# Can family-owned groups attract a loyal shareholder base?

# Evidence from India

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## Abstract

This paper examines the rationale behind shareholder loyalty in the case of family owned groups. We have analyzed the case of "Reliance Group", the largest private sector company in India, which is headed by the Ambani Family. We have compared its performance with its competitors in the Indian market. Our results show that in spite of having a weak position with respect to voting rights and managerial influence, the minority shareholders prefer to invest in Reliance due to its consistently positive abnormal returns, low leverage, and other factors that consolidate the family brand.

*Keywords*: Family owned groups; Ownership structure Shareholder loyalty; Abnormal returns; Conflict of interest

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## Introduction

The presence of diversified business groups, headed and controlled by a single family, is a ubiquitous phenomenon in emerging markets1[2]. There are various schools of thought which have tried to rationalize their existence and domination in these markets, through reasons ranging from presence of market imperfections, to benefits acquired due to strong linkages to the political brass. The one commonality that can be found in a majority of these groups is the presence of numerous subsidiaries and associates, interlinked to each other through equity ownership. Does this equity structure play an important role in establishing control over the entire group? Does it create a conflict of interest between the controlling and minority shareholders? And if such a conflict exists, how do these business groups manage to attract a loyal shareholder base?

This paper aims to shed light on some of these questions with respect to a particular Indian business group called "Reliance". The activities of Reliance Group range from petrochemicals, oil and gas exploration, refining to textiles, retail, and health care. The parent company of this group – Reliance Industries Limited (RIL) is India's largest private sector company in terms of asset value, and profits. It has over 3.5 million non-institutional public shareholders[3], making it one of world's most widely held stock.

The novel hypothesis being tested is that whether RIL's ownership pattern and position as a group affiliated company create conditions of conflict of interest among its shareholders. After verifying this hypothesis, the reasons behind shareholder affiliation to RIL, in spite of this conflict, are investigated. In order to do this, the risk profile of an average RIL shareholder is assessed and a criterion for decision making is decided upon. To conclude, the extent to which RIL is able to satisfy this criterion as compared to its competition is analysed.

The study is divided into the four correlated parts, starting with an historical overview of the Reliance Group and specifically RIL. This is followed by an analysis of the composition of the Group along with the equity ownership structure of RIL. The ownership structure along with the group composition is used to explore evidence of conflict of interest. In conclusion, the

[2] T. Khanna and Y. Yafeh (2005), "Business groups in emerging markets: Paragons or Parasites?" *ECGI Working Paper Series in Finance*, Pg. 1

[3] From distribution of shareholding as on 31st March, 2010, http://www.ril.com/html/investor/shareownership.html

possible reasons behind investor's preference towards RIL stock are looked into, in terms of quantitative analysis.

## I. Reliance Group

### a. Composition of Group

The Reliance Group consists of a large number of legally independent entities, which can be classified into two categories – group companies, and subsidiary/associate companies (SA). All the SA companies are owned by the group companies through majority shareholding. The group company that stands out in terms of the diversity of business, asset value, revenues and the largest ownership of SA companies is Reliance Industries Limited (RIL).

RIL has an ownership stake ranging between 76-100 % in 92 subsidiaries and 48.38-50 % stake in 15 associate companies (exception – Delta Hydrocarbons, Luxembourg, with a 23.15 % stake). There are 3 other group companies within the Reliance Group. Being unlisted, information about their ownership pattern is unknown. They are – Reliance Logistics, Reliance Solar, and Reliance Life Sciences.

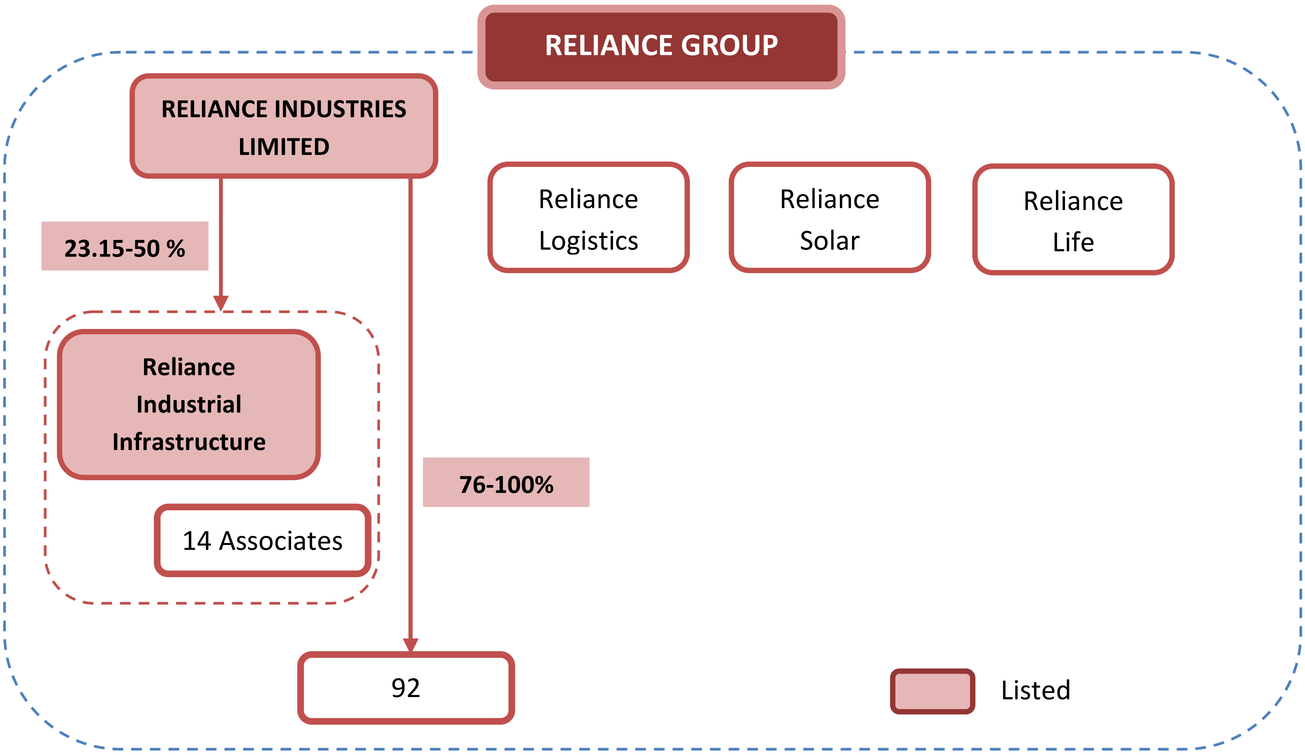


*Fig.1 Composition of Reliance Group*

| GROUP COMPANY | STATUS | SECTOR | YEAR OF ESTD. |
|---|---|---|---|
| **Reliance Industries Limited** | Listed | 1. Petroleum – exploration, production, and refining<br>2. Petrochemicals<br>3. Retail<br>4. Textiles | 1966 |
| **Reliance Logistics** | Unlisted | Logistics | 2001 |
| **Reliance Life Sciences** | Unlisted | Health Care | 2001 |
| **Reliance Solar** | Unlisted | Solar Energy | 2007 |

*Table.1 Group Composition*

The high degree of diversification is visible as the Group has business functions in varied sectors, some of which are completely independent of each other. This strategy of aggressive diversification has been adopted by the Reliance Group since 1999. Before 1999, Reliance mainly aimed at achieving backward vertical integration, starting with textiles in the 70s, to polyester, fibre intermediates, plastics, petrochemicals, petroleum refining, and finally to oil and gas exploration and production i.e. current divisions of RIL. From 2001 onwards (under the Chairmanship of Mukesh Ambani), Reliance Group entered into 3 new sectors – logistics, health care, and solar energy (It also entered telecommunications, power, financial services etc., but that part of the group was taken over by Mukesh's younger brother – Anil Ambani, after the much publicised split in 2005). Additionally, Reliance Industrial Infrastructure Limited (RIIL), established in 1988, as a subsidiary of RIL, has allowed the Reliance Group to also enter the sector of Industrial Infrastructure.

