Session 9
Control-Ownership Separation and Executive Compensation

Objective

By the end of this session, students are expected to be able to exhibit a critical understanding of the separation of control and ownership and economics of executive compensation.

Introduction

The materials in this session are drawn from: Chapter 18 in Copeland and Weston (1988); Chapter 12 in Copeland, Weston and Shastri (2005); and Fama and Jensen (1983a).

During the last session, we saw implications of adverse selection and moral hazard on economic exchanges, i.e., business activities. The principal is ill-equipped to monitor his/her agent's behavior. In our landlady-and-farmer example, this agency problem gets worse as the farm gets larger and the farming activities becoming more complex. The landlady has no farming skills.

In this session, we will discuss the potential remedies for the agency problem that have been suggested in the literature. Specifically, our discussion will focus on the economics of control-ownership separation and executive compensation.

Separation of Control and Ownership

Let's carry on with the landlady-and-farmer example from our last session. What are then the roles of the farmers and landlady in this farming business?

> What do the farmers do? What does the landlady do?

Famers are hired/contracted to make optimal utilization of their skills on the farm. They are expected to decide what to do on the land in order to maximize the value of the farm, i.e., responsible for *initiating* and *implementing* routine operating decisions.

Because the landlady has *zero* skills in farming, all of the farming activities and day-to-day operating decisions are left to the farmers. In other words, the landlady is *completely removed* from the operating activities even though she is the owner of the farm who bears the *residual risk*.

> The residual risk is the probability that the stochastic inflows of resources will fall short of the promised payments to the party who contracts for the rights to the net cash flows. In our example, the residual risk bearer (*residual claimant*) is the landlady.

For the farming business to be sustainable, i.e., to *survive*, it is necessary that the farmers' decisions require approval from the landlady prior to implementation. In other

words, the role of the landlady is to *ratify* whatever the farmers decide to do on the land and *monitor* their implementation. This is simply because the landlady bears the *wealth effect* of the farmers' choice of action (residual-risk bearer).

The roles of the landlady and farmers can be summarized as follows:

Decision Management (Initiation and Implementation)	⇔	Decision Agents (Farmers)
Decision Control (Ratification and Monitoring)	⇔	Residual Claimants (Landlady)

That is (in the corporate context):

Decision Making	⇔	Managers
Risk Bearing	⇔	Residual Claimants

As can be seen, the roles of the landlady and farmers are *separate*. What do you think are the likely implications of this separation?

- The agents/managers /farmers do not bear the wealth effects of their decisions.
- It is the residual claimants (principal/shareholders/landlady) who bear the wealth effects of the agents' decisions.
- This separation of decision management and risk-bearing functions clearly allows the agents to behave opportunistically.
- Consequently, there is a need for an effective control mechanism that limits the scope the agents may have in expropriating the wealth of the residual claimants (the agency problem).

Fama and Jensen (1983a) argue that it is this *control-ownership separation* itself that serves as one effective control system.

By separating the decision function (management) from risk-bearing function (ratification), the decision agents (farmers) are removed from the position to approve their own initiation and implementation. The separation therefore controls the agency problem *ex ante*. Fama and Jensen (1983a) insightfully argue that such separation also offers the benefits of **specialization** in decision-making and risk-bearing, which add *survival value* to organizations.

In a nutshell, the separation enables managers to focus on utilizing their specific knowledge (which is costly to transfer across agents) without loss of decision efficiency. Such a loss would arise from managers' risk aversion and limited wealth. In other words, if managers were made to bear the risk of their decisions, they would have to be chosen for their job not only on the basis of their specific skills but also on the basis of their wealth and willingness to bear risk. In this setting, a highly-skilled manager would

not necessarily be selected in equilibrium if s/he was risk-averse or had very limited wealth.

By removing managers from the risk-bearing function, they can be efficiently selected purely based on their skills and focus on making optimal utilization of their skills. Residual claimants can then assume the role of risk-bearing. That is, those that have wealth but lack specific skills can assume the risk-bearing role, which can be *efficiently performed* by a *large number of residual claimants*. This way, economies of *risking sharing* will be achieved. In terms of our landlady-and-farmer example, the landlady and her counterparts (e.g., friends who also own land) can *exchange* claims on their land and farming businesses (buying and selling equity) among themselves. Indeed, this is also what the portfolio theory would dictate.

> How can such exchanges of claims lead to portfolio diversification?

As a result, the ratification and decision management can be made to maximize the wealth of the residual claimants. Having a large number of residual claimants will also allow investment decisions to follow the rule of *market value* maximization if the claims have unlimited alienability, which permits diversification of the residual risks borne by each residual claimant.

