(0.208)		
(GROUP)*(VOTE)		-0.029			0.001	
		(0.484)			(0.223)	
(GROUP)*(MGMT)			1.680			0.026
			(0.227)			(0.228)
FAM%	-0.032	0.020	0.020	0.000	0.000	0.000
	(0.297)	(0.400)	(0.404)	(0.814)	(0.498)	(0.422)
VOTE	-0.007	0.007	-0.020	0.000	-0.001	0.000
	(0.723)	(0.867)	(0.340)	(0.678)	(0.318)	(0.911)
MGMT	-1.107[c]	-1.038[c]	-2.392[c]	-0.011	-0.012	-0.031
	(0.065)	(0.090)	(0.056)	(0.218)	(0.195)	(0.102)
BLOCK_NP	-0.057[a]	-0.059[a]	-0.058[a]	-0.001[b]	-0.001[b]	-0.001[b]
	(0.004)	(0.004)	(0.004)	(0.027)	(0.017)	(0.029)
DIR	0.003	0.004	0.003	0.000	0.000	0.000
	(0.819)	(0.807)	(0.821)	(0.456)	(0.433)	(0.466)
LOG(SALES)	0.456[b]	0.406[c]	0.376[c]	0.008[b]	0.008[b]	0.007[b]
	(0.036)	(0.066)	(0.090)	(0.019)	(0.022)	(0.038)
LOG(AGE)	-0.174	-0.275	-0.269	0.007	0.007	0.007
	(0.692)	(0.539)	(0.546)	(0.277)	(0.281)	(0.334)
BROAD_CONST	0.088	0.146	0.136	-0.030	-0.030	-0.030
	(0.948)	(0.915)	(0.921)	(0.144)	(0.157)	(0.146)
BROAD_IT	0.321	0.298	0.192	0.077	0.077	0.076
	(0.692)	(0.718)	(0.817)	(0.000)	(0.000)	(0.000)
BROAD_OTHER	-0.697	-0.717	-0.685	-0.017	-0.014	-0.018
	(0.369)	(0.374)	(0.386)	(0.151)	(0.271)	(0.140)
R-squared	0.156	0.124	0.130	0.297	0.297	0.297
Adjusted R-squared	0.093	0.060	0.065	0.245	0.245	0.244
Durbin-Watson stat	1.827	1.806	1.782	1.807	1.786	1.795
F-statistic	2.494[a]	1.918[b]	2.012[b]	5.708[a]	5.696[a]	5.692[a]
	(0.005)	(0.036)	(0.026)	(0.000)	(0.000)	(0.000)

[a] significant at 1% [b] significant at 5% [c] significant at 10%

TABLE 3-2: This table reports OLS regressions examining the combined impact of the broader definition of family ownership--- ownership percentage, control and management---- on group affiliates and standalone firms' performance. Dependent variable is P/B in panel A which is an approximation to Tobin's q. This is measured as [market value of equity + book value of preferred stock + book value of debt]/ [(book value of assets)] , where we calculate market value of equity using closing stock prices on the last trading day of the year. Panel B uses ROA as dependent variable, measured as [(net income + interest) * (1-tax rate))]/(total assets). The independent variables are a set of firm-specific attributes, family ownership, excess vote holdings, group dummies, and industry dummies. Family (Non-family) firms refer to those firms with (without) one or more family members are officers or directors, own 5% or more of the firm equity, either individually or as a group. Family ownership stake (FAM%) is the percentage of all classes of shares held by the family as a group or as an individual. Family excess vote holdings (VOTE) is the percentage of votes owned by the family in excess of the percentage of shares they own. Family Management (MGMT) is a dummy variable, it takes on a value of 1 if CEO is a family member, 0 otherwise. Non-promoters block holders (BLOCK_NP) shareholdings is the percentage of shares held by non-promoter block holders is defined by SEBI (Securities and Exchange Board of India) as shareholders with no relation with the firm other than via equity holdings (This group includes institutions, non-institutions, and individuals). Proportion of outside directors (DIR) is number of non-family outside directors (i.e., directors that are not managers as well, either active or retired), divided by the total number of directors on the Board. The group dummy (GROUP) measures membership in a diversified group.

The sample contains Indian private firms (group or standalone) from manufacturing and service industry listed in Bombay Stock Exchange (BSE-500) during year 2005-2006. (Refer to Equation 2.)

Included observations: 175	(Panel: A) Dependent Variable: P/B	(Panel: B) Dependent Variable: ROA
Variable	Coeff.	Coeff.
C	7.990[b]	0.071
	(0.016)	(0.156)
GROUP	-3.332[b]	-0.080[a]
	(0.045)	(0.002)
FAM%	-0.035	0.000
	(0.295)	(0.443)
(GROUP)*(FAM%)	0.095[b]	0.001[c]
	(0.020)	(0.074)
(GROUP)*(VOTE)	0.028	0.002[b]
	(0.553)	(0.026)
(GROUP)*(MGMT)	1.015	0.031
	(0.485)	(0.167)
VOTE	-0.032	-0.001[c]
	(0.477)	(0.067)
MGMT	-1.939	-0.038
	(0.137)	(0.059)
BLOCK_NP	-0.057[a]	-0.001[b]
	(0.005)	(0.025)
DIR	0.003	0.000
	(0.826)	(0.451)
LOG(SALES)	0.442[b]	0.008[b]
	(0.046)	(0.022)
LOG(AGE)	-0.160	0.009
	(0.719)	(0.203)
BROAD_CONST	0.084	-0.030
	(0.950)	(0.140)
BROAD_IT	0.254	0.075[a]
	(0.756)	(0.000)
BROAD_OTHER	-0.642	-0.013
	(0.420)	(0.289)
R-squared	0.160	0.322
Adjusted R-squared	0.086	0.263
Durbin-Watson stat	1.816	1.906
F-statistic	2.171[b]	5.436[a]
	(0.011)	(0.000)

[a] **significant at 1%** [b] **significant at 5%** [c] **significant at 10%**

Table 3-1, Panels A and B employ the expanded definition of ownership suggested by Villalonga and Amit (2006). Panel A (Panel B) introduces each interaction term separately to asset its impact on P/B (ROA) of group affiliates. Panel A indicates that

family ownership has a significant positive effect, while family excess vote holding and family management have no significant impact on P/B of group affiliated firms, When the dependent variable is ROA (Panel B), however, none of the ownership coefficients -- family ownership, family excess vote holding, and family management--- is significant.

Villalongs and Amit (2006) suggest that the three dimensions of ownership can either individually or in combination affect the firm performance In Table 3-2, all three dimensions of ownership are entered simultaneously to measure their combined impact. Table 3-2, Panel A results are similar to those of Panel A of Table 3-1. Table 3-2-B results are, however, slightly different from the ones reported in Table 3-1-B as the former shows that the combined impact of family ownership and family excess vote holding is significantly positive on the ROA of group affiliates.

5.3. Family Ownership and the Extent of Diversification

Following Khanna & Palepu (1999), we also test for the existence of a non-linear relation between group diversification and firm performance. In so doing, we add two regressors---IND# and (IND# * IND#), Table 4, Panel A shows that both IND# and (IND# * IND#) are significant providing evidence of non-linear relationship. This relationship is depicted in Figure 2, which shows that an affiliate performs poorly relative to a standalone when the former is part of a group involved in two to seven industries. However, an affiliate of a group which is involved in more than seven industries performs better than a standalone firm. In other words, once the group involvement exceeds seven industries, each additional industry contributes positively to the Tobin's q.

TABLE 4: This table reports OLS regressions examining incremental impact of group membership on firm performance using the broader definition of family ownership--- ownership percentage, control and management. Dependent variable is P/B in panel A which is an approximation to Tobin's q. This is measured as [market value of equity + book value of preferred stock + book value of debt]/ [(book value of assets)] , where we calculate market value of equity using closing stock prices on the last trading day of the year. Panel B uses ROA as dependent variable, measured as [(net income + interest) * (1-tax rate))]/(total assets). The independent variables are a set of firm-specific attributes, family ownership, excess vote holdings, group dummies, and industry dummies. Family (Non-family) firms refer to those firms with (without) one or more family members are officers or directors, own 5% or more of the firm equity, either individually or as a group. Family ownership stake (FAM%) is the percentage of all classes of shares held by the family as a group or as an individual. Family excess vote holdings (VOTE) is the percentage of votes owned by the family in excess of the percentage of shares they own. Family Management (MGMT) is a dummy variable, it takes on a value of 1 if CEO is a family member, 0 otherwise. Non-promoters block holders (BLOCK_NP) shareholdings is the percentage of shares held by non-promoter block holders is defined by SEBI (Securities and Exchange Board of India) as shareholders with no relation with the firm other than via equity holdings (This group includes institutions, non-institutions, and individuals). Proportion of outside directors (DIR) is number of non-family outside directors (i.e., directors that are not managers as well, either active or retired), divided by the total number of directors on the Board. The group dummy (GROUP) measures membership in a diversified group. Number of Industries (IND#) measures the number of industries in which the group is involved. The sample contains Indian private firms (group or standalone) from manufacturing and service industry listed in Bombay Stock Exchange (BSE-500) during year 2005-2006. (Refer to Equation 3 & 4.)