Reliance Petroleum Limited (RPL), was a group company till 2002, when it was merged with RIL. This company had established the 660,000 bpd (barrels per day) refinery at Jamnagar in 1999. RPL was revived in 2006 to setup the second Jamnagar refinery of capacity 580,000 bpd, and was merged again with RIL in 2009, thereby giving RIL a combined refining capacity of 1.24 mbpd (Highest in the world at a single location).

From the annual reports of RIL, there is no evidence of any shareholding linkages between the four group companies. But since all of them fall under the same overarching management, one cannot omit the possibility of the existence of informal ties. These ties would be explored in the later sections of the paper.

### b. Ownership structure of RIL

An extensive analysis of the ownership structure of RIL is essential to determine the degree of control the Ambani family has been able to establish. It will also help us understand the position of minority shareholders with respect to the controlling shareholders.

This blue print of RIL's ownership can be developed by looking into its distribution of shareholding. In addition, the linkages of RIL to its 107 SA companies (92 Subsidiaries & 15 Associates) have been determined with the help of group statements obtained from RIL's Annual Report 2008-2009.

If we look at the shareholding distribution as on March 31st, 2010, RIL's shareholders can be divided into two broad categories – the Promoter Group, and Public Shareholders. Together, these two categories constitute 96.3 % of RIL's equity ownership. The remaining 3.7 % are held by custodians and against which depository receipts have been issued (RIL's Global Depository Receipts or GDRs are listed on the Luxembourg Stock Exchange). These remaining shareholders shall be referred to as "Others".

| S.NO. | CATEGORY | % OF TOTAL SHARES |
|---|---|---|
| 1. | **Promoter Group** | **44.76** |
| 2. | Public Shareholding: | |
| a | Institutions | *28.25* |
| b | Non Institutions | *+23.29* |
| | **Total Public Shareholding(2a+2b)** | **51.54** |
| 3. | **Others** | **3.70** |
| TOTAL (1+2+3) | | **100** |

*Table.2 RIL Distribution of Shareholding as on March 31st, 2010*

The concept of Promoter Group, according to SEBI (Securities Exchange Board of India – regulator of securities markets in India), includes "person or persons who are in over-all control of the company and are instrumental in the formulation of a plan or programme pursuant to which the securities are offered to the public". The promoter group may include the immediate relatives of the promoter and also subsidiaries or holding companies.

Therefore, the promoter group, by virtue of its singular nature, is the biggest shareholder of RIL. It would be very interesting to find out the controlling entity within the Promoter Group. If such an entity exists, it is in the position to exercise absolute control over RIL and its SA companies. In order to answer this question, it is essential to look into the composition of the Promoter Group:

| S.NO | CATEGORY | DETAILS | % OF TOTAL SHARES |
|---|---|---|---|
| 1. | **FAMILY** | Mrs. K.D. Ambani | 0.22 |
| | | Mr. M.D. Ambani (Chairman) | 0.11 |
| | | Mrs. Nita Ambani | 0.10 |
| | | Ms. Isha Ambani | 0.10 |
| | | Mr. Akash.M. Ambani | 0.10 |
| | | Mr. Anant.M. Ambani | +0.00 |
| | | TOTAL FAMILY OWNERSHIP | **0.63** |
| 2. | **TRUST** | PETROLEUM TRUST | **3.68** |
| 3. | **HOLDING COMPANIES** | 34 CORPORATE BODIES | **40.45** |
| **TOTAL SHARE OF PROMOTER GROUP** | | | **44.76** |

*Table.3 Promoter Group Composition*

The 34 corporate bodies, along with the Petroleum Trust, together constitute a majority of the Promoter Group. The Ambani family, in contrast, personally own just 1.4 %[4]. However, the composition of the corporate bodies and the Petroleum Trust indicate otherwise. It points towards the possibility that the Ambani Family has created them merely as proxies for control over RIL and its SA companies. In order to verify this hypothesis, it is necessary to look into the operations and underlying purpose of the Petroleum trust along with the

[4] Ambani Family's share of the promoter group = (0.63/44.76)x100 = 1.4 %

corporate bodies. If it can be established that these organizations are under the influence and control of the Ambani family, the proxy status can be established.

In order to understand the formation of the Petroleum trust, one should know about the previous existence of an independent company within the Reliance Group, called Reliance Petroleum Limited (RPL), which had setup the 660,000 bpd refinery at Jamnagar in 1999. Reliance Industrial Investments and Holdings Limited (RIIHL), a SA company of RIL had a stake in RPL. RPL was merged with RIL in 2002. As RIIHL, which held RPL shares, could not keep shares of the parent company as a result of the merger, the Petroleum trust was created in order to hold these shares. The sole beneficiary of this trust is still RIIHL, which in turn is completely controlled by the Ambani family (RIL has 100% ownership of RIIHL and the Director of RIIHL is Mukesh Ambani's cousin, Hital Meswani). Hence, the Petroleum trust serves as a channel for solidifying control over RIL by the Ambani family, as the trust has a 3.68 % share ownership in RIL.

Similar conclusions can also be derived regarding the 34 corporate bodies. As none of these corporate bodies are listed, direct information about their ownership structure is not available. But from media sources, it has been found that many of these companies fall within the private domain of the Ambani family, thereby transforming them as agencies for consolidating control[5].