These benefits of specialization occur along with the control effectiveness of the separation. As pointed out by Williamson (1983), the treatment of the relation between risk-bearing and decision management by Fama and Jensen (1983a) is in line with the rationale behind the M-form organizational structure (where long-run strategic decisions are removed from day-to-day operating decisions), which arises in response to the deficiencies of the earlier U-form structure.

Executive Compensation

As long as the agents' efforts and actions can be monitored efficiently, the control-ownership separation will serve as an efficient system for controlling the agency problems. Due to unobservability of the relation between efforts and output (i.e., incomplete contracting or incontractibility of incentives), however, it is unlikely that the principal (landlady) will be able to impose a large enough penalty on his/her agent (farmer) and offer an optimal contract based on *ex post* productivity.

In reality, what we regularly observe is shareholders being unable to formulate a precise contract to make their managers choose the optimal level of efforts. With information asymmetry, the relevant question becomes:

> How far can the principal induce her agent to act in her best interests through the contract under which the agent acts?

Given incomplete contracting, it is therefore often necessary to find some mechanism to minimize deviations from the terms and conditions of the contract. To this extent, one relevant issue is: what is the mechanism that minimizes the incentive to deviate from the contract, e.g., makes managers bear the cost of their misbehaving and reward them for their contributions to shareholders' wealth?

The answer is simple: such a mechanism should provide managers with the *right incentives*, which are incentives that align *managers' interests* with those of their *shareholders*. However, to get the incentives right is always a million dollar question.

Ideal Compensation Plan

Generally, the compensation plan should *ideally* contain at least the following features, or it should (see Copeland and Weston, 1988):

- Be easy to evaluate (i.e., based on *objective* criteria, transparent to all parties involved, and incapable of being manipulated);
- Prevent excessive management perquisites and shirking;
- Have a horizon (i.e., long-term perspective) that *matches* shareholders' investment horizon;
- Match managers' risk to that of shareholders while recognizing that shareholders can diversify the idiosyncratic risk of the firm *much more easily* than managers can diversify the risk specific to their employment in the firm;
- Be tied to managers' specific contribution to changes in shareholders' wealth; and
- Be tax-efficient.

In reality, it unlikely that any given compensation plan will have all of the above features. What happens in practice is that there is a *compromise* on one or more of the above features.

So, what can we do? There is no definite answer.

you eventually have to face up to the consequences of your actions.

But, it is useful to bear in mind the way your employees/ managers work reflects their incentive structure – *you reap what you sow*. A plan that ties remuneration to firm size (in terms of assets, workforce, or sales volume) will motivate managers to pursue *empire-building*. Similarly, if executives get paid based on the number (rather than success) of product lines developed, they will keep ever pumping out new products even if the new products represent negative-NPV projects for shareholders.

Managers' Interests vs. Shareholders' Interests

It is crucial to always remember that managers/executives are utility maximizers just as other economic agents are. Both managers and shareholders rationally seek to maximize their income and minimize their risk. If the two are faced with differing opportunities and/or limitations (i.e., constraints), their incentives are likely to be *incompatible*.

While shareholders can diversify away the risk of their income stream (i.e., portfolio diversification), however, managers cannot diversify away their employment risk. This

is because the labor market is in all probability nowhere near as well as functioning as the capital market. As a result, managers will always be more risk-averse than residual claimants *ex ante*.

unsystematic risk

> What is the element that makes it impossible for managers to diversify away their employment risk? That is, what is the *friction* that prevents managers from making *exchanges* of claims of property rights of the expected utilization of their labor among themselves on the labor market?

unequal horizons

Another problem, as pointed out by Fama (1980), is that managers' employment horizon (their investment horizon) *differs* from shareholders' aggregate investment horizon. For instance, managers generally retire at the age of 60 whereas equity holders never retire. Indeed, equity holders in aggregate see the firm in which they invest as a going concern.

even efficient

If manager expects to retire in next yr, not expect to remain in the labor mkt → try to net marginal benefit

As a result of unequal horizons, there will always be situations where the *ex post* managerial behavior deviates from what is expected based on the current performance assessments. This will be the case even though there were a properly functioning labor market: as managers do not expect to come back to the labor market.

