

A Taxonomy of the Modern Corporation

Our inquiry to this point has led us to the following conclusions:

- Firms exist as a monitoring device to control shirking
- Bigger is better because of the existence of economies of scale.
- But bigness causes the monitoring problem to grow—lower management is completely divorced from a claim to the residual profits and upper management is no longer a full residual claimant.
- Debt financing cannot perfectly solve this problem because of the agency costs of debt.

In spite of the problems of the separation of ownership and control—i.e., the agency costs between stockholders and managers—the common stock corporation is the most important business institution in the world. We now explore more thoroughly the nature of this organizational structure.

Following Jensen & Meckling writers have taken a slightly different tack in explaining the agency costs associated with the separation of ownership and control. The new view, expressed by Fama & Jensen, is that the corporation can be broken into two functions: risk bearing and decision making.¹ Fama & Jensen go so far as to say that it is not even right to claim that specialized risk bearers *own* the firm. The firm is just a nexus of contracts that bring resource owners together. One group are the risk bearers and another the decision makers. The risk bearer perform their chore by holding residual claim securities.

The common stock claims are alienable. They can be bought and sold freely. The facility in the transferability of the common stock claims creates an efficiency that leads to specialization in risk bearing. The cash flows from business ventures are uncertain. The variation in these can be reduced by pooling them. Ownership in the form of stock allows for the efficient financing of risky ventures. The efficiency of this contractual device is that when stock is freely tradable, the holdings can become diffuse. Individual investors can minimize risk by holding numerous independent assets—the more independent are the investments, the more risk reduction enjoyed. No one person holds much of any one stock, and hence, one set of risky ventures.

Portfolio adjustment is efficient. The relative amounts of assets held is usefully adjusted with changing conditions. The shares are alienable so that the riskiness of any portfolio can be adjusted easily.

Common stock claims to the residual returns allow portfolios to be formed that pool the returns of many and varied business ventures. The facility in forming and adjusting these portfolios allows for efficiency in diversification which in turn allows for specialization of the risk bearing of random swings in the cash flows of business ventures.

Alienable stock implies limited liability. If stock ownership implied unlimited liability then it would be necessary to restrict its sale. Limited liability in and of itself may be valuable, but it is only of secondary importance compared to value of specialized risk bearing that is achieved through freely tradeable shares of business risks.

¹ Fama, Eugene, and Michael Jensen. "Separation of Ownership and Control," and "Agency Problems and Residual Claims," *Journal of Law & Economics*, June 1983, 301-350. Alchian, Armen A., and Susan Woodward. "Reflections on the Theory of the Firm," *Journal of Institutional & Theoretical Economics*, 143 (1987), 110-136.

The Benefits of Specialized Risk Bearing

Diversifiable risk can be spread so thinly as to become unimportant. When decision makers are not concerned with risk in project selection they will act in a risk neutral fashion. When risk bearing is not specialized and when decision makers have large stakes in the firm, the firm will underperform because the decision makers will act in risk averse fashion. This is the explanation of the declining portion of the performance function (discussed in class).

Moreover, the salaries of the managers will have to be higher to compensate them for bearing this risk in an efficient fashion. They would prefer to diversify their wealth portfolio and have to be compensated for not being able to do so.

Common stock that holds the claim to the residual profits of the corporation is the mechanism for specialized risk bearing. Common stock differs from state contingent claims such as bonds. The claims of the stockholders are simply the residual no matter what state of the world develops. This allows for stock to be easily traded.

Freely tradeable common stock allows for large amounts of capital to be amassed. Big profitable, projects can be undertaken. Big conglomerates that solve other agency costs like the holdup problem can be put together.

There are many securities with state contingency claims that can be constructed. As mentioned above, debt is one. Preferred stock and convertible debt are others. Options are a very specific state contingent claim. State contingent claims aid in diversification and specialized risk bearing. However, they create agency costs, as in the agency costs of debt that we had discussed. These agency costs mitigate the gains of specialized risk bearing. Hence, claims such as stock options, except for managerial compensation, are not issued directly by companies.