Included observations: 175	Panel (A) Dependent Variable: P/B	Panel (B) Dependent Variable: ROA
Variable	Coeff.	Coeff.
C	8.172	0.041
	(0.011)	(0.404)
FAM%	0.010	0.000
	(0.659)	(0.545)
VOTE	-0.026	0.000
	(0.200)	(0.911)
MGMT	-0.847	-0.013
	(0.181)	(0.191)
BLOCK_NP	-0.061[a]	-0.001[c]
	(0.003)	(0.073)
DIR	0.006	0.000
	(0.699)	(0.372)
LOG(SALES)	0.341	0.007
	(0.121)	(0.034)
LOG(AGE)	-0.364	0.006
	(0.404)	(0.408)
IND#	-0.473[c]	-0.009[b]
	(0.082)	(0.032)
(IND#)*(IND#)	0.036[b]	0.001[b]
	(0.025)	(0.037)
BROAD_CONST	0.012	-0.034
	(0.993)	(0.105)
BROAD_IT	-0.253	0.070[a]
	(0.763)	(0.000)
BROAD_OTHER	-0.913	-0.018
	(0.246)	(0.130)
R-squared	0.156	0.298

Table 4, contd.

Adjusted R-squared	0.094	0.246
Durbin-Watson stat	1.851	1.782
F-statistic	2.502[a]	5.731[a]
	(0.005)	(0.000)

[a] **significant at 1%** [b] **significant at 5%** [c] **significant at 10%**

FIGURE 2.

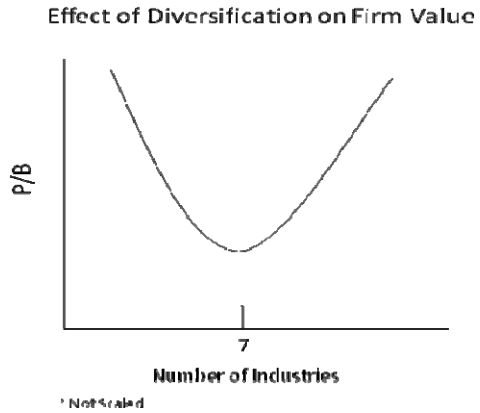
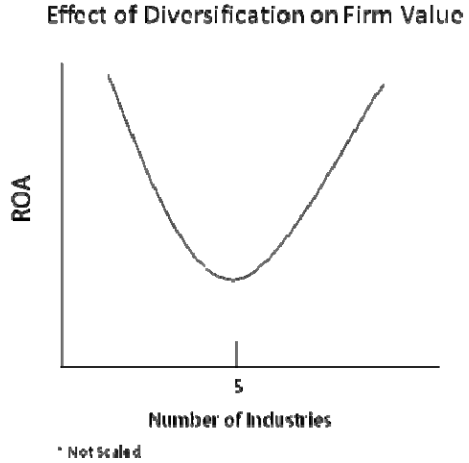


Table 4, Panel B, which uses ROA as the dependent variable, also shows that both IND# and (IND# * IND#) are significant. Once the involvement of group increases to more than five industries, marginal increase in group diversification contributes to ROA. Figure 3 depicts this relationship. Our results are similar to Khanna & Palepu (1999) in that their inflection point is six industries for Tobin's q and eight industries for ROA.

FIGURE 3.



Based on figure 2 and figure 3, we divide our sample into two sub categories: less-diversified group and more-diversified firms. A firm falls into the less diversified sub-category (DIV2_7) when it is an affiliate of a group that is involved in two to seven. When an affiliate is part of a group that is diversified in 8 or more industries, it belongs to (DIV8+) category. Panels A and B of Table 5 show opposite signs for coefficients for (DIV2_7) and (DIV8+)---negative for the former and positive for the latter. This result reinforces our previous finding of non-linear relation between firm and group diversification from Table 4. This is also consistent with the result found in the Krishna and Palepu (2000) study.

TABLE 5: This table reports OLS regressions examining incremental impact of group membership on firm performance using the broader definition of family ownership--- ownership percentage, control and management. Dependent variable is P/B in panel A which is an approximation to Tobin's q. This is measured as [market value of equity + book value of preferred stock + book value of debt]/ [(book value of assets)] , where we calculate market value of equity using closing stock prices on the last trading day of the year. Panel B uses ROA as dependent variable, measured as [(net income + interest) * (1-tax rate))]/(total assets). The independent variables are a set of firm-specific attributes, family ownership, excess vote holdings, group dummies, and industry dummies. Family (Non-family) firms refer to those firms with (without) one or more family members are officers or directors, own 5% or more of the firm equity, either individually or as a group. Family ownership stake (FAM%) is the percentage of all classes of shares held by the family as a group or as an individual. Family excess vote holdings (VOTE) is the percentage of votes owned by the family in excess of the percentage of shares they own. Family Management (MGMT) is a dummy variable, it takes on a value of 1 if CEO is a family member, 0 otherwise. Non-promoters block holders (BLOCK_NP) shareholdings is the percentage of shares held by non-promoter block holders is defined by SEBI (Securities and Exchange Board of India) as shareholders with no relation with the firm other than via equity holdings (This group includes institutions, non-institutions, and individuals). Proportion of outside directors (DIR) is number of non-family outside directors (i.e., directors that are not managers as well, either active or retired), divided by the total number of directors on the Board. The group dummy (GROUP) measures membership in a diversified group. Less diversified (Div2_7) is a dummy variable which is equal to 1 if group is involved in two to seven industries, it is zero otherwise. Highly diversified (Div8+) is a dummy variable which is equal to 1 if group is involved in eight or more industries, it is zero otherwise. The sample contains Indian private firms (group or standalone) from manufacturing and service industry listed in Bombay Stock Exchange (BSE-500) during year 2005-2006. (Refer to Equation 3 & 4.)

Included observations: 175	Panel (A) Dependent Variable: P/B	Panel (B) Dependent Variable: ROA
Variable	Coeff.	Coeff.
C	7.520	0.036
	(0.019)	(0.464)
FAM%	0.013	0.000
	(0.596)	(0.500)
VOTE	-0.021	0.000
	(0.300)	(0.970)
MGMT	-0.915[c]	-0.012
	(0.140)	(0.229)
BLOCK_NP	-0.065[a]	-0.001[b]
	(0.002)	(0.044)

Table 5, contd.

DIR	0.005	0.000
	(0.757)	(0.414)
LOG(SALES)	0.362	0.007
	(0.101)	(0.038)
LOG(AGE)	-0.279	0.005
	(0.520)	(0.415)
DIV2_7	-1.079	-0.018[c]
	(0.114)	(0.096)
DIV8+	0.746	-0.011
	(0.469)	(0.486)
BROAD_CONST	-0.089	-0.035[c]
	(0.948)	(0.098)
BROAD_IT	0.057	0.073[a]
	(0.945)	(0.000)
BROAD_OTHER	-0.760	-0.018
	(0.331)	(0.139)
R-squared	0.149	0.290
Adjusted R-squared	0.086	0.237
Durbin-Watson stat	1.814	1.784
F-statistic	2.357[a]	5.510[a]
	(0.008)	(0.000)

[a] **significant at 1%** [b] **significant at 5%** [c] **significant at 10%**

Table 6 explores the relation between family ownership and the extent of diversification in a group. We employ an interaction variable between family ownership with different levels of diversification. Under this specification, the coefficient on the interaction term picks up the difference, if any, in the effect of family ownership, family vote holdings between less diversified and highly diversified firms. Panel A of Table 6 shows that family ownership has different effect on less-diversified group and more-diversified group. P/B of an affiliate increases by 0.31% with 1% increase in family ownership in case of a more-diversified group, while it increases by .08% when an affiliate is in a less-diversified group. The estimates are statistically significant. When the family ownership is represented by the control dimension, the results are not statistically significant.

TABLE 6: This table reports OLS regressions examining differential impact of family ownership percentage, and family excess vote holdings on the value of an affiliate depending on the extent of diversification. Dependent variable is P/B in panel A which is an approximation to Tobin's q. This is measured as [market value of equity + book value of preferred stock + book value of debt]/ [(book value of assets)] , where we calculate market value of equity using closing stock prices on the last trading day of the year. Panel B uses ROA as dependent variable, measured as [(net income + interest) * (1-tax rate))]/(total assets). The independent variables are a set of firm-specific attributes, family ownership, excess vote holdings, group dummies, and industry dummies. Family (Non-family) firms refer to those firms with (without) one or more family members are officers or directors, own 5% or more of the firm equity, either individually or as a group. Family ownership stake (FAM%) is the percentage of all classes of shares held by the family as a group or as an individual. Family excess vote holdings (VOTE) is the percentage of votes owned by the family in excess of the percentage of shares they own. Non-promoters block holders (BLOCK_NP) shareholdings is the percentage of shares held by non-promoter block holders is defined by SEBI (Securities and Exchange Board of India) as shareholders with no relation with the firm other than via equity holdings (This group includes institutions, non-institutions, and individuals). Less diversified (Div2_7) is a dummy variable which is equal to 1 if group is involved in two to seven industries, it is zero otherwise. Highly diversified (Div8+) is a dummy variable which is equal to 1 if group is involved in eight or more industries, it is zero otherwise. The sample contains Indian private firms (group or standalone) from manufacturing and service industry listed in Bombay Stock Exchange (BSE-500) during year 2005-2006. (Refer to Equation 5.)