Bonus Plan

easy to manipulate

e.g. beat competitors 2i %.

regardless the performance of manager

A typical remuneration scheme (i.e., attempt to minimize deviation from a contract) is a bonus formula that specifies a minimum threshold and a payout cap. Such a common feature provides suboptimal incentives for managers. For example, no bonuses are paid unless earnings exceed 10% of total capital employed, and the maximum bonus cannot exceed some pre-determined multiple of the base salary. At first glance, the minimum threshold appears aligned with shareholder wealth maximization.

threshold performance

threshold level = 10%

e.g. 9-month 9% (×75%) + 1-month 1% (×25%) = 10%

However, this formula can give managers an incentive to *defer revenue* recognition and *accelerate expenses* in the current fiscal year, if the profits appear to fall near the threshold level. Though missing a bonus this year (as they would anyway), this behavior increases the likelihood of receiving a bonus next year. When profits appear to fall between the threshold and the cap, managers will then be tempted to *accelerate revenue* recognition and *defer expenses*.

e.g. give big discount

→ to maximize bonus

> How do you think this plan could fail to maximize shareholders' wealth? [Hard to manipulate? Long-term perspective? Matching of managers and shareholders' risks?]

only this align incentive btw manager & shdr

threshold

cap

no align incentive (deviate from contract)

- manipulated plan → bad for shdr (< residual claim)
- threshold : good for shdr → incentive alignment to at least achieve good performance at threshold

* Relative Performance

Many firms reward their managers based on relative performance, i.e., relative to industry peers or market index. Although the relative-performance plan may sound fair, the key issue is whether or not resources should be committed to losing situations such as a recession. Superior relative performance may not necessarily increase shareholders' wealth.

less negative NPV project by manager beat industry performance (more negative NPV)

(⊕%, ⊖ raw performance)

e.g. ⊕NPV project may become ⊖ NPV project

* systematic risk remains the same → discount rate is the same

Previously, firm expected ⊕ CFs. However, after certain situation like recession, firm may not really get that ⊕ CFs.

↳ CFs become negative ⇒ NPV becomes ⊖

Should shareholders encourage their managers to make further investment in order to achieve good relative performance in a *declining* industry?

During a downturn, most investment projects have a negative NPV (because, based on the available information, cash flows are expected to be low).

Equity Ownership and Stock Options

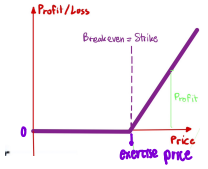
What then can shareholders do to provide the right incentives? What can shareholders do to make the payoffs for managers closer to theirs?

An employee **equity ownership** plan has proved popular among a number of firms. Under this plan, employees (including managers) receive an *ownership interest* in their company, usually on top of their base salary. Theoretically, the plan clearly helps to align the interests of employees with those of shareholders.

As we saw in the income-statement example from last session, the manager prefers efforts Level 3. Her payoff is largest at this efforts level. However, shareholders prefer efforts Level 2. Naturally, the problem for shareholders to solve is how to reduce the manager's incentive to choose efforts Level 3, i.e., to incentivize the manager to spend efforts at Level 2. Since the manager gets paid more to make efforts at Level 2 than at Level 1, the problem is therefore the choice between Levels 2 and 3. The payoff schedule below illustrates how an ownership interest can weaken the manager's incentive to consume on the job. Specifically, an ownership interest makes the manager bear the cost of her private benefit extraction. Four levels of equity ownership are considered: zero; 20%; 50%; and 100% equity ownership held by the manager.

	0%		20%		50%		100%	
Sources of payoff	Level 2	Level 3	Level 2	Level 3	Level 2	Level 3	Level 2	Level 3
Wage	400	400	400	400	400	400	400	400
Private benefit	0	50	0	50	0	50	0	50
Net profit	0	0	70	60	175	150	350	300
Total payoff	400	450	470	510	575	600	750	750
Incentive Coefficient	12.50 %		8.51%		4.35%		0%	

Two important patterns are observable from the schedule. First, as long as the manager does not own the entire firm, her total payoff is always larger with on-the-job consumption. When the manager owns only part of the equity, other shareholders effectively subsidize her on-the-job consumption for the amount that varies directly with the size of her ownership in the firm. Obviously, she bears the full cost of her on-the-job-consumption if she owns the entire firm. Secondly, the Incentive Coefficient shows that the manager's incentive to extract a private benefit becomes weaker as she owns greater ownership in the firm. Taken together, these two patterns imply that the manager rationally makes a trade-off between the benefit and cost of private benefit extraction. When the net benefit is zero, i.e., in the case of 100% ownership, the manager will be indifferent between consuming and not consuming on the job. Note



exercise price : ราคาที่ซื้อขาย (at the money)
(with no premium)
เมื่อเทียบกับราคา current price

that the manager will rationally adjust for the risk of getting caught when making such a trade-off. However, the trade-off observable from the schedule is not yet adjusted for the risk. With such risk adjustment, the net risk-adjusted benefit of on-the-job consumption may actually disappear as soon as the manager's ownership interest hits the 50% mark.

without responsibility separation
ไม่เสี่ยง ไม่ผิด

Of course, the incentive effect of ownership interest also speaks directly to how much of private benefits *large shareholders* (rather than managers) extract from the firm, i.e., large or controlling shareholders stealing from small outside shareholders by.