The Costs of Separating Residual Claims from Decision Making

Decision making can be separated into two types: Decision Management and Decision Control. The process of decision making can be described as *initiation* (management) → *ratification* (control) → *implementation* (management) → *monitoring* (control).

When the organization of production concentrates management and control information in a few people, it may be efficient not to separate these functions. However, when this happens, there cannot be specialized risk bearing. Take for example land deals and concert promotions. Typically these deals are financed by debt claims (at high interest rates) by subscribers with the promoter holding the residual claim. The debt claims are event specific. This structure occurs because it is extremely hard to ratify and monitor the venture.

When specialized risk bearing is important and valuable, decision management and decision control must be separated.

If the organization is complex, there may be gains from separating decision management and decision control. In this case, it is relatively costless to separate decision control and risk bearing. This is the case that Williamson focuses on.² He calls decision control strategic decision making and decision management operations management. He points out that this separation developed in corporate America from the 30s through the 60s. He ponders why this did not happen sooner. He also notes that in the early pioneer corporations, GM and DuPont, there was no separation of decision control and risk bearing in the beginning. What Williamson fails to appreciate is how the top managers are monitored. He asks, how is it that a big corporation

² Alchian, Armen A., and Susan Woodward. "The Firm is Dead; Long Live the Firm: A Review of Oliver E. Williamson's *Institutions of Capitalism*." *The Journal of Economic Literature*, 26:1, 1988, pp. 365-79.

cannot do everything a small company does and more. Our answer is that there are costs of monitoring the decision controllers by the risk bearers and there are costs of monitoring the decision managers by the decision controllers.

Management hierarchies and incentive structures that encourage mutual monitoring are ways of monitoring decision making. Hierarchies create competition within organizations. At each level, the decision management is controlled by the next highest level. The board of directors is the highest forum for monitoring decision management. The board of directors is the ultimate form of decision control.

Compensation of Managers

The agency cost conflict between managers and stockholders results from the fact that managerial compensation becomes divorced from performance when managers are not the owners. On the other hand, making managers own the entire firm is inefficient because they have too much wealth at stake and tend to make risk averse decisions. It is desirable for the management to receive compensation based upon the performance of their firm but we don't want management to bear the burden of items outside their control.

One way this problem has been solved is by the leveraged buyout. In LBOs the CEO and other top managers typically hold about 40% of the equity claims of the company.³ These are usually nontrading shares, at least initially. Moreover, the claims are for a small percentage of the total value of the company. Debt makes up the lion's share of the capital structure. LBO firms have been very successful, even though there have been a few famous cases of bankruptcy. The trick is to cure the collateral problem in such a highly leveraged enterprise. One thing that is done is that managers are prohibited from cross subsidizing projects within the firm. Profits from a successful division cannot be used to finance shortfalls in another without the direct approval of the debtholders. Additionally, a management consulting company acts as a go between for the debt holders and managers in case of financial distress. The management consulting company acts as an internal bankruptcy court. They audit to make sure the managers aren't stealing from the company. A case study of an all-debt company is RJR-Nabisco. Management bought ownership by selling a lot of debt to what would be the new company. In general the average Debt/Equity ratio is .6. Merck has no debt. US Tobacco has no debt.

Linking managerial compensation to corporate performance can be achieved by paying the top managers in terms of stock. However, this tends to overburden them with bearing the risk of stock price fluctuation outside of their control. Another technique is to pay them with stock options. Option given to corporate managers entitle them to buy stock in the company at a specific price. If the corporation performs well and the stock price rises above the exercise price, then the option is valuable. If performance falls short, then the option is worthless. Stock options like stock compensation in general impose risk on managers. However, the risk averse behavior that this might cause is mitigated by leverage created in the option contract. Because the manager only makes money if the company performs substantially above expectations, the manager has an incentive to undertake relatively risky projects.