Included observations: 214	(Panel :A) Dependent Variable: P/B		(Panel: B) Dependent Variable: ROA	
Variable	Coeff.	Coeff.	Coeff.	Coeff.
C	7.783	7.264	0.026	0.037
	(0.003)	(0.006)	(0.526)	(0.370)
FAM%	-0.012	0.005	0.000	0.000
	(0.572)	(0.804)	(0.755)	(0.969)
VOTE	-0.004	-0.012	0.000	0.000
	(0.836)	(0.617)	(0.705)	(0.417)
BLOCK_NP	-0.057[a]	-0.055[a]	-0.001[b]	-0.001[b]
	(0.003)	(0.005)	(0.037)	(0.030)
LOG(SALES)	0.170	0.209	0.006[b]	0.006[b]
	(0.350)	(0.260)	(0.031)	(0.030)
LOG(AGE)	-0.122	-0.174	0.014[b]	0.013[b]
	(0.742)	(0.645)	(0.015)	(0.028)
DIV2_7	-1.428[b]	-0.677	-0.035[a]	-0.039[a]
	(0.041)	(0.470)	(0.002)	(0.008)
DIV8+	0.515	1.361	-0.019	-0.030
	(0.585)	(0.462)	(0.212)	(0.301)
(DIV2_7)*(FAM%)	0.082[b]		0.001[b]	
	(0.026)		(0.045)	
(DIV8+)*(FAM%)	0.308[b]		0.000	
	(0.018)		(0.964)	
(DIV2_7)*(VOTE)		0.004		0.001
		(0.894)		(0.153)
(DIV8+)*(VOTE)		0.003		0.001
		(0.953)		(0.414)
BROAD_CONST	1.111	0.917	-0.034[b]	-0.039[a]
	(0.235)	(0.345)	(0.023)	(0.009)
BROAD_IT	0.502	0.393	0.069[a]	0.065[a]
	(0.507)	(0.625)	(0.000)	(0.000)
BROAD_OTHER	-0.713	-0.577	-0.012	-0.013
	(0.278)	(0.388)	(0.241)	(0.211)

Table 6, contd.

R-squared	0.134	0.091	0.286	0.280
Adjusted R-squared	0.083	0.036	0.244	0.237
Durbin-Watson stat	1.962	1.936	1.871	1.888
F-statistic	2.597[a]	1.671[c]	6.724[a]	6.518[a]
	(0.003)	(0.075)	(0.000)	(0.000)

[a] **significant at 1%** [b] **significant at 5%** [c] **significant at 10%**

Table 6, Panel B performs the same analysis as Panel A but uses ROA as the dependent variable. However, results are somewhat different in that family ownership (%) has a slightly higher but statistically significant impact on affiliates of a less diversified group . The interaction term with the family vote-holding also shows that there is no differential impact of family control on the performance of affiliates belonging to less- vs. more-diversified groups.

Table 7-1 and Table 7-2 are extension of Table 6. Table 7-1 introduces the three dimensions of family ownership in each of the three equations, while 7-2 introduces all three definitions in the same equation. The independent variable is P/B and ROA respectively in Panel A and Panel B in both tables.

TABLE 7-1. This table reports OLS regressions examining differential impact of family ownership percentage, and family excess vote holdings, and family management on the value of an affiliate depending on the extent of diversification. Dependent variable is P/B in panel A which is an approximation to Tobin's q. This is measured as [market value of equity + book value of preferred stock + book value of debt]/ [(book value of assets)] , where we calculate market value of equity using closing stock prices on the last trading day of the year. Panel B uses ROA as dependent variable, measured as [(net income + interest) * (1-tax rate))]/(total assets). The independent variables are a set of firm-specific attributes, family ownership, excess vote holdings, group dummies, and industry dummies. Family (Non-family) firms refer to those firms with (without) one or more family members are officers or directors, own 5% or more of the firm equity, either individually or as a group. Family ownership stake (FAM%) is the percentage of all classes of shares held by the family as a group or as an individual. Family excess vote holdings (VOTE) is the percentage of votes owned by the family in excess of the percentage of shares they own. Family Management (MGMT) is a dummy variable, it takes on a value of 1 if CEO is a family member, 0 otherwise. Non-promoters block holders (BLOCK_NP) shareholdings is the percentage of shares held by non-promoter block holders is defined by SEBI (Securities and Exchange Board of India) as shareholders with no relation with the firm other than via equity holdings (This group includes institutions, non-institutions, and individuals). Less diversified (Div2_7) is a dummy variable which is equal to 1 if group is involved in two to seven industries, it is zero otherwise. Highly diversified (Div8+) is a dummy variable which is equal to 1 if group is involved in eight or more industries, it is zero otherwise. The sample

contains Indian private firms (group or standalone) from manufacturing and service industry listed in Bombay Stock Exchange (BSE-500) during year 2005-2006. (Refer to Equation 5.)

Included observations: 175	(Panel:A) Dependent Variable: P/B			(Panel:B) Dependent Variable: ROA		
Variable	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
C	7.593[b]	7.366[b]	8.082[b]	0.036	0.045	0.051
	(0.015)	(0.025)	(0.014)	(0.461)	(0.372)	(0.313)
FAM%	-0.012	0.014	0.010	0.000	0.000	0.000
	(0.624)	(0.569)	(0.681)	(0.995)	(0.613)	(0.521)
VOTE	-0.016	-0.017	-0.025	0.000	0.000	0.000
	(0.419)	(0.502)	(0.220)	(0.899)	(0.538)	(0.731)
MGMT	-0.821	-0.904	-1.227	-0.012	-0.013	-0.029[b]
	(0.174)	(0.157)	(0.189)	(0.230)	(0.176)	(0.047)
BLOCK_NP	-0.067[a]	-0.066[a]	-0.066[a]	-0.001[c]	-0.001[c]	-0.001[b]
	(0.001)	(0.002)	(0.002)	(0.051)	(0.043)	(0.041)
DIR	0.015	0.006	0.005	0.000	0.000	0.000
	(0.345)	(0.718)	(0.720)	(0.459)	(0.489)	(0.343)
LOG(SALES)	0.316	0.366[c]	0.339	0.007[c]	0.007[c]	0.007[b]
	(0.141)	(0.100)	(0.128)	(0.041)	(0.041)	(0.043)
LOG(AGE)	-0.238	-0.284	-0.286	0.007	0.006	0.005
	(0.577)	(0.514)	(0.511)	(0.299)	(0.391)	(0.454)
DIV2_7	-2.090[a]	-0.972	-1.597	-0.029[b]	-0.029[c]	-0.036[b]
	(0.008)	(0.364)	(0.121)	(0.020)	(0.079)	(0.023)
DIV8+	-0.443	1.285	0.869	-0.019	-0.022	-0.024
	(0.675)	(0.508)	(0.491)	(0.272)	(0.473)	(0.219)
(DIV2_7)*(FAM%)	0.089[b]			0.001[c]		
	(0.022)			(0.084)		
(Div8+)*(FAM%)	0.357[a]			0.001		
	(0.009)			(0.762)		
(DIV2_7)*(VOTE)		-0.005			0.000	
		(0.887)			(0.357)	
(DIV8+)*(VOTE)		-0.018			0.000	
		(0.737)			(0.628)	
(DIV2_7)*(MGMT)			0.892			0.031
			(0.487)			(0.119)
(DIV8+)*(MGMT)			-0.773			0.025
			(0.694)			(0.402)
BROAD_CONST	0.042	-0.017	-0.162	-0.035[c]	-0.038[c]	-0.033
	(0.974)	(0.990)	(0.906)	(0.098)	(0.079)	(0.120)
BROAD_IT	0.220	0.149	-0.022	0.074[a]	0.071[a]	0.073[a]
	(0.783)	(0.864)	(0.979)	(0.000)	(0.000)	(0.000)
BROAD_OTHER	-0.996	-0.757	-0.736	-0.018	-0.018	-0.017
	(0.195)	(0.335)	(0.349)	(0.146)	(0.138)	(0.168)
R-squared	0.207	0.149	0.153	0.303	0.294	0.301
Adjusted R-squared	0.137	0.075	0.079	0.242	0.232	0.240
Durbin-Watson stat	2.040	2.001	2.007	1.960	1.987	2.006
F-statistic	2.975[a]	2.005[b]	2.071[b]	4.973[a]	4.758[a]	4.925[a]
	(0.000)	(0.020)	(0.016)	(0.000)	(0.000)	(0.000)

[a] **significant at 1%** [b] **significant at 5%** [c] **significant at 10%**

TABLE 7-2. This table reports OLS regressions examining the combined impact of family ownership percentage, and family excess vote holdings, and family management on the value of an affiliate depending on the extent of diversification. Dependent variable is P/B in panel A which is an approximation to Tobin's q. This is measured as [market value of equity + book value of preferred stock + book value of debt]/ [(book value of assets)] , where we calculate market value of equity using closing stock prices on the last trading day of the year. Panel B uses ROA as dependent variable, measured as [(net income + interest) * (1-tax rate))]/(total assets). The independent variables are a set of firm-specific attributes, family ownership, excess vote holdings, group dummies, and industry dummies. Family (Non-family) firms refer to those firms with (without) one or more family members are officers or directors, own 5% or more of the firm equity, either individually or as a group. Family ownership stake (FAM%) is the percentage of all classes of shares held by the family as a group or as an individual. Family excess vote holdings (VOTE) is the percentage of votes owned by the family in excess of the percentage of shares they own. Family Management (MGMT) is a dummy variable, it takes on a value of 1 if CEO is a family member, 0 otherwise. Non-promoters block holders (BLOCK_NP) shareholdings is the percentage of shares held by non-promoter block holders is defined by SEBI (Securities and Exchange Board of India) as shareholders with no relation with the firm other than via equity holdings (This group includes institutions, non-institutions, and individuals). Less diversified (Div2_7) is a dummy variable which is equal to 1 if group is involved in two to seven industries, it is zero otherwise. Highly diversified (Div8+) is a dummy variable which is equal to 1 if group is involved in eight or more industries, it is zero otherwise. The sample contains Indian private firms (group or standalone) from manufacturing and service industry listed in Bombay Stock Exchange (BSE-500) during year 2005-2006. (Refer to Equation 5.)