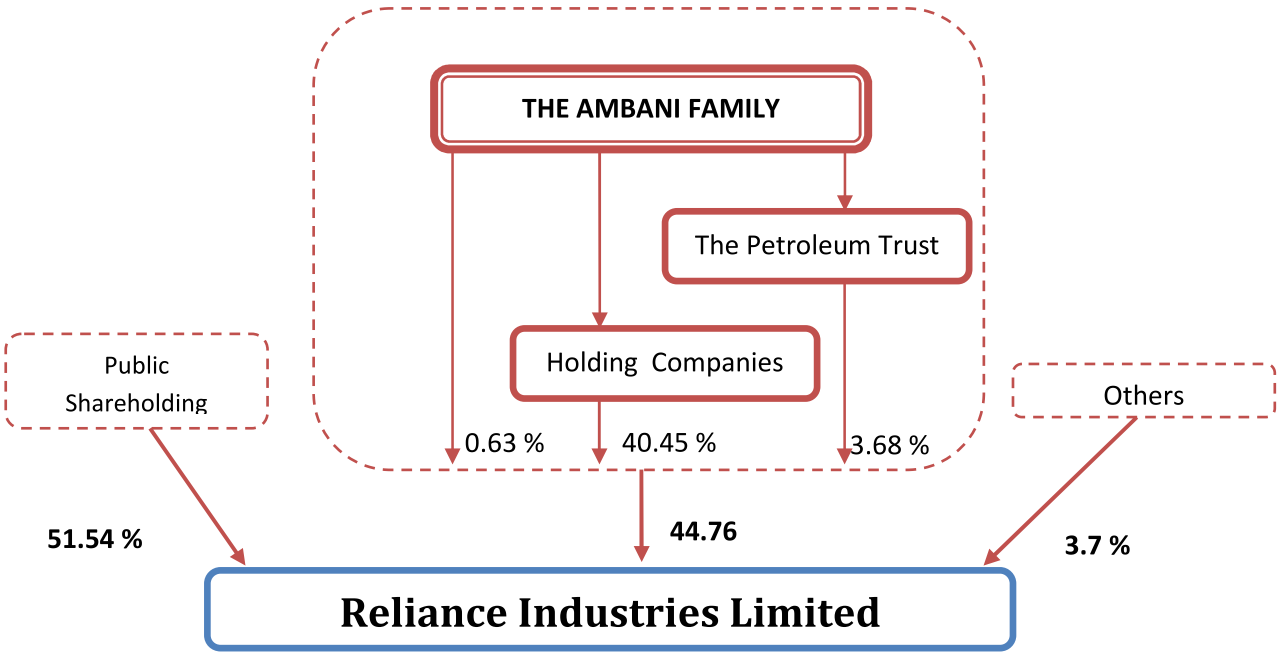


*Fig.2 Ownership structure of RIL*

[5]Source: http://www.hindu.com/biz/2005/06/27/stories/2005062700301600.htm

Therefore, from the evidence presented above, it can be concluded that the promoter group grants the Ambanis a 44.76 % controlling share within RIL, making the group family run. The effects of this control are visible from the composition of the board of directors of RIL. Besides the chairman, two of the four executive directors are related to Mukesh Ambani. In addition, the Finance and Investor's Grievance Committee are also headed by Ambani family members.

## II. Evidence of Conflict of Interest

In order to find evidence of conflict of interest, it is essential to firsthand identify the different types of shareholders, and their respective positions. As discussed before, the shareholding of RIL can be divided into three categories – Promoter Group, Public Shareholding, & Others. Public Shareholding consists of Institutional investors (Mutual Funds, Financial Institutions, Banks, Central and State governments etc.) and Non Institutional investors (Corporate Bodies, Individual investors, and Miscellaneous categories). If we break up the category of Non Institutional investors in its sub-categories, and look at their percentage stake in RIL stock:

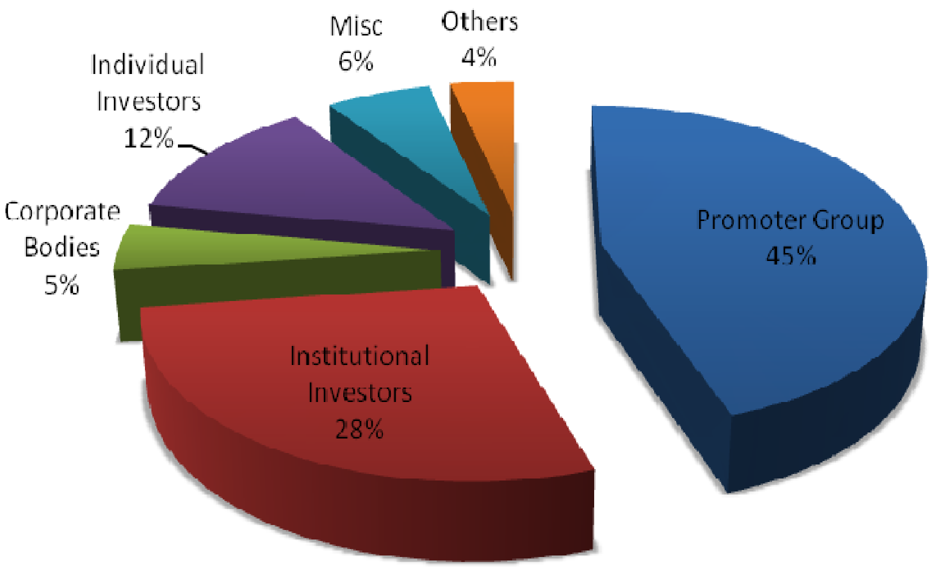


*Fig.3 Distibution of Shareholding(March 31st, 2010)*

It is visible that the family controlled Promoter Group owns approximately 45% of RIL, thereby having the biggest share of the pie. But, the Indian public, which is represented by the category of "Individual Investors", own a lowly 12% only. Moreover, if we look at the position of the individual investors from the period of 2006-Present, its share has never increased above 25% (see Fig.4 overleaf, category – "Public"). Hence, the 12% share is not an isolated occurrence, but part of a set historical pattern of RIL.

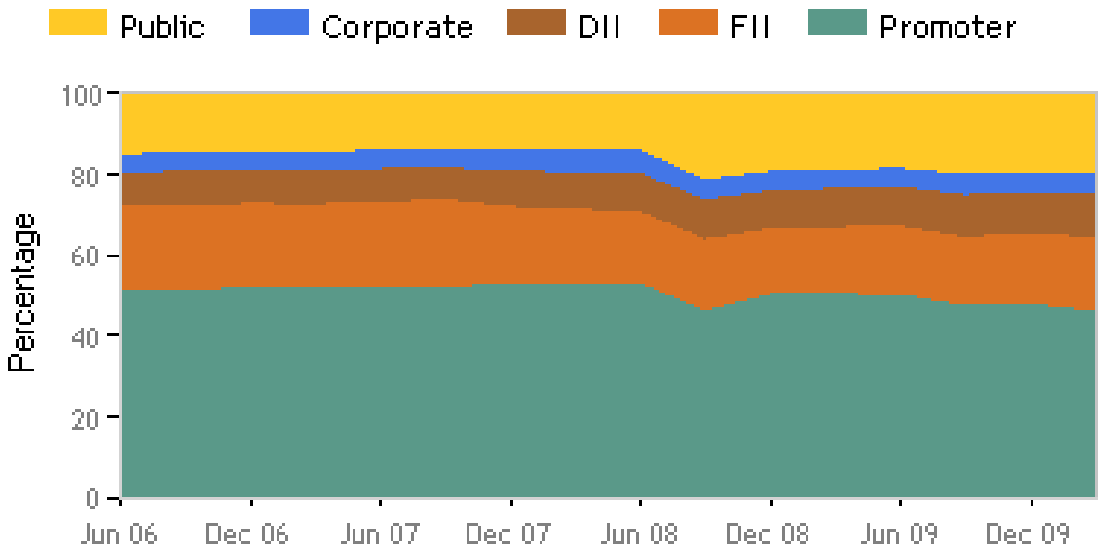


*Fig.4 Historical Ownership Pattern*[6]

**The category of Institutional Investors has been divided into Domestic (DII) and Foreign (FII)*

Now that the position of the Indian Public as minority shareholders has been determined, we will explore whether the structure of the group itself creates conditions of conflict of interest between the controlling and minority shareholders.

Before getting into details, let us look at a few concepts related to the structure of business groups that might lead to conflict. The first concept is that of "pyramidal" ownership structure, which was first highlighted in the seminal publication of La Porta, Lopez-de-Silanes, and Schleifer (1999).

[6]Source: http://www.bseindia.com/bseplus/StockReach/AdvanceStockReach.aspx?scripcode=500325

This structure refers to an arrangement where companies within a business group are controlled through a chain of companies, with the ultimate controlling shareholder often being a family[7]. This firm to firm relationship over a chain forms a pyramidal structure. Thus the family can maintain control, even with minimum cash flow rights, thereby creating a separation between control rights and cash flow rights. The basic idea will be clearer with an example given on the next page.

