CHAPTER 8: SALIENT FINDINGS AND CONCLUSIONS

8.1 Salient Findings and Conclusions

It is extremely useful to investigate the determinants of firm performance for the benefit of all stakeholders of a firm. This study focuses on the performance of non financial firms in India during 13 year period (April 2000 to March 2013). Three sub-periods coincide with first period of low economic growth (April 2000 to March 2004), second period of high economic growth (April 2004 to March 2008) and third period of subdued growth due to global recession (April 2008 to March 2013). No prior research has been conducted to examine the joint impact of listing and group affiliation on firm performance. Listing and group affiliation play an important role in explaining firm performance. We find that the effect of independent variables on firm performance is impacted by group affiliation and listing status. Further, the impact of the independent variables is sensitive to the kind of firm performance measure used as dependent variable for the analysis. Salient findings and conclusions of this study are discussed as follows.

Impact of Listing and Group Affiliation on Firm Performance based on full period and sub-periods analysis

- The study shows that the performance (measured in terms of return on assets) of standalone unlisted firms is higher than the performance of business group unlisted firms which in turn is higher than the performance of standalone listed firms whereas performance of business group listed firms is the lowest. This is true for all time periods except for sub-period 3. The performance of business group unlisted firms and standalone listed firms are equal during third sub-period. Bertrand et al. (2002) find the evidence of tunneling in India. Thus business group listed firms perform worse than standalone listed firms.
firms. Further, standalone unlisted firms are the highest performers as these firms have least agency cost due to close monitoring by promoters and absence of tunneling.

- Analysis of listed firms validates the above finding by indicating that the performance of standalone listed firms is higher than the performance of business group listed firms. In addition, analysis of unlisted firms shows that performance of standalone unlisted firms is higher than the performance of business group unlisted firms.

- Analysis of standalone firms further supports the above finding by indicating that the performance of standalone unlisted firms is higher than the performance of standalone listed firms.

- Analysis of business group firms is also consistent with the above finding which demonstrates that the performance of business group unlisted firms is higher than the performance of business group listed firms.

**Effect of Independent Variables on Firm Performance on Different Categories of Firms based on full period and sub-periods analysis**

We find that the impacts of independent variables are different for different categories of firms. Here we summarize the impact of each variable for all categories of firms.

**Promoters’ holding and ROA**

- The impact of promoters’ holding is positive and significant on **ROA** for all categories of listed firms (standalone listed firms, business group listed firms and all listed firms) during all four time periods. However, promoters’ holding has no significant impact on return on assets for standalone listed firms during sub-period 2.

**Promoters’ holding and LBPR**
Promoters’ holding has positive significant impact on natural log of price to book value ratio (LBPR) for all categories of listed firms during all four time periods.

Leverage and ROA

• In the case of all firms, the impact of leverage on ROA is negative and significant during sub-periods 1 and 2 and not significant during full panel period and sub-period 3. However, the classification of all firms shows that leverage has negative and significant impact on ROA of standalone firms during full panel period and sub-period 1 and not significant in sub-periods 2 and 3.

• Classification of all firms into listed and unlisted firms reveals that leverage has significant negative impact on ROA of unlisted firms during full panel period and sub-period 3 and not significant in sub-periods 1 and 2. Further classification of unlisted firms reveals that leverage has significant negative impact on ROA of standalone unlisted firms during full panel period and sub-periods 1 and 3 and not significant in sub-period 2.

• Leverage has significant negative impact on ROA of business group unlisted firms during full panel period and sub-period 3 and not significant in sub-periods 1 and 2.

• Leverage has significant negative impact on ROA for standalone listed firms during sub-period 1, for business group listed firms during the three sub-periods and for all listed firms during sub-periods 1 and 2.

Leverage and LBPR

• Leverage has significant positive impact on LBPR of standalone listed firms during all four time periods, on LBPR of business group listed firms during sub-period 2 (no significant impact in other periods) and on all listed firms during full panel period and sub-periods 1 and 2 (no impact in sub-period 3).
• The positive impact of leverage for this market based measure can be attributed to the increase of earning per share with higher leverage which directly benefits the shareholders. For business group listed firms, the impact of leverage is negative on LBPR during sub-period 3 representing the period of global recession.

Firm size and ROA

• Firm size has positive and significant impact on ROA for all firms during full panel period. However, the classification of all firms reveals that size has significant inverted U shape relationship with ROA of unlisted firms during full panel period. Further, firm size has significant inverted U shape relationship with ROA of all firms during sub-periods 2 and 3, which is contributed by unlisted firms during sub-period 2 and listed firms during sub-period 3.

• The classification of all firms into standalone and business group firms reveals that the significant inverted U shape relationship of size and ROA for all firms during sub-periods 2 and 3 is contributed by standalone firms and not by business group firms. Lee (2009) finds inverted U shape relationship of firm size with ROA for US firms.

• Analysis of all firms shows that firm size has significant U shape relationship with ROA during sub-period 1, which is contributed by all listed firms. Business group firms have positive and significant relationship between size and firm performance measured by ROA during the corresponding sub-period 1. Lee (2009) finds inverted U shape relationship of firm size with ROA for US firms. However, India being developing country, it takes time for Indian firms to achieve inverted U shape relationship of firm size with firm performance ROA.