Included observations: 175	(Panel:A) Dependent Variable: P/B	(Panel:B) Dependent Variable: ROA
Variable	Coeff.	Coeff.
C	8.873[a]	0.072
	(0.007)	(0.156)
FAM%	-0.027	0.000
	(0.310)	(0.445)
VOTE	-0.041	-0.001
	(0.114)	(0.123)
MGMT	-1.086	-0.032[b]
	(0.243)	(0.029)
BLOCK_NP	-0.067[a]	-0.001
	(0.001)	(0.037)
DIR	0.013	0.000
	(0.415)	(0.568)
LOG(SALES)	0.279	0.007[c]
	(0.201)	(0.051)
LOG(AGE)	-0.186	0.008
	(0.668)	(0.218)
DIV2_7	-3.674[b]	-0.084[a]
	(0.020)	(0.001)
DIV8+	-2.513	-0.067
	(0.330)	(0.101)
(DIV2_7)*(FAM%)	0.114[b]	0.002[b]
	(0.015)	(0.017)
(Div8+)*(FAM%)	0.426[a]	0.001
	(0.007)	(0.581)
(DIV2_7)*(VOTE)	0.042	0.001[b]
	(0.251)	(0.030)
(DIV8+)*(VOTE)	0.068	0.001
	(0.271)	(0.257)

Table 7-2, contd.

(DIV2_7)*(MGMT)	0.447	0.026
	(0.725)	(0.190)
(DIV8+)*(MGMT)	-0.604	0.032
	(0.762)	(0.311)
BROAD_CONST	-0.342	-0.040[c]
	(0.799)	(0.061)
BROAD_IT	-0.145	0.070[a]
	(0.865)	(0.000)
BROAD_OTHER	-1.043	-0.017
	(0.179)	(0.158)
R-squared	0.220	0.333
Adjusted R-squared	0.130	0.256
Durbin-Watson stat	2.042	1.998
F-statistic	2.447[a]	4.334[a]
	(0.002)	(0.000)

[a] **significant at 1%** [b] **significant at 5%** [c] **significant at 10%**

Panel A of Table 7 shows that family ownership (FAM%) has different effect on less-diversified vs. more- diversified groups. The coefficient is statistically significant for the affiliate of a highly diversified group as well as less diversified group. With every 1% increase of family ownership firm value (P/B) increases by 0.36% for the affiliate of a highly diversified group, while it increases by 0.09% when an affiliate is in a less diversified group. However, family excess vote holding (VOTE) and family management (MGMT) are found to be statistically insignificant. Panel B shows that none of the three dimensions of ownership has a significant differential impact on ROA between affiliates of a less- vs. more-diversified group

Table 7-2 is similar to Table 7-1 except that in this case family ownership, family excess vote holding enter in the model simultaneously. However, overall results remain similar to those in Table 7-1.

6. Summary & Conclusions

The existing literature (Scharfstein and Stein (2000), Rajan, Servaes and Zingales (2000), Berger and Ofek (1995) among others) on corporate governance from US market indicates that firm value decreases with diversification and family ownership effects firm value positively(Villalonga and Amit (2006), Anderson and Reeb (2003)). Khanna and Palepu (2000) have investigated these issues in the context of India. By using the data for year 1993, they report 1) that firm value decreases with the diversification of firm but after a certain threshold firm value increases with the diversification and b) insider ownership positively affects performance of group affiliates as well as standalone firms.. During their study period, however, some important data required for their research were not simply available. The absence of detailed data made Khanna and Palepu choose insider ownership as a proxy for family ownership. Since 2005-2006, more precise data have become available thanks to new and stricter disclosure rules. This provides us an opportunity to revisit their findings. We also reexamine the findings of Krishna and Palepu (2000) from the perspective of the broader definition of family ownership (ownership percentage, management, and control) recommended by Villalonga and Amit (2006).

To investigate the effect of family ownership on the performance of a group affiliate as well as a standalone firm, we employ a sample of 214 Indian firms selected from the 2005-2006 BSE 500 index. Using both market measure and accounting measure as measures of performance, we find that family ownership affects the performance of group affiliates more positively than that of standalone firms. Group affiliated firms initially underperform standalone firms but after certain level of family ownership they overperform standalone

firms. We also find that the percentage of shares held by family owners of a business group has differential impacts on the performance of an affiliate, depending on whether the affiliate belongs to a less-diversified or more-diversified group. The impact of family ownership is more positive for affiliates of more-diversified groups. However, other two definitions of family ownership----excess vote holdings and involvement of family in the firm's management----are not found as important as the percentage of family ownership. We also find that external blockholders affect a firm's value negatively. Our results are in contrast with the existing literature of diversification and family ownership on developed market especially, US and UK.

Our results provide further insight about the corporate governance in emerging markets which are often characterized by poor disclosure rules, low minority shareholder protection, highly concentrated shareholdings, thin takeover market, poor judicial system, and inadequate level of financial intermediaries. These markets at the same time known for high number of family owned businesses--- passed from one generation to the next.. It seems that under such environment, family ownership is beneficial to the society and contributes to the value of the group affiliates, especially when the affiliate is part of a highly diversified group. Highly diversified firms are almost synonymous with families who have accumulated years of successful decision-making, and established name in the market, making it easier for these groups to float a new product or add another firm to the group. Also, because of their larger size, it is easier for highly diversified groups to replicate the functions of intermediary institutions which are often inadequate in emerging economics. Additionally, the families owning larger groups often carry more clouts to influence local and national politics, thus providing additional benefits to their affiliates.

At least two findings of this paper contribute to our knowledge and understanding of the impact of family ownership on the performance of Indian firm. First, family ownership

have a significant positive impact on the group affiliates (as opposed to stand alone). Krishna and Palepu (2000) did not find the differential effect perhaps because of the unavailability of the family ownership data. Their insider ownership data included both the family ownership as well ownership by corporate promoters. Second, the superior performance of the more-diversified group may be attributed to greater family ownership. Krishna and Palepu (2000) offered this as a possible explanation of their finding in this regard. This paper provides valid tests to establish this link.

Essay 2

IT OUTSOURCING DECISIONS AND FIRM VALUE

1. *Introduction & Motivation*

Outsourcing involves make-or-buy decision by firms. A firm that is buying its product or service is called the buyer or user and the firm supplying such product or service is called the seller or vendor. Outsourcing in general has experienced a tremendous growth in recent years and thus received enormous media and political attention because of its potential impact on the economy. IT (Information Technology) outsourcing has observed perhaps the highest growth in the outsourcing arena. Broadly speaking IT outsourcing includes areas such as data center, data management, computing service, telecommunications, system design, data networking, etc. Loh and Venkatraman (1992, p. 9) conclude that IT outsourcing entails a "significant contribution by external vendors in the physical and/or human resources associated with the entire or specific components of the IT infrastructure in the user organization."

Projected figures of IT outsourcing growth by leading consultancy and government bodies are staggering. EBS, a technology research, and consulting firm, (http://www.ebstrategy.com/outsourcing/trends/statistics.htm) summarizes the job loss and market potential of IT outsourcing through various sources as follows:

- According to the U.S Department of Commerce, $131.01 billion worth of legal work, computer programming, telecommunications, banking, engineering, management consulting, and other private services was exported by 2003.

- International Data Corporation (IDC) predicts that the global IT-enabled services market will account for revenues of $1.2 trillion by 2006.
- Forrester Research projects that by year 2015 as many as 3.3 million US jobs and $136 billion in wages could be moved to such countries as India, China, and Russia.
- A leading financial service firm WR Hambrecht predicts that the offshore IT service market is expected to grow at compounded annual growth rate of 43% through 2008 to a size of 56 billion.

The reasons for the extraordinary growth of outsourcing in the IT industry perhaps can be found in the survey conducted by Hayes, Hunton, and Reck (2000), These author survey the IT literature and identify four major reasons for outsourcing. The reasons are (1) cost reduction, (2) importance of core competencies, (3) flexibility, and (4) economies of scale and scope. Outsourcing can allow a firm to access better skilled or cheap labor to do the same task which helps in reducing cost[5]. The ability to shift resources from non-core function to core function is another advantage of outsourcing. A firm that does not consider IT as its core function might decide to outsource to conserve its core resources. Outsourcing affords an IT firm the flexibility to adapt to changes in technology just by changing the contract with the vendor. Outsourcing providers devote their full resources in delivering IT function to buying firms. Consequently, the providers gain better skills and competence in dealing with IT problems. The economy of scale achieved by providers can be shared by buying firms.

[5] However, some studies have shed doubt on such motives as short term cost cutting can be harmful for firm value in long run (Quinn, Doorley and Paquette 1990).

