DIVERSIFICATION AND CORPORATE DECISIONS

Amir Rubin*

Abstract

Much of the empirical and theoretical work in corporate finance regards the assumption that shareholders want to maximize the value of the firm's equity. However, most shareholders (at least in the US, UK and Canada) are well diversified and care about their portfolio value, and not the value of any particular firm. Corporate policies that encourage managers to maximize equity value may be suboptimal for these diversified shareholders. This study shows how various issues are significantly affected by shareholders' diversification. These issues are: (1) the monitoring role of the board of directors; (2) the rationale behind corporate social responsibility, (3) the optimality of capital budgeting decisions, and; (4) the objective of executive compensation policies.

Keywords: corporate finance, firm's equity, shareholders

** Assistant Professor of Finance, Simon Fraser University, 8888 University Drive, Burnaby, BC V5A 1S6, Canada. arubin@sfu.ca*

Introduction

One of the major achievements of modern investment theory is our understanding of the importance of diversification. This theory, initially pioneered by Markowitz (1952) and Sharpe (1964), explains why it is common practice for most investors to hold diversified portfolios.

According to recent studies (e.g., Gompers and Metrick, 2001), US institutional investors hold more than 50% of US equity market. These institutions typically hold diversified portfolios and often hold shares in firms that compete with one another. For example, any shareholder that holds the S&P 500 index would have shares in both Coca Cola and Pepsico.

Given the widespread empirical phenomenon of diversification, it is not clear that corporate policies should encourage managers to focus solely on firm value. In broad terms, diversified shareholders are concerned with their portfolio value and not the value of any specific company. Hansen and Lott (1996) raised this issue by arguing that perfectly diversified shareholders want firms to internalize the externalities that firms have on other firms. Thus, while a non-diversified shareholder would want managers to maximize the value of the firm, diversified shareholders do not. They would be willing the manager forgo some profitable investment opportunities if these investments come at the expense of other firms in their portfolio.

Hansen and Lott (1996) provide an example that can illustrate how diversified shareholders differ in their objectives than non-diversified shareholders. In the late 80s and early 90s, a litigation dispute between Texaco and Pennzoil simply concerned transferring wealth from one firm to the other. The managers of each firm were thinking about going through a long legal fight in the hope that their company would be victorious. While a non-diversified shareholder may approve such an action (in the hope that his/her company will win the case), diversified shareholders, who had shares in both firms would be concerned with the money going out to the lawyers. This is because diversified shareholders are indifferent about distributing the cash-flow between the two firms. Indeed, in the Texaco-Pennzoil dispute, a large pension fund was actively involved in applying pressure to ensure resolving the conflicts with minimal litigation

Given the importance of portfolio diversification, it is only natural to assess its effect on the way of decision making in the corporate world. By providing a brief analysis of different issues, I am able to provide a rationale for different phenomena and at the same time raise questions that deserve further research.

The Role of the Board of Directors

What should be the monitoring objective of the board of directors in a firm held by diversified shareholders? Should they be concerned only with the value of the firm, or should they internalize the objective of their diversified shareholders?

According to corporate law, corporations should act for the benefits of shareholders. Whether the board interprets "interests of

shareholders" as meaning firm value is a separate question. This shareholder-centric focus of corporate law is often referred to by legal scholars as shareholder primacy norm (see Smith (1998) for a summary of the shareholder primacy norm in legal scholarship).

I recognize that directors may also have a fiduciary duty to act in the corporation's best interest (e.g., see the Delaware code: 8 Del. C, section 141). However, fiduciary duty to the corporation is typically interpreted as the "efficient thing to do" from the perspective of ex-ante shareholders. Thus, the purpose of this mandate is to allow directors to act in a way that avoids conflicts that may arise later. One such example is the shareholder-debtholder conflict: ex-ante shareholder would not want to risk shift, while ex-post they do. The mandate allows directors to choose the ex-ante decision because it is more efficient in the long term (Easterbrook and Fischel (1991), Smith (1999)).

Even if one perceives the legal premise as that which requires maximizing firm value without regard to effects on other firms held by the shareholder, there is evidently no clash with corporate objectives, when corporations do not aggressively confront their competitors and internalize some of their needs.

Corporate Social Responsibility

One of the most significant corporate trends of the last decade both in Europe and the US is the growth in activities associated with Corporate Social Responsibility (CSR). While definitions of CSR vary, this term usually refers to corporations balancing their responsibilities to their shareholders with their responsibilities to their employees, communities and the environment. Indeed, aligning business with social values is a well-developed industry. Hundreds of websites, newsletters, professional associations, and consultants concern CSR program development. Students can earn an MBA degree in CSR, and most major companies issue a special annual publication dedicated to CSR or devote a large section of their annual report to document social goals advanced and good works undertaken. The rationale of corporate social responsibility takes on a different meaning when we consider diversified shareholders.