• Further, the significant inverted U shape relationship between firm size and ROA for standalone firms during full panel period and sub-periods 2 and 3 is contributed by
standalone unlisted firms. Whereas standalone listed firms has significant U shape relationship with ROA during full panel period and sub-period 1; and positive and significant relationship during sub-periods 2 and 3. This can be due to the fact that the size of standalone listed firms increases positively with time, but the size of standalone unlisted firms increases with increasing speed as t (time) increases (as indicated by table D4 in appendix – D).

- Business group firms have positive and significant relationship between firm size and firm performance ROA during full panel period and sub-periods 2 and 3; and U shape relationship during sub-period 1. The classification of business group firms reveals that this U shape relationship is contributed by business group listed firms.

**Firm size and LPBR**

- Analysis of all listed firms reveals that firm size has U shape relationship with firm performance during all four time periods. The same relationship holds for standalone listed and business group listed firms during all four time periods.

**Firm efficiency and ROA**

- There is no significant impact of firm efficiency on ROA at aggregate level for all firms, business group firms, standalone firms and unlisted firms, and also at disaggregate level for standalone unlisted firms and business group unlisted firms for all periods with only one exception to this, that is, firm efficiency has significant negative impact on ROA of business group unlisted firms during sub-period 3. However, the firm efficiency has significant positive impact on ROA for standalone listed firms during full panel period and sub-periods 1 and 3, and on business group listed firms and all listed firms during the three sub-periods only.
Firm efficiency and LPBR

- Firm efficiency has significant positive impact on LBPR for standalone listed firms during full panel period and sub-periods 1 and 3 and significant negative impact during sub-period 2. It has significant positive impact on LBPR during sub-periods 1 and 2 for business group listed firms and during sub-period 1 for all listed firms.

Age and ROA

- Firm’s age has significant positive impact on ROA of all categories of firms except for listed categories of firms (all listed, business group listed and standalone listed firms) during full panel period and it has no significant impact on all listed categories firms during full panel period. In general, firm age has significant negative impact on ROA during sub-period 1 and in general it has significant positive impact on ROA during sub-period 3 for all categories of firms.

Age and LPBR

- Firm age has significant positive impact on LBPR of standalone listed firms, business group listed firms and all listed firms during all four time periods except for business group listed firms and all listed firms during sub-period 1.

Export intensity and ROA

- Export intensity has significant negative impact on ROA of business group firms, business group unlisted firms, all listed firms, standalone listed firms, standalone unlisted firms and business group listed firms and no significant impact on other categories of firms during full panel period and positive impact on ROA of standalone unlisted firms during the same full panel period. It has negative impact on ROA of standalone listed firms, all listed firms, standalone firms and all firm during sub-period 1, on ROA of
business group listed firms, all listed firms, business group listed firms, business group firms and all firms during sub-period 2. However, the impact is positive and significant during sub-period 3, reflecting global recession on return on assets of standalone unlisted firms, unlisted firms, standalone firms and all firms.

**Export intensity and LPBR**

- Export intensity has negative impact on LBPR of standalone listed firms and positive impact on LBPR of business group listed firms during sub-period 1 only and no significant impact for all other periods and no significant impact on LBPR for all other periods.

**Selling and distribution expenses and ROA**

- Selling and distribution expenses have either significant negative impact or no impact on ROA. It has significant negative impact on all categories of firms except stand alone listed firms during full panel period, no impact on standalone and business group unlisted firms and stand alone firms in sub-period 1, no impact on standalone unlisted firms, standalone firms and business group firms in sub-period 2 and no impact on standalone listed, standalone, business group listed and business group firms in sub-period 3.

**Selling and distribution expenses and LPBR**

- The impact of selling and distribution expenses is positive and significant on LBPR for all listed firms and business group listed firms during all four time periods and it has positive and significant on standalone listed firms during full panel period only. The impact of selling and distribution expenses is negative on accounting based measure of firm performance, ROA, but is positive and significant on market based measure of firm performance, LBPR. This can be because investors value those firms higher who spend
more on selling and distribution expenses as these firms are more visible to investors. As a result of visibility, investors are possibly more confident to purchase shares and hence LBPR of those firms are higher.

**Industry Concentration (HHI – Herfindahl-Hirschman Index) and ROA**

- The impact of HHI is positive on ROA of standalone listed firms during full panel period and sub-period 3; on ROA of all listed firms during full panel period; on ROA of business group unlisted firms during sub-period 1 and on ROA of all firms during full panel period and sub-period 1.

**Industry Concentration (HHI – Herfindahl-Hirschman Index) and LPBR**

- HHI has positive impact on LBPR of standalone firms during sub-period 2 and no significant impact on LPBR during all other sub-periods and all other categories of firms.