Of course, IT outsourcing, as in any outsourcing decisions, is associated with some risk as well. Hancox & Hackney (2000), and Bahli & Rivard (2003) offer four types of risk facing an outsourcing buyer. They are (1) lock-in, (2) contractual amendments, (3) unexpected transition and management costs, and (4) disputes and litigation. Lock-in is a situation in which parties cannot break or change contract without incurring significant costs. Credible commitment (both parties invest partially in facility) or giving contracts to multiple vendors can mitigate such risk. The risk of contractual amendment occurs when participating firms have to renegotiate their contracts due to change in environments. This cost can be avoided if parties agree to have sequential relations or flexible contracts. Unexpected transition and management risks include hidden or underestimated cost at the time of planning. Such costs stem from participants' lack of expertise with outsourcing. Disputes and litigation risk emanates from vendor's lack of expertise in outsourced activity and measurement problem. A vendor's lack of expertise leads it to sign a contract with promises that cannot be kept. Because of changing environments and complexity of the underlying task, it is often difficult for buyers to measure the efforts made by a vendor in providing quality products or services. To reduce unexpected dispute and litigation cost, the buyer can hire external technical or legal experts or develop alternative means of dispute handling.

Even when the buyer reduces or avoids these risk by incurring a reasonable cost, the success is not guaranteed as many outsourcing contracts fail. DiamondCluster International (now Diamond Management & Technology Consultants, Inc.), a premier global management consulting firm, reports that poor provider performance, change in strategic direction, non-realization of cost savings and breach of contract are leading reasons for termination of onshore and offshore outsourcing contracts.

In order for IT outsourcing to be value enhancing, the buyer must preserve the benefits to be derived from such decisions while keeping the associated risk in check. The stock market, therefore, is likely too have varying reactions to the IT outsourcing, depending on its perception of how able the client is to derive benefits and/or whether the client is capable of handling the risk associated with the outsourcing decision. Also, it can be assumed that outsourcing clients have some distinguishable characteristics from those who do not outsource. These are the two issues we examine in this paper. Two major objectives of this paper are 1) to study abnormal returns associated with announcements of IT outsourcing by client firms and to see if these returns are related to some specific firm characteristics, and 2) to explore the characteristics that differentiate firms that outsource IT services. We examine IT outsourcing decisions of non-IT-focused US clients in which the vendors reside in or outside the US. Restricting the sample to US clients allow us to examine outsourcing decisions keeping constant the political, social, and economic environment facing these firms. Also, the market and accounting data for US clients are more easily available and more reliable.

We make significant contribution to the literature. First, this is a first attempt to link firm characteristics and firm value via outsourcing: earlier studies have confined themselves to a limited number of firm characteristics. We employ an extended set of variables to assess their impact on announcement returns, based on a-priori expectations. Second, previous studies use a small sample of 29 firms, making it difficult to generalize In this paper we employ 63 firms and perform logit analysis comparing outsourcing firms with a peer group that do not outsource. Third, this will be first study on post IT bubble bust period covering a time period 2001 to 2005. There is no available outsourcing study that has tested their study in this regime. Finally, it provides implications for how to develop successful outsourcing contracts.

This essay proceeds as follows. Section II provides the literature survey. Hypotheses are developed in Section III. Sample, data, and methodology are discussed in Section IV. Section V presents results and Section VI concludes.

2. Literature Survey

Available literature on IT outsourcing can be divided into five groups. The first group of research focus on the business impact of IT outsourcing. These studies are concerned with the cost-saving goal of the users.(Grover, Cheon, and Teng (1996) and Loh and Venkatraman (1992)). The second group of research is primarily concerned about the decision making process of outsourcing (Loh and Venkatraman (1992) and Smith, Mitra, and Narasimhan (1998)). The third group comes from strategic management field where relationship is more focus of study (Bakos and Brynjolfsson (1993), Kern and Willcocks (2002), Nam, Rajagopalan, Rao, and Chudhury (1996). The fourth group is concerned about risk analysis of out sourcing from various perspectives. (Aubert, Patry, and Rivard (1998), and Earl (1996)). The fifth group is the most recent and examines the outsourcing issue in light of financial theories to understand the implication of outsourcing from shareholders point of view. This group mainly uses the event study methodology to test the price impact of IT outsourcing announcements (Dos Santos, Peffers, and Mauer (1993), Hayes, Hunton, and Reck (2000), Im, Dow, and Grover (2001), Peak, Windsor, Conover (2002), and Oh & Gallivan (2004).

Loh and Venkatraman (1992) test a model of the determinants of IT outsourcing using both business as well as IT perspective. They find that business cost and IT cost are the main driving force for IT outsourcing decision. They also find that low economic returns on IT investment are also a motivation for managers to outsource their IT functions. Smith et al. (1998) study on pre-event firm characteristics reveals that firms who outsource have lower overhead

cost, lower cash reserve, and higher debt before the outsourcing event. Also, their long-term debt and financial leverage increases before IT outsourcing.

Dos Santos et al. (1993) find that innovative IT investments increase more value than follow up projects. This behavior of stock market is independent of industry classification. They conclude that IT investments are zero NPV projects but innovative IT investment increase firm value. Hayes et al. (2000) find that market react positively to the announcement of IT outsourcing when an outsourcing firm is smaller in size and when it is in the service industry. They attribute such positive price reaction to the reduction of information asymmetry of these firms caused by IT outsourcing announcements. Im et al. (2001) too find that markets reaction (in terms of price and volume) are negatively related to firm size but the relation turns positive over time. Peak et al. (2002) study the effect of outsourcing on firms' risk. They find that initially a large-company's IS/IT outsourcing announcement has a value-neutral effect, but a positive impact in the long run. They also report that weaker firms experience increased risk, although healthier firms experience risk reduction. They considered firms with multiple unprofitable or low-rating years during 1988-1993 as weaker firms and firms with primarily profitable years during 1988-1993 as healthier firms. Oh & Gallivan (2004) test the extent to which sources of IT outsourcing transaction risk influence investor's reactions to IT outsourcing announcements. They find that the asset specificity of the IT resources or the size of the contract is negatively correlated to investors' reaction. However, they find that contract duration and performance monitoring is not significantly associated with the market reaction.

3. Hypothesis Development

3.1. Market Reaction to Outsourcing Announcements

There are many reasons to believe that IT outsourcing announcements would be perceived as positive news by investors. As suggested by Hayes et al. (2000), firms outsource its functions because of many reasons, including increased economies of scale and scope, concentration on core business, increased flexibility, and the resulting improved cost efficiencies. In essence, the cost efficiencies fall under two major categories: long-term measures and short term measures. Quinn et al (1990) suggest that, to reap the full benefit of IT outsourcing, a firm must make this decision only with long-term benefits in mind. In other words, the IT outsourcing by itself might not elicit a positive market reaction unless investors believe that this decision is designed to provide long-term benefits to the contracting firm. As such, the market reaction to IT announcements will vary depending on the investors' perception regarding the firm's ability to translate this decision to increased long-term cash flows (through cost reduction) or decreased long-term risk exposure. It is expected that investors will analyze the IT outsourcing decision in light of the characteristics and the soundness of the decision-making process of the announcing firm. This leads to Hypothesis 1 as below.

Hypothesis 1: *Market reaction to announcements of IT outsourcing will depend on the market's perception about the cost-saving (or risk handling) ability of firm.*

3.2. Determinants of Outsourcing

Outsourcing decision is similar to make or buy decision in which costs and benefits of this decision are to be carefully analyzed. Benefits are derived from potential cost and/or risk reduction of the contracting firm. Direct costs are related to hiring and retaining of the IT service provider. Indirect costs originate from various sources. Earl (1996) describes these sources as loss of in-house IT capability, loss of power with respect to the vendor, hidden costs, technological obsolescence, loss of innovative ability, and the loss of key IT employee. Hancox & Hackney (2000), and Bhali & Rivard (2003) identify other sources: lock-in, contractual amendments, unexpected transitions and management costs, and disputes and litigation.

Despite the costs, some firms choose to outsource their IT function while others in the same industry do not. Loh and Venkatraman (1992) test a model to determine why a firm might decide to outsource. They find that business cost and IT costs are the main driving force for the IT outsourcing decision. They add that low economic returns on IT investment are also a motivation for managers to outsource their IT functions. Smith et al.'s (1998) study on pre-event firm characteristics reveal that outsourcing firms have lower overhead cost, lower cash reserve, and higher debt before the outsourcing event. Also, long-term debt of these firm increases immediately prior to the outsourcing announcements. These observations lead us to believe that those firms who outsource have different financial characteristics from those who do not. Hence, we hypothesize:

Hypothesis 2: *Firms who outsource will have different characteristics from those who do not.*

4. *Methodology, Data and Variables*

4.1 Testing of Hypothesis 1

4.1.1 Testing of Hypothesis 1: Methodology

The objective of hypothesis 1 is to test whether market reaction of investors depends on firm characteristics. Earlier studies have used market model for their event study e.g. Santos et al (1993) , Hayes et al (2001), Im et al (2001) and Oh and Gallivan (2004).