Jensen has argued strongly that top executives are paid too little and too little of their pay is tied to corporate performance. He argues for more LBOs and more stock options. However, as the world turns it is currently turning away from this view. The Congress has considered changing the tax code to limit the tax deductibility of top executive compensation in excess of

³ A question has been raised concerning this number. I got this from Mike Jensen in a conversation, but that does not make it right or even close. The number may be a good deal lower.

some given amount. This will likely make stock options an unfavorable compensation mechanism.

In terms of the level of executive pay, to the extent that they are paid in options, the level of any one manager's pay is not a fair estimate of whether he is paid too much relative to a cohort. If options are used to encourage relatively risky behavior, some risky projects will pay off and some will not. The ones that pay off will generate large incomes for the lucky. The average income across many executives with similar compensation packages is the appropriate benchmark.

Jensen and Murphy argue that pay is not correlated with corporate performance. There are a number of questions about how to empirically investigate this. One problem is that if executives receive a large portion of their compensation in the form of options, the company has to have performed well for them to receive this pay. However, the timing of the performance relative to the receipt of the pay can vary widely across firms. Stock options are usually given for ten years. Their exercise once they are in the money is largely a tax avoidance issue.

Some have argued that allowing managers to buy and sell stock based on their inside information would be an efficient way to compensate managers. According to the Chicago school insider trading would only speed up the stock price adjustment process. They maintain that insider trading has no deleterious effects on investors because it capitalizes information more precisely and the price simply moves more rapidly. For the buy and hold investor nothing has changed. For the liquidity trader, there is no reason to think they'll be opposite the insider trader more than they are with the inside trader. This view is not held in much regard outside Chicago. One problem with this scheme is that the managers would be in a position to manipulate the market. That is, they could sell their holdings, release erroneous information about poor performance, and then buy back their shares when the price falls. When the information is revealed as false the stock price recovers and the managers profit from the ruse. Stock manipulation of this sort is illegal under statutes other than insiders trading laws. Insider trading laws are probably in place to protect specialists and market makers rather than the investing public.

What is illegal? Insiders cannot buy and sell stock on the basis of nonpublic information. Any singular event that causes a stock price to move that an insider is privy to is illegal to trade on. It is illegal for an insider to sell a stock short. Consequently, it is not easy to capitalize on negative corporate information. The problem becomes linking knowledge of insider with the event. If insiders imprudently leak information to others, the insiders can be held accountable. If outsiders enter a conspiracy with the insiders to capitalize on inside information, both parties can be held accountable and can be charged with a *criminal act*.

The Market for Corporate Management

In addition to the pay structure of managers within the corporation, the managerial marketplace also exerts control over the agency cost between stockholders and managers. There is an internal and external market for corporate managers. That is, managers can move up and down both within and between firms.

Common observation suggests that climbing and slipping on the corporate ladder resembles a tournament. Regional managers are promoted to vice presidents, vice presidents to senior vp's, and senior vp's to CEO. To the extent that this is true we can call upon the economic investigation of tournaments to analyze the marketplace for corporate managers. A fundamental principle of the tournament literature is that the spread in payoff between the winner and the

losers is a strong motivating factor. Indeed, the larger the spread, the more effort is expended by the rivals. The economic understanding of the process says that the payoff to the winner should increase at an increasing rate as the game moves to higher levels. Moreover the jump in the last round should be especially large because there is no further incentive to induce effort. Empirical investigation of the corporate management marketplace reveals that the pay scale up the ladder does, in fact, follow these patterns.⁴

Main, O'Reilly, and Wade (1993) provided a study that reports the results of an empirical investigation of executive compensation. Their results are consistent with the operation of tournaments, or the concept of ever larger rewards to motivate those at the highest organizational levels. They found that for the years 1980-84, CEOs' (chief executive officers) earned the level of pay (base plus bonus) that was some 141% greater than that enjoyed by their immediate subordinates. They also found that the ratio of pay between levels seems to increase markedly as one moves up the corporate hierarchy. If, for instance, level 1 is the CEO, level 2 would be his VP (vice president), and so on down the corporate ladder, in 1980, managers who were promoted from level 4 to level 3 receive, on average, a 44% increase in compensation, whereas those going from level 3 to 2 get 75% raise.