**Impact of Time Period on Firm Performance**

- **Results of Trend Analysis on ROA**
  
  o Trend analysis of all firms shows that ROA has significant negative relationship with time. However, the classification of all firms into listed and unlisted firms reveals that ROA has significant U shape relationship with time for unlisted firms. Similarly, the classification of all firms into standalone and business group firms indicates that ROA has significant U shape relationship with time for business group firms. Further classification of business group firms reveals that ROA of business group unlisted firms has U shape relationship with time. However, ROA of business group listed firms has inverted U shape relationship with time.
  
  o Trend analysis of LBPR for all categories of listed firms (standalone listed firms, business group listed firms and all listed firms) shows that LBPR has significant
inverted U shape relationship with time. LBPR increases initially with increases in time, however, after a certain point of time, it starts decreasing. This trend replicates that trend in GPD growth rate of Indian economy as depicted in figure 4.1.

- Trend analysis of natural log of net sales shows that the growth rate in net sales is positive and significant for standalone listed firms and business group listed firms. However, the results show that net sales has significant U shape relationship with time for business group unlisted firms, unlisted firms and all firms. Further, the results indicate that net sales of all listed firms, standalone unlisted firms, standalone firms and business group firms increases with increasing speed as the time increases.

- **Results of Univariate Analysis**
  
  - Results of univariate analysis show that for all categories of listed firms (standalone listed firms, business group listed firms and all listed firms) unconditional means of both the dependent variables (ROA as well as LBPR) during second and third sub-periods are higher than the first sub-period. Further, unconditional means of these variables during third sub-period are lower than the corresponding means during second sub-period. Further, the same relationship holds for ROA of standalone unlisted firms, standalone firms and all firms.

  - For unlisted firms and business group firms unconditional mean of ROA during the second sub-period is higher than that of the first sub-period. Further, unconditional mean of ROA is equal during the first and the third sub-periods. For business group unlisted firms unconditional mean of ROA is the highest during the second sub-period of high economic growth followed by the first period unconditional mean of ROA whereas the performance during third sub-period of global recession is the least.

- **Results of Multi-variate Regression Analysis**
Multi-variate regression analysis of all firms suggests that conditional mean of ROA is higher in the second sub-period as compared to the first sub-period conditional mean of ROA and conditional mean of ROA of third sub-period is less than the conditional mean of ROA of first sub-period due to global recession.

The above finding holds in the case of listed firms as well.

For unlisted firms, standalone firms, standalone unlisted firms and standalone listed firms, we find that conditional mean of ROA is higher in the second sub-period as compared to the conditional mean of ROA in the first sub-period. Further, the conditional means of ROA of these categories of firms are the same during the first and the third sub-periods.

For business group firms, business group unlisted firms and business group listed firms conditional mean of ROA during the sub-period 3 is lower than the conditional mean of ROA during the sub-period 1.

Results of multi-variate regression analysis confirm the results of univariate analysis for LPBR of standalone listed firms and all listed firms and for ROA of unlisted firms. However, for all other categories of firms multivariate regression analysis indicates different results. These differences in results are summarized below.

Univariate analysis shows that unconditional mean of ROA of business group listed firms during sub-period 2 is higher than that of the same in sub-period 1, but multivariate regression analysis shows that conditional mean of ROA of business group listed firms during sub-periods 1 and 2 are equal. Similarly, univariate analysis shows that unconditional mean of LPBR of business group listed firms during sub-period 3 is higher than that of the same in sub-period 1. However, the conditional mean of LPBR of business group listed firms are equal in sub-periods 1 and 3.
Likewise unconditional mean of ROA of all listed firms during sub-period 3 is higher than that of the same in sub-period 1. However, the conditional mean of ROA of all listed firms during sub-period 1 is higher than that of the same in sub-period 3. Further, unconditional mean of ROA of business group unlisted firms during sub-period 2 is higher than that of the same in sub-period 1, but multivariate regression analysis shows that conditional mean ROA of business group unlisted firms during sub-periods 1 and 2 are equal.

Univariate analysis shows that unconditional mean of ROA of standalone firms during sub-period 3 is higher than that of the same in sub-period 1. However, the conditional mean of ROA of standalone firms are equal in sub-periods 1 and 3. For business group firms, unconditional mean of ROA during sub-periods 1 and 3 are equal and it is less than that of the same in sub-period 2. However, after controlling for other independent variables we find that conditional mean of ROA during sub-periods 1 and 2 are equal and it is higher than that of the same in sub-period 3.

Univariate analysis for all firms shows that unconditional mean of ROA during sub-period 2 is higher than that of the same in sub-period 3, which is in turn higher than that of the same in sub-period 1. However, multivariate regression analysis for all firms indicates that the conditional mean of ROA during sub-period 3 is less than that of the same in sub-periods 1 and 2; and the conditional mean of ROA during sub-period 2 is higher than that of the same in sub-period 1.

8.2 Avenues for Further Research

- We did not analyze firms at industry level and also for business group firms and standalone firms for each industry. One may find that the impact of independent variables on dependent variable is determined by the industry in which the firm operates. For
example, the positive or negative impact of leverage may be determined by the kind of industry the firm operates in.

- We limit our analysis from April 2000 to March 2013 as the data for promoters’ holding is not available before the financial year 2000-01. One can analyze firms before the financial year 2000-01 without considering promoters’ holding as independent variable.