Organizational Architecture

- Agency problems arise in all organizations.
  - For-profits, not-for-profits, government agencies….
- They are due to asymmetries in payoffs, information, liability and horizon.
- They can occur between owners (e.g., shareholders) and managers,
  - because of the separation of the decision making and risk bearing functions.
  - i.e., managers make decisions, but don’t fully bear the consequences. The residual risk is borne by the residual claimants – the shareholders.
Examples of agency problems between shareholders and managers include:

- Managers will attempt to consume expensive perks, such as corporate jets, club memberships, parties, etc.
  - E.g., suppose the manager’s compensation is 0.1% of net income. Further suppose that the perks reduce net income by $1000. The reduction in the managers compensation is $1, but she consumes $1000 of perks.

- Managers are myopic – they are averse to taking on positive NPV projects with large negative cash flows early in the life of the project.

- On the other hand, they may take on negative NPV projects with large positive cash flows early in the life of the project, if they are retiring or otherwise leaving soon – this is the horizon problem.

- The horizon problem is exacerbated by ex-post settling-up costs.
Agency problems can occur between employees and supervisors, e.g.,
- Employees have a *moral hazard problem*, or an incentive to shirk work.
- This is especially problematic when outcomes are very uncertain, i.e.,
  when the mapping between effort and outcome is weak over short time intervals.
- Is a good outcome due to effort or chance (a rising tide)? What about a poor outcome?
- The employee likely has more information than the supervisor, and is able to game the circumstances.

Another type of agency problem is the *adverse selection problem*.
- This can occur between employers and *potential* employees, or between current and *potential* shareholders.
Problems also occur within teams in the organization.
- A free rider problem occurs when one member of the group shirks.
- All of these problems are more likely in large decentralized organizations, where decision rights are dispersed.
- Allocating decision rights is one aspect of the organization’s architecture. Who should have what decision rights?
- Ideally, decision rights should rest where the knowledge resides, for
  - informed decision making,
  - timeliness, and
  - employee motivation.
Organizational Architecture

- However, agency problems may make it optimal to detach decision rights from knowledge, and to have some knowledge flow to where decision rights reside.
  - E.g., a department may have better knowledge of its costs for next year, than the home office. However, the home office, not the individual department, will set the budget for that department.
  - Or a salesperson may have better knowledge of a customer’s demand curve for a differentiated product, but allowing the salesperson to negotiate prices may induce the salesperson to divert some resources.
Organizational Architecture

If the costs of coupling decision rights with knowledge are high, then decoupling may be optimal if:

- the knowledge is not specialized, or is easily transmitted from where it resides to where decision rights reside;
- if the environment is stable and decision timeliness is not critical;
- E.g., fighter pilots in wartime vs. peacetime, paramedics.

How decision rights are allocated will depend on the relative importance of decision making vs. control.

- This will depend on the particular firm, its circumstances, and its internal and external environments.
Organizational Architecture

- One way to control agency problems is by separating decision management from decision control.
- Decision management consists of initiation and implementation.
- Decision control consist of ratification and monitoring.
  - E.g., hiring a new employee, or launching a new marketing effort.
- When this separation fails, the costs to the firm can be dramatic. E.g.,
  - Nick Leeson at Barings Bank,
  - Yasuo Hamanaka at Sumitomo
- This is an indication of the magnitude of agency costs.
Organizational Architecture

- How does accounting help control agency problems?
- Accounting numbers are used to align incentives.
- They are used to specify benchmarks used in performance evaluation and compensation.
- E.g., managers are paid a base salary, plus bonus from a bonus pool. The size of the pool depends on accounting earnings.
  - The pool has a lower bound, below which no funds are available for distribution as bonus,
  - and also an upper bound beyond which the pool does not grow.
- The upper bound
  - reduces costs associated with severe horizon problems, and
  - prevents managers from being rewarded for extreme good fortune rather than effort.
While paying managers based on firm performance achieves greater incentive alignment, it also imposes some risk on the manager. The manager, being risk averse, will receive a higher compensation to take on this risk. This higher compensation is an agency cost.

Also, notice that managers and shareholders incentives are still not fully aligned.

- E.g., managers now have incentives to be myopic (forego positive NPV projects with large early cash outflows);
- They have incentives to take a “big bath” if earnings are below the bogey,
- And to undertake income-reducing activities if earnings are above the cap.

To increase alignment, managers are also given stock options, which reduces myopia.

The managerial labor market, and the market for corporate control, further serve to reduce agency problems.