We will use risk adjusted return. We use Fama-French Model for event study.

$$r_{it} - r_{ft} = \alpha_i + \beta_{mkt,i}[r_{mt} - r_{ft}] + \beta_{smb,i}[SMB] + \beta_{hml,i}[HML] + \varepsilon_{it}$$

$$R_{it} = \alpha_i + \beta_{mkt,i}[R_{mt}] + \beta_{smb,i}[SMB] + \beta_{hml,i}[HML] + \varepsilon_{it} \textbf{…….……..(1)}$$

Where:

R_{mt} : rate of return market portfolio on day t,

R_{it} : rate of return of firm i on day t,

α_i : intercept for firm i,

$\beta_{mkt,i}$: slope parameter for market on firm i,

$\beta_{smb,i}$: slope parameter for Small Minus Big stock (SMB) firm i,

$\beta_{hml,i}$: slope parameter for High Minus Low stock (HML) firm i,

ε_{it} : error term

Next we calculate abnormal returns (AR) using the market model. To calculate abnormal return we first calculated α_i , $\beta_{mkt,i}$, $\beta_{smb,i}$ and $\beta_{hml,i}$ using Fama French model by using daily stock return data during the period from 255 days prior to event to 46 days prior to event. Then abnormal return is:

$A_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_{mkt,i}[R_{mt}] + \hat{\beta}_{smb,i}[SMB] + \hat{\beta}_{hml,i}[HML])$ from this we calculate average abnormal return (AAR_t) as follows:

$$AAR_t = \sum_{i=1}^{N} A_{it} / N \text{ .} \quad \textbf{……..….(2A)}$$

Cumulative abnormal return (CAR) is calculated using AAR with

$$CAR_{(t1,t2)} = 1/N \left(\sum_{i=1}^{N} \sum_{t1}^{t2} A_{it} \right) \text{ .} \quad \textbf{……..….(2B)}$$

Where t1 is the beginning trading day and t2 is ending trading day for the period.

We will collect CAR values as described in equation 2B and run a regression against firm characteristics. Equation 3 describes the general model setup.

$CAR_i = f$ (firm characteristics) + ε …….(3)

4.1.2. Testing of Hypothesis 1: Variables

Loh and Venkatraman (1992) use business cost structure, business performance, financial leverage, cost structure, and performance variables to explain the outsourcing decision. They find that degree of IT outsourcing is positively related to both business and cost structure. They also find that degree of outsourcing is negatively related to performance. Smith et al. (1998) study on pre-event firm characteristics reveal that outsourcing firms have lower overhead cost, lower cash reserve, and higher debt than their peers before the outsourcing event. Additionally, long-term debt and financial leverage increase before the outsourcing decision is announced.

1. **Industry Classification (IND_Dummy):** Market will react differently to the outsourcing decision by firms in different industry. Because market has different expectation for different industry, for firms involved in technology oriented area, e.g. auto-manufacturing, aircraft manufacturing, IT outsourcing is expected. However, for firms involved in food, banking, or other service industry IT outsourcing is less expected, as a result market will react to such decision sharply.

   From information asymmetry point of view service industry has less information available for its cost competitiveness because standard financial-reporting system is unable to capture all the factors which create value in service industry (Lang and Warfield, 1997). However, announcement of outsourcing releases forward-looking strategic information for firms in service industry which benefits these firms by reducing information asymmetry; outsourcing decision signals the market that service firm is striving for the best. Previous studies by Gordon, Calantone, and Benedetto, 1993, and Roach, 1998 have shown that firms in service

industry invest higher proportion of their assets in information technology as compared to non-service industry.

We expect positive and bigger reaction from the market in service industry as compared to non-service industry. We will use SIC codes to distinguish between different industries.

2. **Improvement in performance and cost saving:** Firms which are seen as inefficient will receive a positive reaction from the market for outsourcing decision. IT Outsourcing decision by firm is seen as cost cutting measure by investors. Outside vendors can provide the same level of service at a low cost due their specialization and economies of scale and scope (Hayes et al 2000). Striving firms are seen as firms on the edge and if they do not take any cost cutting or sales improvement measure, their existence will be in danger.

   We use two measure of cost efficiency: cost of goods sold & overhead expenses over sales similar to Kaplan, 1989, and Smith , 1990, which measures the firm's cost of operations including indirect expenses and operating margin similar to Kaplan, 1989 and Mitra &Chaya, 1996, which take out the effect of unusual situations and differences in accounting practices. We expect market will react more positively to any outsourcing decision done by inefficient firms.

   An oft-cited reason for outsourcing is focus on core competencies (Lacity, Hirchheim and Williocks, 1994). This is even intense during recession when firms start focusing on core business operations (McCue, A., 2005). If information technology does not fall into core competence area of a firm then IT outsourcing is

seen as conservation of resources and focus on greater strategic potential area by firms.

Firms which outsource non-core activities, invest less in assets that can be captured indirectly through Sales/Assets (Smith et al 1998). As an example, if two firms are in same industry generating same sales but one has more assets as compared to the other, then the firm with higher assets is more in need of cutting down their assets or focus on core competence. Thus, we expect that when lower asset turnover ratio firm announces IT outsourcing, market perceives it as focusing on core competence or long-term cost cutting measure and respond with a positive reaction.

Performance and cost saving measures :

a. (CGOS)= Cost of Goods Sold & Other expenses/ Sales
b. (OM)= Operating Margin= (Operating expenses/Sales)
c. (SAA)= Sales/Asset

3. **Cash Needs :** Firms often take IT outsource decision to generate cash (Lacity, Hirchheim, and Willcocks, 1994, and McFarlan and Nolan, 1995). Sometime IT outsourcing decision is followed by acquisition of tangible and intangible assets of client by vendors (Smith et al., 1998). In such circumstances vendor pays introductory cash payment, cash payment deals are particularly attractive for firms with high leverage or other liabilities. Whenever such firms take outsourcing decision, investors perceive as positive move and react positively. We expect market reaction will be positive for outsourcing decision by highly levered or cash needy firms.

a. (LTDE)= Long-Term Debt/Equity

b. (CASHS)= Cash & Equivalent/Sales

The expanded equation 3 takes the following form:

$$CAR_i = \beta_0 + + \beta_1 (Ind\_Dummy) + \beta_2 (CGOS) + \beta_3 (SAA) + \beta_4 (OM) + \beta_5 (LTDE) + \beta_6 (CASHS) + \varepsilon \quad \text{.....(4)}$$

4.2. Testing of Hypothesis 2

4.2.1 Testing of Hypothesis 2: Methodology

The purpose of hypothesis 2 is to distinguish the characteristics of firms which take IT outsourcing decision from the firms which do not take IT outsourcing decision. The conditional logistic regression can be used to analyze the 1-1 matching in which one case has only one matching control. To perform this analysis, first we found the firm which is closest to the firm which has gone for IT outsourcing on the basis of Total Asset size, M/B ratio, and Industry.

Ordinary logistic regression may be inappropriate for matched sample because it may give biased result (Maddala, 1991, and McFadden, 1973).In such studies sample size is insufficient to measure the pair effect. However, using conditioning argument, one can eliminate the pair effect and estimate the other effects in which one is interested. Conditional logistic

regression is appropriate form of logistic regression. It takes the grouping into account by basing the maximum likelihood estimation of the model parameters on a conditional likelihood.

We find the firm characteristics using COMPUSTAT. We will use IT Outsourcing as our dependent variable and independent variables as various firm characteristics variables which are described in detail in the following paragraphs.

The logistic regression equation conditional on asset size, M/B and industry is employed here is

$$(\text{Outsourcing}=1, \text{else}=0) = f(\text{firm characteristics}) + \varepsilon \quad \ldots\ldots(5)$$

4.2.2. Testing of Hypothesis 2: Variables

Dependent Variable

Outsourcing is captured by a dummy variable: it takes on a value of 1 when firm take out sourcing decision and 0 otherwise.

Independent Variables

1. **Improvement in performance and cost saving:** We expect inefficient firms will go for IT outsourcing more often as compared to efficient firms because IT outsourcing is a tool for cutting cost.

2. **Cash Needs:** We expect highly levered firm and cash needy firms will choose more IT outsourcing than other firms among their peer groups because IT outsourcing decisions are often followed by introductory cash payments from vendors

The expanded equation 5 takes the following form

$$\text{(Outsourcing=1, else=0)} = \beta_0 + \beta_1 \text{(CGOS)} + \beta_2 \text{(SAA)} + \beta_3 \text{(OM)} + \beta_4 \text{(LTDE)} + \beta_5 \text{(CASHS)} + \varepsilon \quad \text{.....(6)}$$

4.3. Data

In the first phase of our data collection we used Lexis-Nexis to access all the articles and press releases about IT outsourcing from the period 2001 to 2005. To search articles related to IT outsourcing various combination of search terms (outsource, failures, litigation, disputes) are used in different sections (e.g. Business Finance and IT Industry). From Lexis –Nexis we obtained 5000 news items related to outsourcing from 2001- 2005. Only 496 news items were found relevant to IT Outsourcing announcement. As stated earlier, our sample consists of US clients who hire on-shore as well as off-shore vendors. We start with 136 observations. To conduct our event study as well as cross-sectional study to understand the market behavior around the event and factors responsible for abnormal return, we need market data as well as accounting data. Accounting data for the selected firms are obtained from the Standard and Poor's COMPUSTAT database. For the event study, we use the CRSP data base.

To test our second hypothesis, (characteristics of firms which outsource and which do not), we need a peer group that does not outsource. Out of 136 observations in the original sample, we find accounting and market information for 63 firms, which make our final sample.