ต้องการ to high premium manager labor union
lose control → dilution
align incentive

stock option → uncertain value cash

gives to ceo/top management member

Also widely adopted, especially among large firms, is the **stock option** plan. This is essentially a form of *long-term* compensation plan remuneration contract that rewards managers according to the market-based measure of performance. The plan usually grants managers (or, any employees) call options. The exercise price is commonly set at the level a bit above the current share price at the time of issue. The main features of such calls are a vesting period (where the call cannot be exercised) ranging from 1 to 5 years, and the expiration date 10 years after issue.

1 objective : LT
2 decision must increase shdr's wealth sustainably over the life of project
(X manipulation)

↳ US nature

↳ manager should be allowed to have time to (prove complete project, for manager to get high

Say, a senior manager of one firm has been given calls on 1 million shares. Also suppose, over the 5-year period, the firm's share price has grown to $134 from $100, and the manager decides to exercise the calls. The manager hence receives $34 million, and the firm receives $100 million for its shares worth $134 million in total. Now, let's think about performance in the CAPM framework: r_f is 6.5% pa; $[E(r_m) - r_f]$ is 6%; the firm's β is 1.09. The firm's $E(r_i)$ is therefore 13% pa. Suppose the firm has not been paying dividends, and is not expected to. So, the growth of $34 per share over 5 years would be equivalent to only 6.03% pa $[(1.34)^{1/5} - 1]$, not 13% as expected. Here, the manager collects $34 mil on top of his/her base salaries for running a firm that has fallen short of the cost of capital on average by 7% per year.
(Reference: Brigham and Ehrhardt, 2005)

equity financing ?

from theory

estimate expected return from stock : CAPM

derived from MVC

expected

yields payoffs regardless risk / situation (constant across stage of nature)
no expectation

shdr are risk averse

If share price go up by manager
↓
shdr get richer as well by $34 million
↓
it's fair!
but is it big enough for shdr?

assume annual compounding

13% - 6.03%

To use NPV
↳ must assume
6 axiom of choice under uncertainty

holding 5 private firms
↳ well diversify if its return co-move perfectly to economy
↓
same as holding mkt port

So, do stock options align the pattern of managerial remuneration with that of return to shareholders?

Consider another situation where the firm may be outperforming both the market and industry peers during a severe downturn. In this case, an executive stock option plan would not give any reward to the managers since their calls would have expired out-of-money. But, managers have been working so smart and hard to reduce the worse to bad.

What to takeaway

good manager → price ↓ but shdr don't lose money in liquidation & firm still survive while peers suffer liquidation
↳ but doesn't get reward from stock option → expire out of money
don't suffer liquidation losses
if manager's call is near maturity
↳ may make inv that cause volatility of equity (high-risk strategy)
loss to make price becomes volatile

A conflict of interest between the agent and principal arises whenever there is an agent-principal relationship. While it is possible to reduce such a conflict of interest and ensuing agency cost, it is not possible to eliminate the conflict. Therefore, there will always be agency cost in any agent-principal relationship. Here, theory tells us where and when to expect the conflict to be severe and the agency cost to be large, which gives practically useful guidelines for efficiently curbing the agency problems.

cannot be observed (incontractability)

employment contract btw firm & employee manager
btw firm & shdr

Recommended Reading

Control-Ownership Separation

Fama, E.F., Jensen, M.C., 1983a. Separation of ownership and control. Journal of Law and Economics 26, 301-325.

Fama, E.F., Jensen, M.C., 1983b. Agency problems and residual claims. Journal of Law and Economics 26, 327-349.