One can claim that CSR is a form of appropriation made by the firm's shareholders to other constitutes of society. This would mean that diversified shareholders care about CSR not only because of its effect on the firm value, but also because of its effect on their portfolio. The portfolio value benefits from CSR because the practice of CSR may be beneficial to other firms in the market. For example, a manufacturing firm that operates near a river and causes pollution may harm the quality of a fish produce company. Diversified shareholders who hold both the manufacturing and the fish produce company would follow agendas that reduce the river polluting by more compared to shareholders who hold only shares in the manufacturing firm. Another example is tuition benefit for workers. A firm that provides benefits to employees by tuition for academic degrees increases its CSR rating. We would expect that diversified shareholders would be more willing to provide such benefits, because they are able to appropriate from a more educated employee even if he moves to another firm, provided they hold its shares. In summary diversified shareholders can appropriate on the firm's CSR more than undiversified shareholders.

Capital Budgeting

One of the most intriguing contradictions in financial economics is the calculation of the net present value (hence, NPV). Capital budgeting decisions are done by estimating the expected cash flow for the firm and discounting it by the cost of capital. Calculating the net present value (*NPV*) applies the formula:

$$NPV = \sum_i \frac{E(CF_i)}{(1+k)^i}$$

Where $E(CF_i)$ is the expected cash flow to the firm at time i , and k is the cost of capital. The cost of capital k quantifies the time value of money and more importantly the systematic risk involved in the project. Typically, the Capital Asset Pricing Model (CAPM) is used to estimate the cost of capital, meaning the underlying assumption is that shareholders are rational, perfectly diversified, and hold the market portfolio. This leads to the following way of thinking: perfectly diversified shareholders should not only look at the expected cash flow of the firm. They should look at cash flows of all the firms in the economy that are affected by the project. In other words, while the cost of capital is calculated by assuming diversified shareholders, the expected cashflow in a typical *NPV* analysis is only that of the firm. Under such circumstances, taking on positive *NPV* projects does not necessarily create value for shareholders because the calculation ignores the cash flow effects to other firms in the economy.

It is instructive to look back in history to understand this contradiction. What lies in the basis of the NPV calculation is the Fisher Separation Theorem (1907, 1930), which is used to separate the real-asset investment decision from the financing decision. This theorem implicates that shareholders, despite their differences in

utility functions, will let the firm's management make firm value-maximizing decision while individual shareholders maximize utility by using borrowing or lending to adjust to the timing of consumption. Appling the Fisher separation theorem results in equilibrium where all shareholders agree on the interest rate for postponing consumption. And managers can use the interest rate to make investment decisions. The Fisher Separation Theorem provides a good benchmark and simplifies the objective of the firm. However, it does not deal with two important aspects that are in the heart of finance theory and practice: diversification of shareholders, and imperfect competitive product markets. If Ford takes on a project to produce a new vehicle; it will affect GM and Chrysler cash flows. Diversified shareholders, who hold shares in all three firms, are concerned with the incremental cash flow to the three combined, and not only with the incremental cash flow to Ford. Fisher did not consider this. In particular, he assumed perfect competition in product markets, so firms do not affect each other. If we relax the assumption of perfect competition and assume shareholders' diversification, the firm should not maximize its value, but rather be concerned with the value of the investor's portfolio. In case of perfectly diversified shareholders, this translates to the maximizing the value of the economy as a whole.

Because of this contradiction, it is not clear how a firm should decide on projects. On the one hand, it seems that managers must be concerned with the cash flow of the firm they run because of incentive reasons. On the other hand, a blind pursuit of cash flow without regard to the effect on rival firms may destroy value for diversified shareholders. It seems there is place for new research that could provide the trade-off between the objectives of different sorts of shareholders, those who are undiversified and those that are perfectly diversified.

Executive Compensation

We may argue that an incentive scheme that relies partially on other firms in the industry might be a plausible solution to reduce the harmful activity between firms. However, there are obvious difficulties with such an approach. Managers will exert less effort. In the limit there will be a free rider problem where no manager exerts any effort because he is compensated based on the industry performance. This means that incentives decrease with reduced competition (e.g., Arrow, 1962).

Kraus and Rubin (2006) examine how shareholders' diversification affects the choice of managerial compensation when managers select the mix of projects that a company pursues, and when a company's cash flow is affected by other companies' actions. In their model, each of the managers can choose either cannibalistic or economy-increasing projects. The cannibalistic projects impose a negative externality on the rival firm by taking market share in a mature market. However, the economy-increasing projects involve investing in new markets that increase the cash flow in the economy after accounting for the effects on other firms. The authors claim that typically economy-increasing projects have greater total risk than cannibalistic projects as there is more uncertainty about the success/failure of developing new products and markets. They also note that typically economy-increasing projects would involve high research and development expenses and there is evidence that these are the riskiest sort of expenditures (e.g., Bange and De Bondt, 1998). Given these assumptions, the authors show that option compensation can be value creating for shareholders. Thus, stock option compensation promotes competition that is not hurtful for other firms in the economy. By providing stock options as compensation, managers concentrate their effort on creating cash flow that is incremental to the economy.