In addition to this finding, they looked at the wage differentials between the levels for the individuals who were promoted into the position from within the firm. Results range from 22% to 37.2% increase depending on the level. VPs who were not promoted into CEOs received a pay increase of 6% on average. This would be a lower end of the spread. Above results represent only the immediate changes due to a promotion. As Rosen (1986) points out in his paper, players will not only consider next available prize, but they will consider a discounted value of all the expected future prizes. Thus, winning a tournament, and becoming a CEO not only has an instant effect on the CEOs' payoff, but his future payoffs will be affected as well. Taking that fact into consideration, the mean annual gap between CEO pay and the average VPs' pay is about \$325,000. As the size of the company (sales) increases, and the individual experience and time in office as CEO increases, salary gap goes up. Using a discount rate of 3%, the average present value of the prize being enjoyed by the CEOs in post in 1984 is \$4.6 million. When adjusted for long-term compensation devices, like stock options, average present value increases to \$6.2 million.

Finally, they test the notion that the more players there are, the larger the expected present value of the CEO-VP pay differential, or the more competitors, the larger the grand prize. The results show that for each extra VP in the tournament the size of the prize increases by 3%. Measured in terms of total compensation where the mean prize is \$6.2 million this becomes \$186,000 per VP. Thus, they concluded, the size of the prize increases with the number of contestants, which supports the tournament model.

Managerial turnover is a signal about the quality of management. Managers anticipate that their market wage will be affected by the job they did at their last place of employment. Reputations of managers and directors affect their wealth and incomes. However, the relationship between one's market salary and performance are not perfectly correlated. In an expectational sense, behind a veil of ignorance, the market wage will be affected by the job you do at your last place of employment. If there is excessive turnover of junior managers it implies that senior management is poor. Junior managers in this way monitor the behavior of their

⁴ See Main, B. G. M., O'Reilly III, C. A., and Wade, J., "Top Executive Pay: Tournament or Teamwork?" *Journal of Labor Economics*, Vol. 11, no. 4, 1993, pp: 606-628.

seniors. If the junior managers recognize the upper management is doing a poor job they will jump ship before the corporation turns bad so they can avoid looking bad. The performance of the corporation is dependent on the decisions of the upper management and is reflected in the moving on wage of the junior managers.

As long as the wage revisions that are forced on a manager fully reflect the good and bad decisions that the manager makes for the firm, then there is no agency cost between equity holders and management.⁵ In a perfectly functioning managerial labor market this *full ex-post catching up* will operate to solve agency costs. (There is some concern about old guys who may face a last period problem. Presumably things like retirement plans tied to stock prices after the manager retires works to solve this.)

While Jensen makes strong arguments that there is only weak relation between corporate performance and managerial compensation, there is some other evidence to the contrary. We know that managers of corporations that suffer financial distress and bankruptcy are often replaced. We also know that their wages in their next jobs are substantially lower. Furthermore, we know that corporations take care to structure pensions to reflect the long term performance of the company so that managers who are about to retire feel pressure to make good long term decisions. Of course, this threatens the managers with the possibility that a new management team may come in and wreck the value they have instituted. However, there is little incentive for new managers to drive stock price down in the short run.

The central proposition of the fully functioning managerial labor market is that the top managers can be unseated. This proposition rests on the argument that the board of directors is the monitor of top management.

⁵ Fama, Eugene. "Agency Problems and the Theory of the Firm," *Journal of Political Economy*, April 1980, 288-307.