Example:

A family may have 50 % ownership of Company A. Company A has 40 % ownership of Company B. Company B has 40 % ownership of Company C. Therefore, the family has control rights over Company C, even though it just has 50 % x 40 % x 40 % = 8 % cash flow rights.

As a consequence of the pyramidal form of ownership, the controlling family may get opportunities to expropriate funds from the minority shareholders. These opportunities are illustrated through the concepts of "tunnelling" and "propping". Tunnelling refers to an activity when the controlling shareholder transfers resources from one firm in the pyramid towards himself, or towards another firm (usually to a higher level firm i.e. in which the owner has higher cash flow rights). Tunnelling can be profitable to the controlling shareholder, at the expense of the minority shareholders of the firm from which resources are transferred. These resources can range from fixed assets to cash movement. Propping refers to a specific kind of tunnelling where resources are transferred primarily to aid a firm of the pyramid which is in financial distress, thus saving it from bankruptcy. As propping usually implies that the resources are transferred from a higher level firm to a lower level firm, it is also called "reverse" tunnelling. Let us look at the specific case of RIL, in order to determine whether its relationship with its SA companies and the other group companies can be illustrated as a pyramidal ownership structure.

As discussed before, RIL has both subsidiary and associate companies. The demarcation between these two categories is made on the basis of percentage of ownership. The stake of a company within as associate company ranges between 20-50%. If the stake is above

[7] Y.E. Riyanto, L.A. Toolsema (2004), "Tunnelling and Propping: A Justification for Pyramidal Ownership", *NUS Working Paper Series*, Pg. 2

50%, the associate company is called a subsidiary. It is also essential to understand that in case of RIL, the subsidiaries are linked to the parent company, through both direct and indirect linkages. By direct linkages, we mean a situation where there are no intermediaries between it and the parent company (i.e. RIL). An Indirect subsidiary is in contrast linked to the parent company, through another company, which itself is a direct subsidiary. 43 out of 92 subsidiaries are actually subsidiaries of Reliance Retail Limited, one of RIL's direct subsidiaries.

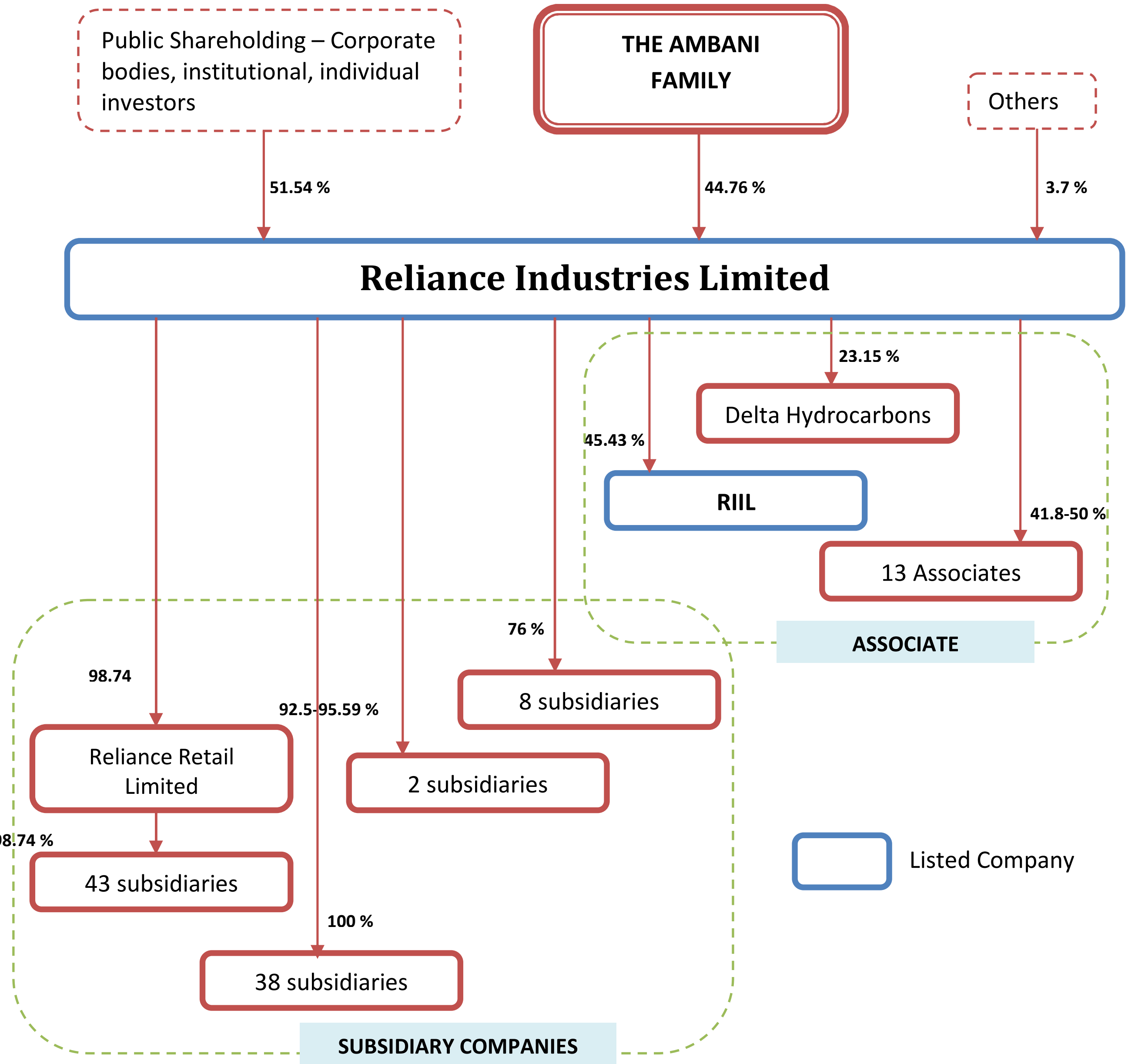


*Fig.5 Pyramidal Structure*

The stake of RIL in a majority of its direct subsidiaries ranges between 98.74-100%, barring a few exceptions where the stake is 76%. Among the 15 associate companies, one is a listed organization – Reliance Industrial Infrastructure Limited (RIIL), in which RIL has a 45.43% equity ownership[8]. RIL has another 14 associate companies, in which its ownership ranges between 23.15-50%. Thereby, it can be deduced from the linkages of RIL with its SA companies that its structure is a blend between pyramidal and matrix, which facilitates easy mobility of resources from one firm to another, both in the form of tunnelling and propping.

But the opportunities available for the controlling shareholder (the Ambani family) do not seem to constitute pure tunnelling and propping. This is because the pyramidal structure of RIL is limited to two steps. One is from the SA companies to RIL, and the other from RIL to the controlling family. In addition, the stake of the Ambani family in RIL is less than or equal to the share of RIL in a majority of the SA companies. Hence, there is no incentive for the family to expropriate resources from those SA companies to RIL (tunnelling). It simply won't be profitable. The Ambani Family do however have the incentive to expropriate funds from some of its associate companies, in which the stake of RIL is lower than the family's stake in RIL. Opportunities for propping however seem more evident. If we look at the structural representation as shown in Fig. 5, it can be hypothesized that RIL is in the position of being an internal source of funds for the SA companies. There can be multiple reasons for it –

1. Its status as a parent company with the highest revenues and biggest operations
2. RIL by end of FY 2009-2010 had a 12.8%[9] weightage on the BSE Sensex[10]. It can hence use its position in the market to raise funds seemingly for itself, but later transfer them to its SA companies, and even to the other group companies.