Table 1A Distribution of sample of 63 IT outsourcing announcing US firms during the period 2001-2005. The IT outsourcing announcements are identified from Lexis-Nexis news network.

Value	Count	Percent	Cumulative Count	Cumulative Percent
2001	8	12.70	8	12.70
2002	17	26.98	25	39.68
2003	13	20.63	38	60.32
2004	16	25.40	54	85.71
2005	9	14.29	63	100.00
Total	63	100.00	63	100.00

Table 1B Summary statistics of sample of 63 IT outsourcing announcing US firms during the period 2001-2005. The IT outsourcing announcements are identified from Lexis-Nexis news network. Accounting data is obtained from COMPUSTAT.

	ASSETS TOTAL (in millions)	SALES NET (in millions)	ROA	ROE	EPS	M/B	DY	DPS
Manufacturing (29)								
Mean	29786.190	33808.150	5.626	11.118	1.990	4.064	1.800	0.588
Median	23215.000	17660.000	6.161	16.980	2.260	3.139	1.507	0.567
Maximum	192811.000	265190.000	22.889	61.942	7.110	15.998	7.048	1.528
Minimum	1022.000	1432.167	-11.369	-169.966	-8.100	0.770	0.000	0.000
Finance (17)								
Mean	372753.600	23034.740	1.660	13.713	2.678	1.803	2.800	0.786
Median	88701.410	13152.500	1.400	12.805	2.515	1.503	2.539	0.810
Maximum	1520140.000	59746.760	5.086	23.738	7.300	3.352	7.984	2.000
Minimum	2815.705	536.003	0.212	3.903	0.680	0.757	0.000	0.000
Others (17)								
Mean	21030.220	17215.230	3.071	12.798	1.659	2.114	1.520	0.397
Median	15156.000	8152.000	3.765	9.802	1.440	1.851	1.204	0.275
Maximum	105748.000	91134.000	7.809	43.358	5.380	3.998	4.600	1.109
Minimum	1009.477	651.439	-9.406	-14.925	-1.200	0.409	0.000	0.000

Table 1, Panel A indicates that our sample is very different from the ones used in previous studies. Sample starts from 2001 and ends at 2005. The majority of observations are in years 2002 to 2004, almost 73%. Hence, it gives new insight on the market behavior on IT outsourcing as compared to past studies. Table 1, Panel B tells us that we have a fairly good mix of manufacturing, service and other industries:. 29 firms are in manufacturing, 17 firms are in financial services, and 17 firms are in other industries. Finance firms are 10 times larger than manufacturing firms in terms of total assets but half in sales. Manufacturing firms are performing better than finance and other firms in terms of ROA, ROE, and M/B.

5. Results

5.1 Results for Hypothesis 1: Abnormal Returns

Table 2 provides the results of overall market reaction for the IT Outsourcing announcement. It provides average abnormal returns during 13-day event window (-6, 0, +6). The result shows that market react positive to the news of outsourcing on the event day (day 0).

Table 2 indicates that market react positively to the news on the event date. The positive reaction of the market starts some time six days before the event and on the day of announcement market react sharply on the positive direction. On the day of event abnormal return is significantly positive at the 10% significant level. Based on this we can say that outsourcing information do convey significant level of new information.

Table 2: Average abnormal returns for a sample of 63 IT outsourcing announcing US firms during the period 2001-2005. The IT outsourcing announcements are identified from Lexis-Nexis news network. Abnormal returns are calculated using the Fama-French model parameters estimated over a 255-day period ending 46 days before the announcement date. Value weighted Index is used in the Fama-French model to compute betas.

Day	Mean Abnormal Return	Positive: Negative	Portfolio Time-Series (CDA) t	Generalized Sign Z
-6	0.50%	36:30	1.436c	0.869
-5	-0.44%	30:36	-1.268	-0.608
-4	0.31%	34:32	0.892	0.377
-3	0.51%	36:30	1.205	1.162
-2	-0.11%	34:32	-0.315	0.377
-1	0.36%	33:33	0.866	0.210
0	0.14%	38:28c	1.410c	1.315c
1	0.01%	33:33	0.034	0.130
2	0.18%	36:30	0.516	0.869
3	0.03%	30:36	0.081	-0.608
4	-0.05%	31:35	-0.144	-0.362
5	-0.05%	30:36	-0.147	-0.608
6	-0.28%	30:36	-0.796	-0.608

a significant at 1% b significant at 5% c significant at 10%

To see the variation of CAR around the event window we split the window into small periods; (-5,-2), (-1,0), (-1,+1), (0,+1), (+2, +5), and (-5,+5). Table 3 provides the CARs for the three different windows. CARs indicate how the level of portfolio wealth is changing as we approach to event date.

Table 3: Cumulative abnormal returns for a sample of 63 IT outsourcing announcing US firms during the period 2001-2005. The IT outsourcing announcements are identified from Lexis-Nexis news network. Abnormal returns are calculated using the Fama-French model parameters estimated over a 255-day period ending 46 days before the announcement date. Value weighted Index is used in the Fama-French model to compute betas. The cumulative abnormal returns are calculated in the intervals.

Days	Mean Cumulative Abnormal Return	Positive: Negative	Portfolio Time-Series (CDA) t	Generalized Sign Z
(-5,-2)	0.27%	36:30	0.407	0.869
(-1,0)	0.50%	30:36	1.016	-0.608
(-1,+1)	0.51%	33:33	0.849	0.130
(0,+1)	0.15%	34:32	0.314	0.377
(+2,+5)	0.11%	32:34	0.153	-0.116
(-5,+5)	0.89%	40:26b	0.782	1.854b

a significant at 1% b significant at 5% c significant at 10%

Table 3 shows that none of the smaller windows (-1, 0), (-1, +1) and (0, +1) is insignificant, although some of the larger windows are significantly positive. These findings signify that the information is leaked out in the market days before the day of actual announcement of outsourcing. An absence of a significant abnormal for smaller windows is also evidenced in other studies, including Peak et al (2002), Hayes et al (2000), and Oh and Gallivan (2004). Since an outsourcing decision takes place after months of negotiations between the client and the vendor, the leakage of information is understandable.

5.2. Factors Explaining Abnormal Returns

Table 3 shows that the (-5, 5) window is significantly positive at the 10% level, implying that on average IT outsourcing announcement has a positive effect on the client's market return. To measure the effect of firm characteristics on market we perform a cross-sectional study using CAR of the (-5, 5) window and firm characteristics as independent variables.

Table 4 reports the result of cross sectional study. R-square and adjusted R-square are 0.545 and 0.297, respectively. Based on the F-test, the model is globally significant at 10%.

Table 4: OLS regression to explain the valuation effect of 63 IT outsourcing announcement by US firms during the period 2001-2005. The IT outsourcing announcements are identified from Lexis-Nexis news network. The dependent variable is the cumulative abnormal return during the eleven day announcement window CAR (-5, 5). The independent variables are: Manufacturing Dummy is an indicator variable equal to 1 if the firm belongs to manufacturing industry otherwise equal to 0. CGOS is the cost of goods sold and other expense over sales, SAA is sales over assets, OM is operating expenses over sales, CASHS is cash and equivalent over sales, and LTDE is Long-Term Debt over equity.

	Expected Sign	Coefficients	t	Sig.
C		-2.991	-2.144	0.036b
Manufacturing-Dummy	-	-0.313	-2.808	0.007a
CGOS	+	1.038	2.151	0.036b
SAA	-	-0.533	-2.296	0.025b
OM	+	1.152	2.818	0.007a
CASHS	-	-0.264	-1.468	0.148
LTDE	+	0.241	1.664	0.102

Dependent Variable: CAR (-5, 5), F=2.116 , p=0.066
R square = 0.545, Adjusted R Square = 0.297
a significant at 1% b significant at 5% c significant at 10%

Table 4 provides evidence of industry effect. The coefficient of manufacturing dummy is -0.313 and statistically significant. It indicates that the market reacts more positively when non-manufacturing firm opt for outsourcing as compared to manufacturing firm. The result is similar to Hayes et al (2000). We have hypothesized that firms use IT outsourcing as a cost cutting tool and as such market reaction is likely to be positive. The coefficient of CGOS (Cost of Goods Sold and other expenses/ Sales) is positive and statistically significant: this implies that when firms incurring higher costs opt for IT outsourcing, the market reaction is positive.

SAA (Sales/ Assets) indicates the firm efficiency. The coefficient (-0.533) of this variable is significantly negative. In other words, the more inefficient the firm is, the higher

the positive market reaction to the IT outsourcing announcement. For less efficient firms, an IT outsourcing decision amounts to taking a positive step towards improved sales , speedier order processing, and better customer services, etc. As such, the market perceives the outsourcing decision as a positive step. In addition, the market might consider this decision as the firm's moving back to its core business. The coefficient of OM (Operating expense/Sales) is positive and statistically significant. This result is consistent with our expectation, implying that the higher the pre-outsourcing operating cost relative to sales of a firm the more positive is the market reaction.

Table 4 also provides support, albeit a weak one, for the hypothesis that higher the debt ratio (LTDE =Long-term debt/ Equity) of a firm, the more positive is the market reaction to the firm's outsourcing announcement. There are two potential reasons for this result. First, potential revenue from the sale of the client's IT assets might be used to lower the client's debt. Second, the reduction of IT assets, which are usually non-redeployable and therefore not suitable for debt financing, may be perceived as a risk-reducing measure by the market.