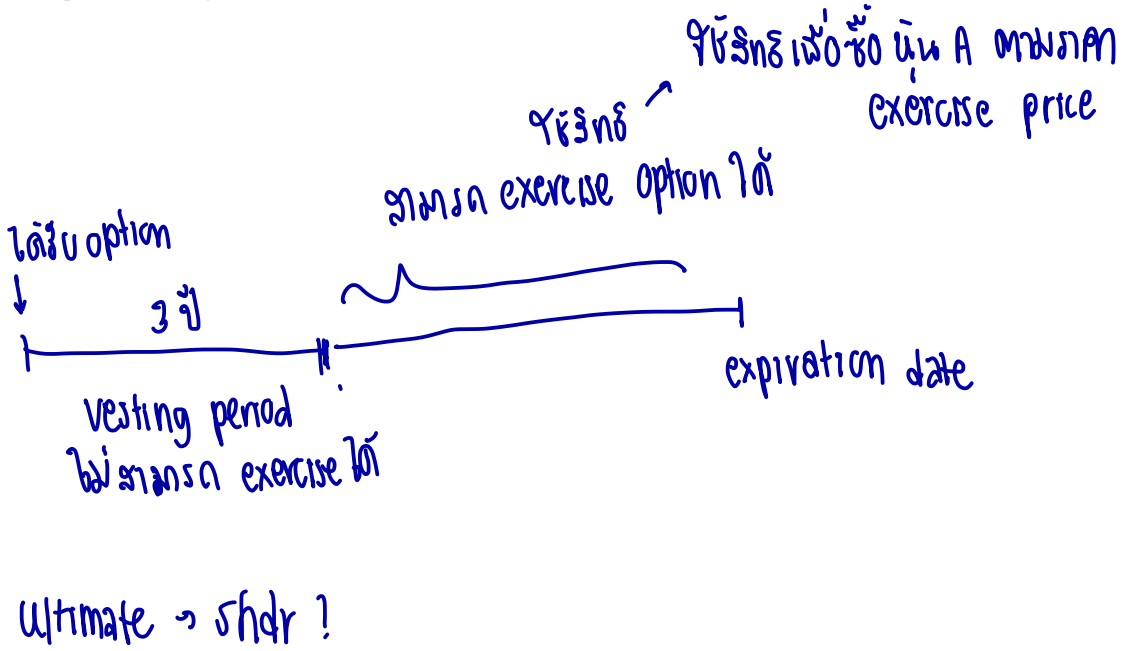
Williamson, O.E., 1983. Organization form, residual claimants, and corporate control. Journal of Law and Economics 26, 351-366.

Executive Compensation

Fama, E.F., 1980. Agency problems and the theory of the firm. Journal of Political Economy 88, 288-307.

Baker, G.P., Jensen, M.C., Murphy, K.J., 1988. Compensation and incentives: practice vs. theory. Journal of Finance 43, 593-616.

Morck, R., Shleifer, A., Vishny, R.W., 1988. Management ownership and market valuation: An empirical analysis. Journal of Financial Economics 20, 293-315.



Ultimate → shdr !

On Tue, Oct 24, 2023 at 3:47 PM Suparat Patarasupanit <suparat.pj@gmail.com> wrote:

Dear Ajarn Manapol,

My name is Suparat Patarasupanit. I am a full-time MSF (FT27) student from your Finance Theory class. I would like to ask you questions regarding session 9. Could you please verify my statement whether it is correct or not?

1. According to Fama and Jensen's control-ownership separation, by removing managers from the risk-bearing function, can it also help to control the agency problem?

: I think it can because managers can make optimal utilization of their skill to choose the best projects, without worrying about their wealth, and then maximize shareholders' wealth.

[although making optimal utilization of skills is an outcome of the separation, it is different from controlling the agency problem. basically, the separation performs 2 roles - one is to control the agency problem, and another is that it allows for specialization of skills.]

2. Is the fact that shareholders have zero-skill in operating the firm also a main reason behind control-ownership separation?

: I think it is, because, if shareholders have skill to operate their own firm, then they will become managers themselves. Therefore, there will be no separation in responsibility between shareholders and managers.

[loosely speaking yes. at the same time, however, managers are also removed from the risk-bearing function.]

3. What is the meaning of "market value maximization" in this context?

'As a result, the ratification and decision management can be made to maximize the wealth of the residual claimants. Having a large number of residual claimants will also allow investment decisions to follow the rule of market value maximization if the claims have unlimited alienability, which permits diversification of the residual risks borne by each residual claimant.'

: I think market value maximization in this context means that manager can choose the project that provides maximum return in order to maximize the firm's value without knowing the preferences of shareholders. This is because shareholders can exchange claims to each other. Thus, shareholders can diversify their portfolio with regard to their own risk preferences. [you certaintly are on the right track. as shareholders can diversify, projects can be valued using systematic risk (i.e., using the market's criterion). using systematic risk is more efficient than using firm-specific risk.]

4. In the topic of stock option, can vesting period of an option prevent managers' manipulation on firm's income statement?

: I think it can, because vesting period prevent the managers to exercise their options, meaning that they will not try to manipulate the firm's income statement after they received the options. Thus, this stock option's vesting period could make the firm's shareholders' wealth increase sustainably over the life of project. [correct. the bottom-line idea behind the vesting period is to minimize the probability that managers get rewarded for any short-run price movements due to luck or manipulation or otherwise.]