We tried to look for evidence in support of this hypothesis by comparing the loan funds from RIL balance sheet to the loan funds stated in the consolidated balance sheet (RIL and all the SA companies). In FY 2009-2010, the loan funds for RIL (including both secured and unsecured loans) were INR 624.9 billion. The loan funds in the consolidated accounts were

[8] Reliance Industries Limited – Annual Report 2008-2009, Pg. 169
[9] Reliance Industries Limited – Annual Report 2009-2010, Pg. 16
[10] BSE Sensex is a value-weighted index composed of the 30 largest and most actively stocks, representative of various sectors, on the Bombay Stock Exchange

INR 646 billion. Considering that RIL has over 100 subsidiary and associate companies, the difference between the loans undertaken solely by RIL and the total loans taken by the combined entity of "RIL & SA" companies, is very minute. Therefore, this information may provide an indication that RIL acts like an internal source of funds for its SA companies. No conclusion could be derived about loan transfers to other Group companies as they are not listed on the stock exchange, and hence information about their transactions isn't public.

## III. Investor loyalty towards RIL stock – An investigation

Summarizing the findings so far, we can say that RIL is primarily a family run enterprise, being 45 % owned by the Ambani family. Secondly, it has been found that the stake of individual investors is limited to 12 %, making their position comparatively weak with respect to voting rights and subsequent power to influence managerial decision making. Thirdly, due to evidence of possessing a pyramidal structure, there are chances that the phenomenon of tunnelling and propping may occur, which are practices essentially detrimental to the minority shareholders.

Hence, one may wonder that in spite of this situation, how RIL's stock is one of the most widely held in the world, with over 3.5 million individual investors. In order to investigate this, it is necessary to determine the factors affecting an individual's decision making regarding investing in equity. If we consider an average investor to be rational, the fact that whether his/her investment is value adding should be the governing criteria. But do returns purely represent value, or is the criteria not so simplistic? How does RIL fit these criteria?

The approach that has been adopted to solve this riddle consists of two parts. Firstly, the risk profile of an average RIL investor is mapped out. This profile has been gauged based on RIL's shareholding pattern, and giving consideration to the fact that RIL stands at a higher level in the its pyramidal structure, as compared to the SA companies. In the second part, based on the risk profile, a criterion for decision making is assumed, and RIL's performance with respect to this criterion is benchmarked against its competitors. Thereby, if it can be shown that RIL, on the whole, performs better than its competition in the chosen criterion, and is able to add value to its shareholders, the observation of investor loyalty in spite of a 12% stake can be rationalised.

### a. Risk profile of RIL investor

In order to assess the risk profile of an RIL investor, we first looked at the shareholding pattern of the company. The shareholding pattern allows us to categorize the individual investors of RIL. The categories are based on the range of shares owned by them.

As of March 31st, 2010, the shareholding pattern is as follows:

| S. No. | Category (Shares) | Holders | % of Total shareholders |
|---|---|---|---|
| 1 | 1-500 | 3422648 | **96.08%** |
| 2 | 501-1000 | 83177 | 2.34% |
| 3 | 1001-2000 | 35087 | 0.98% |
| 4 | 2001-3000 | 9056 | 0.25% |
| 5 | 3001-4000 | 3777 | 0.11% |
| 6 | 4001-5000 | 2064 | 0.06% |
| 7 | 5001-10000 | 3322 | 0.09% |
| 8 | 10001-20000 | 1188 | 0.03% |
| 9 | Above 20000 | 1828 | 0.05% |
| | **TOTAL** | **3562147** | **100.00%** |

*Table.4 Shareholding Pattern*

Therefore, almost 96% of the total individual shareholders of RIL own a maximum of 500 shares. Considering the high number of outstanding shares (over 370 million), this clearly shows a dominance of low shareholding per investor. This can lead to the assumption that an average RIL investor has a comparatively low risk preference, and who treats RIL like a standard part of his/her portfolio.

The second reasoning that supports the conjecture of a low risk profile comes from the fact that Reliance Group has a pyramidal structure. According to Bunkanwanicha, Gupta, and Rokhim (2006), higher risk investments are usually taken at the lower level of the pyramid to reduce the impact on the cash flow of the owners. Hence, lower risk investments occur at the higher level. Since RIL is the parent company, it is at a higher level as compared to the SA companies, and is more attractive to low risk investors.

### b. Investigation of Investor Loyalty

Based on the assessed risk profile of an RIL investor, certain parameters need to be determined in order to understand the phenomenon of high investor preference for RIL shares.

Now, irrespective of the risk tolerance, an investor always desires the stock to add value to him/her. This value addition can be determined by knowing the degree to which the stock has exceeded the investor’s expected returns i.e. calculating the abnormal returns. This is our foremost criteria for this study. But, one cannot investigate the reasons behind an investor’s choice by taking a particular stock in isolation. An investor essentially compares different stocks within the same industry and bases his/her decision accordingly. Following this assumption, it is essential to identify RIL’s chief competitors and analyze their abnormal returns with respect to RIL. In order to consolidate our findings, we have also benchmarked the results of RIL to the abnormal returns of the market as a whole. The market is assumed to consist of the 30 companies listed on the BSE Sensex .Interestingly, the competitors identified are all listed on the Sensex too.

After resolving the universal criteria of “value addition”, we have identified some other parameters specific to the low risk RIL investor. These are Asset value, Market to Book ratio (M-to-B ratio), the Profit margin, and the Leverage. Explanations of why these parameters are relevant are given later.

#### i. Value Addition

We first calculated the expected returns of RIL stock. This was followed by determining the actual performance of RIL i.e. through calculation of its realised returns within the same time period. The degree to which RIL exceeded or fell behind the investor expectations is found by calculating the abnormal return, which is nothing but:

**Abnormal return = Realised return – Expected return**

**(1)**

The period of 2000-2010 has been considered for this exercise. The expected return for a particular stock can be represented by the following mathematical relation:

$$\mathbf{E[RIL] = r_f + \beta\ (Market\ risk\ premium)}$$

**(2)**

E[RIL] = Annual Expected return for RIL stock

$r_f$ = Annual risk free rate

β = stock beta

In order to calculate E[RIL], certain assumptions were made:

1. The yield rate for 10 year Government of India bond was taken as the risk free rate. Therefore, the annual risk free rate = mean of the monthly yield rates for the bond (refer Table 1, Appendix 1).
2. The beta for RIL was fluctuating between 1.1 and 1.3 from 2000-2010. Since, data was unavailable for all the years, a mean value of (1.1+1.3)/2 = 1.2 was taken.
3. The value of market risk premium has been taken as 6.09 %, based on the results of Damodaran (2009)[11].

Based on these assumptions and equation (2), the annual expected returns were calculated. The results are shown in Table.5.