5.3. Results for Hypothesis 2

Using conditional logistic regression we attempt to find if there are discernible differences in firm characteristics between the outsourcing and non-outsourcing groups. The dependent variable in this regression is an indicator variable that is 1 for firms that take IT Outsourcing decision and 0 for the control firms (non-outsourcing firms).

Table 5: Conditional logistic regression to explain the firm characteristics which increases (or decreases) the odds of taking IT outsourcing decision. The conditional logistic regression is based on 1:1 matching (by asset size, M/B and industry) in which one case has only one matching control. Firms who outsource are our case and matching firms which do not outsource are control. Sample consist of 63 IT outsourcing announcement by US firms and 63 matching non-outsourcing firms during the period 2001-2005. The IT outsourcing announcements are identified from Lexis-Nexis news network. The dependent variable is a dummy variable which equal to 1 when firm choose to outsource and 0 otherwise. The independent variables are: CGOS is the cost of goods sold and other expense over sales, SAA is sales over assets, OM is operating expenses over sales, CASHS is cash and equivalent over sales, and LTDE is Long-Term Debt over equity. Probability related to each coefficient is reported in parenthesis.

	Expected Sign	B	Exp(B)
CGOS	+	3.653b (0.023)	38.590
SAA	-	-0.291 (0.663)	0.748
OM	+	0.251 (0.447)	1.285
CASHS	-	-0.480c (0.076)	0.619
LTDE	+	0.071 (0.544)	1.074

a significant at 1% b significant at 5% c significant at 10%

Table 5 shows that CGOS (Cost of Goods and other expenses/Sales) and CASHS (Cash and Equivalent / Sales) are statistically significant- firms with higher values of CGOS and lower values of CASHS are more likely to take IT outsourcing decision. The Exp(B) shows the change in the odds[6] of IT outsourcing decision for a one unit change in predictor; one unit increase in CGOS and one unit decrease in CASHS increases the odds of outsourcing by a factor of 38.59 and 0.62 respectively controlling for variables used for matching (assets size, M/B, and Industry). Firms with higher cost of goods & other expenses over sales use IT outsourcing as a tool to improve cost efficiency. This is in accordance with the efficiency of scale and scope argument of IT outsourcing. Firms with lower cash to sales have a higher probability of opting for IT outsourcing perhaps because these firms are more

[6] The odds in favor of an event occurring is defined as the probability the event will occur divided by the probability the event will not occur. The odds ratio for a given independent variable represents the factor by which the odds (event) change for a one-unit change in the independent variable after controlling for other variables in the model.

likely to be in distress. In this environment, low cash firms find outsourcing to be an effective tool in meeting their short-term cash needs. This result is consistent with Lacity, Hirchheim, and Willcocks (1994) and McFarlan and Norlan (1995) argument that firms often take IT outsource decision to generate cash.

6. Summary & Conclusion

IT outsourcing occurs when a non-IT focused firm hires an IT vendor to provide IT services on behalf of the former. The major expected outcome of the decision to outsource is improved efficiency of the client through cost savings and concentrating on its core business functions. How does the market react when a client announces its IT outsourcing decision? What characteristics are more likely to induce a firm to make an outsourcing decision? These are the two questions that are embraced in this essay.

Hayes et al. (2000), Peak et al. (2002), and Im et al. (2001), among other have examined these issues. Although results of these studies vary with respect to the market reaction to outsourcing announcements as well as to the type of firms that are likely to outsource, there are some agreements as well. For example, the market reacts positively to the announcement of IT outsourcing when this contract is given by smaller firms and by firms in the service industry. However, earlier studies have confined themselves to limited number of firm characteristics. In addition, the sample size has been rather small (e.g., Smith et al.'s (1998) sample size is 29) limiting their econometric tools to non-parametric tests. In this paper we employ 63 firms and apply parametric tests. Another advantage of this paper is its timeliness. Mc Cue (2001) and EquaTerra (2007) suggest that trend and motivation of outsourcing will change in recession (post IT bubble bust) because the economic downturn will force firms to focus on core business operations. During up-markets firms use IT outsourcing to improve performance but during down-markets firms use IT outsourcing to

reduce costs and remain competitive. Ours will be first study to link firm characteristics and firm value via outsourcing in the post IT bubble period (2001-2005).

We find IT outsourcing have a strong positive effect on stock prices of announcing firms, especially for longer event windows. We also find that the higher the pre-announcement inefficiency of a firm (as evidenced by lower asset turnover ratios, higher operating cost to sales, higher cost of good sales to sales, and lower price-to-book), the greater the positive price reaction to the outsourcing announcements. We also find that for firms with higher information asymmetry problems (firms in the service industry) will elicit a higher positive market reaction at the time of outsource announcement. Also, a firm with a higher debt ratio is likely to receive a higher positive reaction to the announcement. Finally, firms that are likely to outsource are cost inefficient, and/or are cash needy.

An important implication to be derived from this study is that firms facing high operating costs and/or low asset turnover may be better of outsourcing the IT function. The market perceives this as a cost-saving measure. Whether and how the cost saving (or reduced risk) is realized is a topic for future research.

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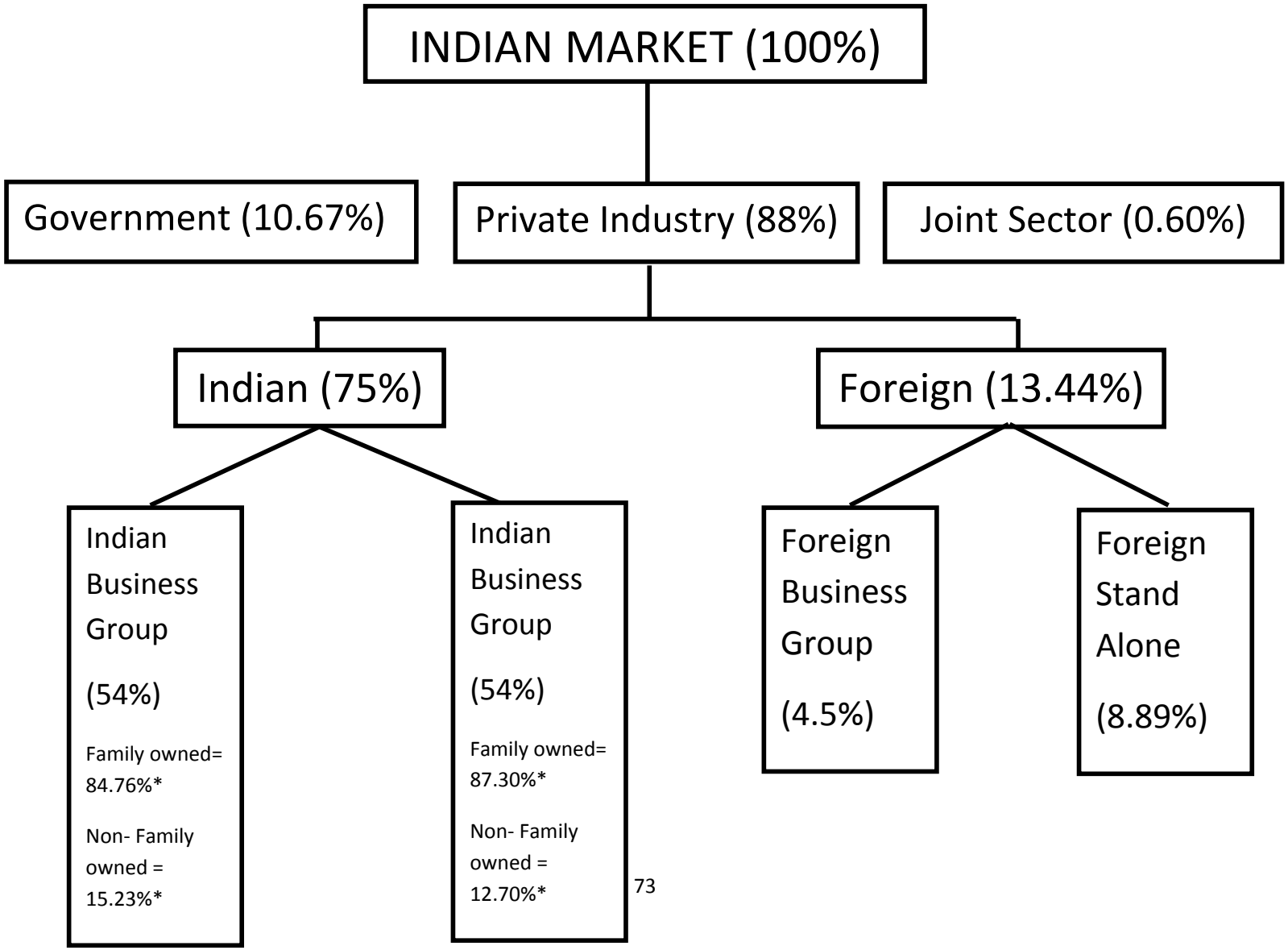
Appendix A


INDIAN MARKET (100%)
Government (10.67%)
Private Industry (88%)
Joint Sector (0.60%)
Indian (75%)
Foreign (13.44%)
Indian Business Group (54%)
Family owned= 84.76%*
Non- Family owned = 15.23%*
Indian Business Group (54%)
Family owned= 87.30%*
Non- Family owned = 12.70%*
Foreign Business Group (4.5%)
Foreign Stand Alone (8.89%)

Vita

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