- However, labor markets are also subject to the adverse selection problem.
The implication is that agency problems can only be attenuated, not eliminated.

Agency problems also arise in a variety of other settings.

For example, in contracts of oil and gas limited partnerships.

General partner provides technical expertise in drilling, while limited partners provide most of the capital. There is uncertainty regarding the size of oil and gas reserves.

Once a well is drilled, the general partner acquires private information about the size of the reserves, say R.

The well needs to be completed to realize R. For tax reasons, the general partner has to pay the completion costs, C.

The contract specifies that the general partner receives a certain percentage of R, say 20%. The remainder goes to the limited partners.
From the general partner’s perspective, it pays to incur completion costs only if \(0.2R > C\). Otherwise, she does not complete the well, and the limited partners payoff is 0.

This is an agency problem between general and limited partners. If the problem is severe, general partners will not be able to raise any money.

This problem can be mitigated through reputation-building by the general partner, and also through pre-commitment (placing completion costs in escrow).
A number of agency problems also arise in debt contracts, for example:

- excessive dividend distributions. Accounting numbers are used in this case to delimit the pool of funds available for distribution;
- asset substitution, or playing the lottery with borrowed money.
  - E.g., Fred Smith of Fedex went to Vegas when prospects were poor at one point in the 70’s.
  - In this case, lenders may secure their loan, and may impose tight covenants in order to transfer decision rights in a timely manner.
- underinvestment, which is similar to the non-completion problem in the oil and gas example. In this case, it may not be possible to raise much debt, as with growth firms.
- claim dilution, or borrowing more money from subsequent lenders. In this case, lenders may provide shorter maturity loans.
Organizational Architecture

- Accounting numbers are extensively used in debt covenants to control a variety of agency problems.
- Another way to control agency problems in organizations is through accounting control systems, such as
  - responsibility centers,
  - standard costing,
  - budgeting,
  - transfer pricing, etc.
- We will look at some of these systems over the next few weeks.
Organizational Architecture

- Responsibility accounting assigns decision rights to sub-units within the organization, based on the knowledge residing in the sub-unit.

- A cost center is responsible for managing costs only, not for revenues, profits or investments. The cost center manager is evaluated based on, for example, minimizing costs for a fixed level of output.

- A profit center may consist of several cost centers. In addition to costs, profit center managers are responsible for deciding the product mix, and selling prices and quantities.
Organizational Architecture

- An investment center may consist of several profit centers. Its manager has decision rights for capital investment decisions, in addition to the decision rights of profit center managers.

- Investment center managers may be evaluated based on:
  - Net Income (NI).
    - However, this creates an incentive to over-invest. Taking on low or negative NPV projects with large future cash outflows will increase NI today.
  - Return on Investment (ROI). This controls the overinvestment problem, but creates other problems.
    - The manager may forego positive NPV projects (return > cost of capital) that dilute high ROI.
Organizational Architecture

- Residual income or Economic value Added (EVA) could be used. We will study these next week.
- The controllability principle suggests that managers should be evaluated only for decisions within their control (i.e., over which they have decision rights).
- This seems sensible,
- but also leads to some problems.
- For example, a particular adverse outcome may be a chance occurrence, and the manager should not be penalized for its consequences (or costs).
  - E.g., if there is a storm that causes a large loss this year, the managers bonus should not be penalized for this particular loss.
  - However, managers may then avoid costs ex ante (insurance?) that may minimize losses ex post.
  - Another example is evaluating managers on after-tax / before-tax profits. If the latter, then there is no incentive to minimize taxes.
Organizational Architecture

- Another problem in applying the controllability principle is that it seems to go against the notion of Relative Performance Evaluation (RPE).
- Benchmarking against the performance of peers may penalize managers for the (uncontrollable) good performance of peers.
- So is RPE justified?
- Yes, from an information perspective. Adjusting for peer group performance extracts the common effects (rising tide?) and “cleans up” the performance measure such as earnings (increases the signal-to-noise ratio).
- The purpose of including uncontrollable factors is to remove their effects.
However, RPE is not commonly observed in executive compensation contracts, possibly because of:

- difficulty in specifying the peer group;
- political costs in rewarding managers for good relative performance in bad times;
- manager’s incentive to choose avoid risk and choose safer rather than more profitable projects.
Organizational Architecture

- Takeaways:
  - Agency problems are pervasive in all organizations.
  - These problems can not be eliminated.
  - Accounting numbers and accounting systems can be used to control these problems, thereby raising firm value.