[11] A. Damodaran (2009), "Equity Risk Premiums (ERP): Determinants, Estimation and Implications - A post-crisis Update", *SSRN*, Pg. 51

| FY | $r_f$ | β | Market Risk premium | E[RIL] |
|---|---|---|---|---|
| **2000-2001** | 10.96 | 1.2 | 6.09 | **18.27%** |
| **2001-2002** | 8.98 | 1.2 | 6.09 | **16.29%** |
| **2002-2003** | 6.95 | 1.2 | 6.09 | **14.25%** |
| **2003-2004** | 5.44 | 1.2 | 6.09 | **12.74%** |
| **2004-2005** | 6.02 | 1.2 | 6.09 | **13.33%** |
| **2005-2006** | 7.05 | 1.2 | 6.09 | **14.36%** |
| **2006-2007** | 7.76 | 1.2 | 6.09 | **15.07%** |
| **2007-2008** | 7.90 | 1.2 | 6.09 | **15.21%** |
| **2008-2009** | 7.59 | 1.2 | 6.09 | **14.90%** |
| **2009-2010** | 7.23 | 1.2 | 6.09 | **14.54%** |

*Table.5 Expected returns of RIL stock 2000-2010*

These are the returns which the shareholders of RIL expect as essential to induce investment. Henceforth, it will make sense to see how RIL stock actually performed during the same period, and to what degree did it satisfy the shareholder's expectations.

The annual realised returns of RIL were calculated by consolidating the daily logarithmic returns throughout the financial year (1st April – 31st March). The relation used for calculating the daily return is as follows:

$$r_d = \ln (S_n/S_{n-1}) \tag{3}$$

$r_d$ = Daily return

$S_n$ = Weighted Average Share Price (WAP) on day n

$S_{n-1}$ = WAP on day n-1

For consolidation of the daily returns into annual values, the following equation was used:

$$\mathbf{R_{annual,\,RIL} = [(1+r_{d1})(1+r_{d2})(1+r_{d3})\ldots\ldots\ldots(1+r_{dt})] - 1} \qquad \mathbf{(4)}$$

$R_{annual,\,RIL}$ = Annual realised return

$r_{d1}$ = Daily return for first day of Financial Year

$r_{dt}$ = Daily return for last day of Financial Year

Equation (4), in practical terms, combines the effect of the daily variation of share price, to give an annual percentage change in the value of the investment. The results of this equation are:

| FY | $R_{annual,\,RIL}$ |
|---|---|
| **2000-2001** | 18.46% |
| **2001-2002** | -28.43% |
| **2002-2003** | -10.17% |
| **2003-2004** | 85.39% |
| **2004-2005** | -1.35% |
| **2005-2006** | 35.92% |
| **2006-2007** | 65.26% |
| **2007-2008** | 56.54% |
| **2008-2009** | -41.63% |
| **2009-2010** | -61.19% |

*Table.6 Annual realised returns of RIL stock 2000-2010*

Once the expected and realised returns have been obtained, it is possible to find out the Abnormal returns of RIL (A[RIL]) i.e. the value by which the realised returns exceeded or trailed the expectations of the shareholders, using equation (1) (see Table 7).

| FY | $R_{annual, RIL}$ | E[RIL] | A[RIL] |
|---|---|---|---|
| **2000-2001** | 18.46% | 18.27% | **0.19%** |
| **2001-2002** | -28.43% | 16.29% | **-44.72%** |
| **2002-2003** | -10.17% | 14.25% | **-24.42%** |
| **2003-2004** | 85.39% | 12.74% | **72.65%** |
| **2004-2005** | -1.35% | 13.33% | **-14.68%** |
| **2005-2006** | 35.92% | 14.36% | **21.56%** |
| **2006-2007** | 65.26% | 15.07% | **50.19%** |
| **2007-2008** | 56.54% | 15.21% | **41.33%** |
| **2008-2009** | -41.63% | 14.90% | **-56.53%** |
| **2009-2010** | -61.19% | 14.54% | **-75.73%** |

*Table.7 Annual Abnormal returns of RIL stock 2000-2010*

In order to make sense of Table 7., we have benchmarked A[RIL] with the abnormal returns of its competitors. Since 72%[12] of RIL's sales are domestic, only Indian competitors are considered. Secondly, besides from having the same core-business, the competitors should be similar in size. The size of a firm can be assessed in terms of its sales, market cap, or assets etc. In this particular case, the total sales are taken as the governing criteria.

| Company | Sales (in 0,000,000 INR.) |
|---|---|
| **RIL** | **141,847.00** |
| Indian Oil Corporation (IOC) | 305,527.05 |
| Bharat Petroleum Corporation Ltd.(BPCL) | 135,331.48 |
| Hindustan Petroleum Corporation Ltd. (HPCL) | 124,752.42 |
| Mangalore Refinery and Petrochemicals Ltd. (MRPL) | 38,319.86 |

*Table.8 RIL and its competitors*[13]

[12] Angel Broking report 2009
[13] Source: http://www.moneycontrol.com

Therefore, based on their total sales, 4 major Indian companies have been identified. It can be seen that the Mangalore Refinery and Petrochemicals Ltd. (MRPL) looks like the odd one out, but the dominant performance of its stock made it difficult to ignore. We can hence consider IOC, BPCL, and HPCL as the primary competition, and MRPL as the secondary competition.

Following the process of identification; the next step was to calculate the expected, realised and abnormal returns of the 4 competitors. The expected returns are taken as same as that of RIL, due to the underlying assumption that β for all the companies would essentially be the same. This may be attributed to the fact that all of them are in the same industry (oil and exploration) which has a dominance of systematic risk. The case of realised returns was obviously different as it is dependent on the share price fluctuation of the individual companies. Unfortunately, besides MRPL, data of historical share prices of the remaining companies was available only for the period of 2002-2010. Therefore to maintain consistency, the benchmarking exercise is performed within this reduced time frame. The results of the calculations are:

| FY | A[RIL] | A[BPCL] | A[HPCL] | A[IOC] | A[MRPL] |
|---|---|---|---|---|---|
| **2002-2003** | -24.42% | -52.76% | -23.91% | -3.94% | -18.08% |
| **2003-2004** | 72.65% | 87.56% | 45.43% | 59.26% | 438.12% |
| **2004-2005** | -14.68% | -44.62% | -56.12% | -32.86% | -38.08% |
| **2005-2006** | 21.56% | 1.50% | -12.13% | 15.70% | -27.89% |
| **2006-2007** | 50.19% | -47.00% | -43.83% | -51.01% | -43.68% |
| **2007-2008** | 41.33% | 10.75% | -21.27% | -18.97% | 54.67% |
| **2008-2009** | -56.53% | -36.45% | -22.30% | -33.84% | -70.52% |
| **2009-2010** | -75.73% | 14.05% | -4.90% | -71.23% | 55.23% |

*Table.9 Abnormal Return – A comparison*

Calculating the mean abnormal return and standard deviation of abnormal returns for each company:

| | RIL | BPCL | HPCL | IOC | MRPL |
|---|---|---|---|---|---|
| **Mean** | 1.80% | -8.37% | -17.38% | -17.11% | 43.72% |
| **St. Dev** | 0.53032 | 0.474093 | 0.302626 | 0.40869 | 1.656725 |

*Table.10 Mean Abnormal Returns and St. Deviations*

RIL has the 2nd highest mean abnormal return of 1.8%, with MRPL topping the list. MRPL's high average return can be principally attributed to its exceptional performance during FY 2003-2004 (438.12%). But the mean alone doesn't give a complete perspective to the relative standing of these 5 companies. Therefore, if we now look at the standard deviations (SD), a different picture emerges. MRPL has the highest SD, implying that even though its mean returns are the maximum, they have a high degree of variation from year to year, hence making them volatile and unstable. RIL, in contrast has a lower SD, making RIL's returns much more stable, on a yearly basis. Therefore, RIL stock delivers returns above the investor's expectations on a consistent basis, unlike others. This consistency was verified when we calculated the correlation[14] of the mean abnormal return (see Table.10) of RIL with the mean abnormal return of the Sensex (see Table.11) as a whole.