These results stand in strict contradiction to many who suggest that option compensation is a bad idea. Recently option grants packages have come under intense criticism from many academics and market participants. For example, many argue that directors should not be compensated with options as they are the representatives of the stockholders, not option holders. The argument made is that options create more of a trader mentality and that is not something you want from your executives (The Globe and Mail, "Stock option debate heats up", Sept. 24, 2003). Some go as far as to argue that the solution is to get rid of options altogether. Because of this heated debate, it may be important to emphasize the value of a specific company. However, it is a completely different story when we consider what creates value in a portfolio sense. If there is a positive relation between value to the economy and risk, perhaps option grants should be given more credit for the spur of innovation in recent years.

Microsoft has surprisingly announced about its plans to replace stock options with restricted stock grants in employee pay packages. This announcement is consistent with the objective of undiversified stakeholders, who are the decision makers in Microsoft. Therefore, they are concerned with Microsoft's value, and not the economy as a whole. However, for the diversified shareholders of Microsoft, replacing stock option grants with grants of restricted shares may destroy value due to the increased cannibalistic activity.

Another debated form of compensation is Relative Performance Evaluation (RPE). These forms of compensation consider the idea the manager of firm A is rewarded based on the relative performance of firm A compared to firm B, where B is a competitor company in the industry. Some economists argue that RPA can create value for shareholders as it avoids the common practice of rewarding managers for doing nothing more than riding the wave of a strong market (e.g., Abowd and Kaplan, 1999). Thus, the manager of Coca Cola would receive compensation based on the performance of Coca Cola relative to Pepsico, so he/she will not be rewarded simply because the stock market went up. Some economists argue that it might even be profitable to provide the manager of Coca Cola put option compensation in Pepsico, in order to promote competition. Because of the discussion above, it is important to understand that RPE promotes cannibalistic activity, which reduces value for diversified shareholders. With RPE, the manager's incentive to take on cannibalistic projects increases because he gains not only from the increased cash flow to his firm, but also from the reduced cash flow of the firm's rival.

Conclusion

This study shows that various issues of business management are significantly affected by shareholders diversification. These effects originate from the interest of diversified shareholders in the portfolio value rather than with the firm value. This means that actions of companies that hurt other companies are wasteful from the point of view of diversified shareholders.

From a normative viewpoint, the study shows that diversification, a phenomenon advanced in the most competitive capital markets in the world, can eventually lead to aligning corporate and social goals.

References

1. Abowd, J., and D. Kaplan (1999), "Executive Compensation: Six Questions That Need Answering." Journal of Economic Perspectives 13, 145-68.
2. Arrow, K. (1962), "Economic Welfare and the Allocation of Resources for Invention." In the Rate and Direction of Inventive Activity: Economic and Social Factors, ed. R. Nelson, (NBER) Princeton University Press.
3. Bange, M. and W. DeBondt (1998), "R&D Budgets and Corporate Earnings Targets." Journal of Corporate Finance 4, 153-184.
4. Easterbrook, F., and Fischel, D. (1991), "The Economic Structure of Corporate Law.", Harvard University Press.
5. Fisher, I. (1907), “The Rate of Interest: Its nature, determination and relation to economic phenomena.” New York: Macmillan.
6. Fisher, I. (1930), “The Theory of Interest: As determined by impatience to spend income and opportunity to invest it. 1954 reprint, New York: Kelly and Millman.
7. Gompers, P., and A. Metrick, 2001, Institutional investors and equity prices, Quarterly Journal of Economics 116, 229-259.
8. Hansen, R., and J. Lott (1996), "Externalities and Corporate Objectives in a World with Diversified Shareholder/Consumers." Journal of Financial and Quantitative Analysis 31, 43-68.
9. Kraus, A., and A. Rubin (2006), "Managerial Stock Options when Shareholders are Diversified.", Working paper, Simon Fraser University.
10. Markowitz, H. (1952), “Portfolio Selection.” Journal of Finance 7, 77-91.
11. Sharpe, W. (1964), ”Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk.” Journal of Finance 19, 425-442.
12. Smith, G. (1998), "The Shareholder Primacy Norm." Journal of Corporation Law 23, 277-322.
13. Smith, T. (1999), "The Efficient Norm for Corporate Law: A Neotradtional Interpretation of Fiduciary Duty." Michigan Law Review 98.