Using the daily values of the Sensex, the abnormal returns were calculated following the same methodology as before. The only difference was β, which for the Sensex will be 1.

[14] Eg. If the correlation value of RIL w.r.t. Sensex comes out as 0.5, this implies that RIL is positively correlated to Sensex, and whenever the Sensex goes up by 1 point, RIL share price goes up by 0.5 INR, and vice-versa

| FY | A[Sensex] |
|---|---|
| **2002-2003** | -26.27% |
| **2003-2004** | 67.53% |
| **2004-2005** | 0.73% |
| **2005-2006** | 58.21% |
| **2006-2007** | -2.31% |
| **2007-2008** | 0.22% |
| **2008-2009** | -57.30% |
| **2009-2010** | 61.46% |
| **Mean** | **12.78%** |

*Table.11 Mean Abnormal Return – Sensex*

This correlation value was then compared to the correlation values of RIL's competitors with respect to the Sensex. From the calculations, the results obtained are as follows:

| RIL/SENSEX | 0.302 |
|---|---|
| **BPCL/SENSEX** | 0.749 |
| **HPCL/SENSEX** | 0.604 |
| **IOC/SENSEX** | 0.341 |
| **MRPL/SENSEX** | 0.599 |
| **SENSEX/SENSEX** | 1 |

*Table.12 Correlation Values w.r.t Sensex*

The lowest value of RIL of 0.302 signifies that RIL stock is the least reactive towards market fluctuations, in both the situations of market highs and lows. Therefore, it consolidates our earlier conclusion of the stability of RIL. And as we have assumed our investor to be low risk prone, it makes sense to believe that stock such as RIL delivering positive abnormal returns with minimum variation will seem lucrative to him/her.

### ii. Asset Value

The representation of Assets is possible in two ways – through the book value, and the market value. Market value of Assets is simply the Book value of Assets with the book value of equity replaced with the market value of equity.

**MVA = BVA – Book Value of Equity + Market Value of Equity**

**(5)**

MVA = Market Value of Assets

BVA = Book Value of Assets

Thereby, if the data for RIL, and its competitors for the time period of 2004-2009 is represented graphically, for both BVA and MVA, we get:

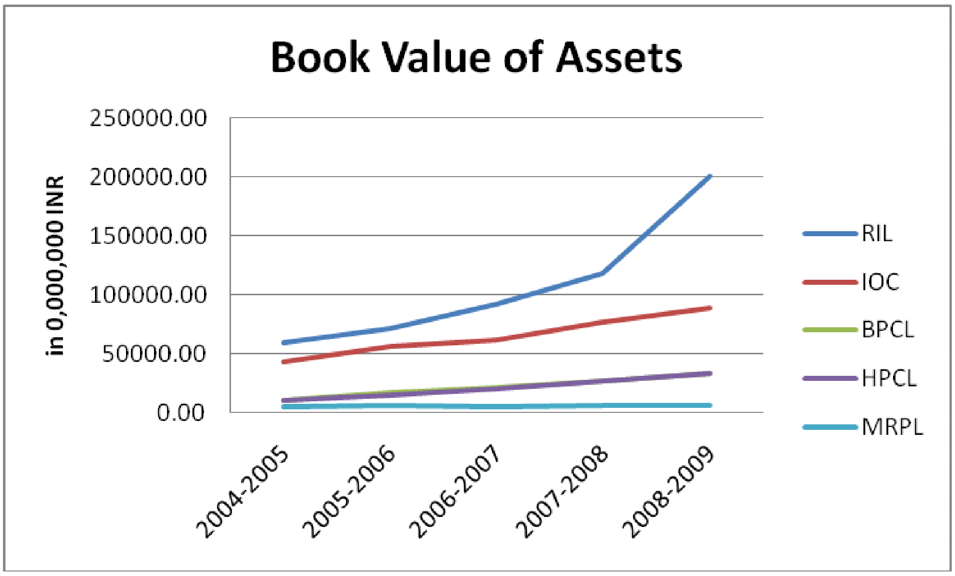


*Fig.6 Comparative chart – Book Value of Assets*

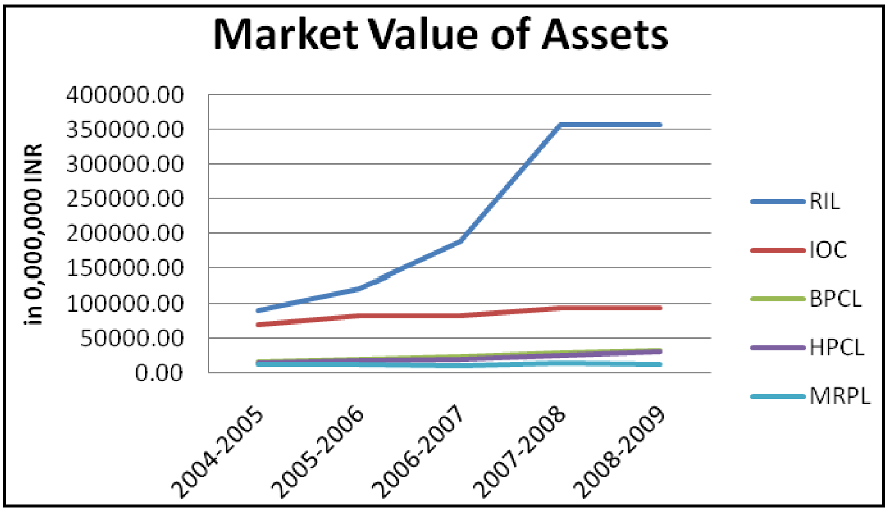


*Fig.7 Comparative chart – Market Value of Assets*

It is clear that RIL has a clear dominance in Asset value as compared to its competitors for the period specified. The effect of high asset value on investor behaviour will be better understood in combination with the other parameters.

### iii. Profit Margin

The profit margin has been calculated taking the EBITDA (Earnings before Interest, Tax, Depreciation and Amortization) as a percentage of the Net Sales. The EBITDA is a very good indicator of how efficiently the business is conducted in a particular company. This is because it gives us an indication towards the extent of cost control being practiced.

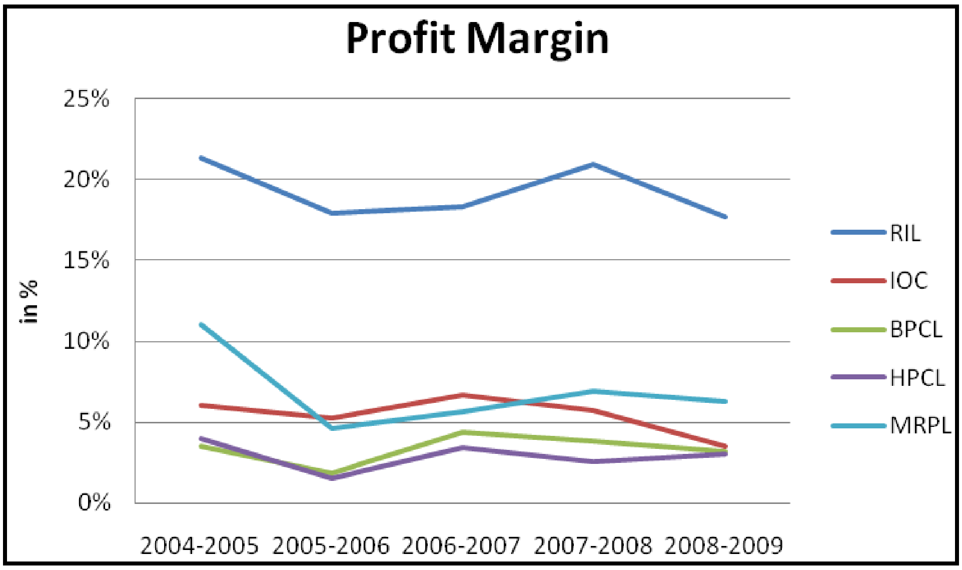


*Fig.8 Comparative chart – Profit Margin*

RIL's average profit margin is almost 19%. On 2nd position is MRPL, with a measly 7%. Hence even though, RIL doesn't boast the highest sales, due to its supposed better "cost control", its profit margin is higher than all of the competitors by a significant degree.

### iv. Financial Leverage

From the point of view of a regular low risk investor, leverage plays an important role in determining the riskiness of a particular enterprise. Higher financial leverage implies that the firm depends excessively on debt for financing its assets. As debt is a liability, the creditors take priority over shareholders, when repayment is concerned. Hence being a shareholder, there is potential risk of loss in case of bankruptcy. Secondly, the biggest risk that arises from high financial leverage occurs when a company's Return on Assets (ROA) does not exceed the interest on the loan, which greatly diminishes a company's return on equity and profitability.

The leverage in the present case has been defined in terms of the debt to equity ratio. The difference for the two definitions (book and market leverage) comes with respect to the usage of book value of equity and the market value of equity. Both the definitions are explored in order to strengthen the evidence behind the shareholder loyalty of RIL.

**Book Leverage = Financial Debt[15] / Book value of Equity**

**Market Leverage = Financial Debt/ Market value of Equity**

[15] Financial Debt is the sum total of the secured and unsecured loans taken by the company

| Years | RIL | IOC | BPCL | HPCL | MRPL |
|---|---|---|---|---|---|
| **2004-2005** | 0.46 | 0.67 | 0.61 | 0.26 | 1.60 |
| **2005-2006** | 0.44 | 0.90 | 0.92 | 0.76 | 1.38 |
| **2006-2007** | 0.44 | 0.78 | 1.05 | 1.10 | 0.86 |
| **2007-2008** | 0.45 | 0.86 | 1.29 | 1.59 | 0.54 |
| **2008-2009** | 0.58 | 1.02 | 1.75 | 2.12 | 0.42 |
| **Mean** | **0.47** | **0.85** | **1.12** | **1.17** | **0.96** |
| **St.Dev** | **0.06** | **0.13** | **0.43** | **0.72** | **0.52** |

*Table.11 Comparative chart – Book Leverage*

| Years | RIL | IOC | BPCL | HPCL | MRPL |
|---|---|---|---|---|---|
| **2004-2005** | 0.27 | 0.34 | 0.33 | 0.18 | 0.41 |
| **2005-2006** | 0.22 | 0.47 | 0.70 | 0.62 | 0.39 |
| **2006-2007** | 0.17 | 0.49 | 0.83 | 1.09 | 0.33 |
| **2007-2008** | 0.11 | 0.61 | 1.12 | 1.80 | 0.17 |
| **2008-2009** | 0.26 | 0.93 | 1.71 | 2.80 | 0.20 |
| **Mean** | **0.21** | **0.57** | **0.94** | **1.30** | **0.30** |
| **St.Dev** | **0.06** | **0.22** | **0.51** | **1.03** | **0.11** |

*Table.12 Comparative chart – Market Leverage*

It can be seen that the mean values of leverage (both book and market) are the lowest for RIL, out of the five companies. Combining this observation with the fact that the standard deviation for RIL for book leverage and market leverage values are also the lowest, it can be concluded that RIL has had the lowest financial leverage on a consistent basis as compared to its competition. Hence, as explained before, RIL falls perfectly in the "low leverage" criteria of a low risk investor.

### v. Market to Book ratio

The Market to Book (M-to-B) ratio plays a vital role in indicating the market perception about a particular listed company. It is represented by the ratio of the Market Value of

Equity to the Book Value of Equity. Now, Market Value of Equity is the product of the share price and number of outstanding shares. From the BSE historical archives, the weighted average share prices (WAP) were available for all the 5 companies from 2004-2009 on a daily basis. Therefore, to calculate the market capitalization for 1 year, the mean of the daily WAPs was taken to obtain the average share price, and this was multiplied with the number of outstanding shares, which remained constant throughout a FY. The Book Values were of course obtained from the Annual Reports of RIL. The same methodology was adopted for the competing companies. The values of M-to-B ratios for the 5 companies are as follows:

| Years | RIL | IOC | BPCL | HPCL | MRPL |
|---|---|---|---|---|---|
| **2004-2005** | 1.753 | 1.987 | 1.825 | 1.417 | 3.865 |
| **2005-2006** | 1.985 | 1.913 | 1.303 | 1.233 | 3.526 |
| **2006-2007** | 2.512 | 1.573 | 1.273 | 1.003 | 2.605 |
| **2007-2008** | 3.925 | 1.410 | 1.150 | 0.881 | 3.240 |
| **2008-2009** | 2.235 | 1.103 | 1.023 | 0.756 | 2.092 |
| **Mean** | **2.482** | **1.597** | **1.315** | **1.058** | **3.066** |
| **St.Dev** | **0.855** | **0.364** | **0.306** | **0.267** | **0.714** |

*Table.13 Comparative chart – M-to-B ratios*

In order to see the average performance in terms of M-to-B values, and the degree of variance, the mean and SD were also calculated.

Even though the SD is on a higher side, signifying volatility, the mean value for RIL is ranked 2nd among all the 5 companies. Among the primary competition (see Pg. 20), RIL is still ranked 1st.

## IV. Consolidation of parameters – Conclusion

In order to investigate the phenomenon of high shareholder loyalty for RIL, we assumed multiple parameters as criterion for investor decision making process. These parameters were namely:

1. Value Addition
2. Asset Value
3. Profit Margin
4. Financial Leverage
5. Market to Book ratio

Through our empirical results, it can be seen that Reliance Industries Limited, majority of whose individual investors seem to have a low risk profile, performs very well in the main governing criteria of value addition by consistently overshooting expected returns, along with a low reactivity to market variations. When this parameter is combined with factors such as the largest assets, highest profitability, low dependency on debt, and reasonably high M-to-B ratio, RIL seems like a safe and reliable investment, which suits perfectly to the needs of the low risk player.

One more factor that may play a role in investor affiliation is the brand of the Ambani family itself. Their rise is the quintessential rags to riches story which, in a country like India, where millions of people lack the basic needs of life, has great appeal. Additionally, Mr. Dhirubhai Ambani, is often credited with starting the equity cult in India by attracting millions of retail investors in a market, which then was dominated by financial institutions. Even though the holding of the retail investors is currently limited to 12%, the absolute numbers are so high that RIL is known to conduct its Annual General Meetings in stadiums, which is a great public relations opportunity in itself. Even after Dhirubhai Ambani's death, his two sons have managed to diversify their separate conglomerates, in order to have presence in numerous sectors, thereby increasing the visibility of the brand through the length and breadth of the country.

Therefore, when non-financial perceptions such as these are complemented by sound financial realities such as better market related performance, shareholder loyalty is generated.

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