Moral Hazard and Adverse Selection Synopsis

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1 Moral Hazard

Moral hazard (principal-agent) problems arise whenever there is a separation of ownership and control. The typical setup is that there is a principal who delegates decision-making authority to an agent. Moral hazard refers to the *risk* that the agent will not necessarily act in the principal's best interests, and it occurs because it may not be feasible for the principal to monitor all actions taken by the agent.[1]

Moral hazards are present in a wide-ranging set of principal-agent relationships commonly found in various financial, legal and social contexts; including, but not limited to:

- In corporate governance, the owner-manager relationship.
- In corporate finance, the creditor-owner relationship.
- In insurance, the insurer-policyholder relationship.
- In civil litigation, the client-lawyer relationship.
- In a broader "stakeholder" context, the society-firm relationship.

Solutions for moral hazard problems typically involve proper management of incentives. This is the logic behind pay-for-performance compensation in employment contracts, and of contractual features such as deductibles, coinsurance, and upper limits in insurance policies. The key feature of *incentive-compatible* contracts is that they typically involve some form of risk sharing between principals and agents. This is why policyholders are rarely, if ever, offered full coverage contracts, and why managers' compensation contracts typically require that they share corporate risk with owners. The best way to mitigate moral hazard is to make sure that agents as well as principals have "skin" in the game!

Here is a synopsis of important managerial implications related to moral hazard:

- Incentive contracts are useful when the outcome you care about depends upon the efforts of others, but you can't directly verify that effort. The task in creating value through an incentive contract is to trade off the tension between value creation through risk sharing and pecuniary motivation to take effort.

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[1]For this latter reason, moral hazard is commonly referred to as a problem of "hidden action".

- Moral hazard implies less than efficient risk sharing (since the agent typically bears cost at a higher risk then the principal). Consequently, the more that moral hazard can be reduced through direct monitoring, the more value can be created. However, it only makes sense to monitor more closely if the cost of doing so is less than the cost of burdening the agent with more exposure to risk.
- How should one go about designing "good" incentive contracts? Typically it is a trial and error process, informed by the logic of reducing the risk faced by risk-averse individuals up to the point where they would not undertake desirable levels of effort.
- Performance contracts tend to have little effect, and thus little value, if the outcome you care about is not materially affected by the agent's effort.
- Implementation requires two seemingly obvious, but often overlooked points: (1) You can actually measure and credibly verify the outcomes you care about (e.g., sales per salesperson), and (2) these measures are not subject to manipulation or misrepresentation by the agent (e.g., as in the case of accounting earnings manipulation for the purpose of "gaming" the compensation system).

2 Adverse Selection

Adverse selection is commonly referred to as a problem of "hidden information". The typical setup here involves two parties who are interested in undertaking a business transaction, where one party has better information than the other. For example,

- The seller of a used car has more information about the car's quality than potential buyers.
- Insurers know less about the true risk characteristics of their policyholders than the policyholders themselves.
- Creditors know less about the credit-worthiness of borrowers than the borrowers themselves.
- When a firm hires a worker, it knows less than the worker does about his abilities.
- The manufacturer of a product knows more about product failure rates than the consumer.

Adverse selection refers to the risk that the better informed party may try to take advantage of the uninformed party. However, the uninformed party is well aware of these incentives, and if left unchecked, adverse selection may give rise to market failure.

Strategies for mitigating adverse selection include risk classification, signaling, and encouraging self-selection by implementing contract design innovations. Here is a brief summary of these strategies:

- *Risk classification* is common in banking and insurance transactions. For example, banks use credit histories and credit scores for the purpose of classifying the risk of default by a potential borrower. Similarly, insurers have found that credit scores are strongly correlated with both the frequency and severity of auto insurance claims, so they use credit scores along with other variables which are important determinants of claim frequency and severity (e.g., location, type and use of car, gender and age of driver, etc.) for the purpose of risk classification.

- *Signaling* is used in a number of different settings. Here are some examples:

  – One solution to the "lemons" problem in the market for used cars is for the seller to "signal" by acquiring credible third party certification; e.g., pay for an inspection by Lemon Busters.

  – Similarly, students "signal" their human capital quality to labor markets by selecting a high quality university. Not only does the university educate the student, but it also plays the economically important role of providing credible third party certification of quality.

  – Product warranties can be used to signal product quality. For example, if a manufacturer is willing to provide a long-term warranty, this may indicate that quality is better than average.

  – In business, firms may use dividends to signal their confidence concerning future profit opportunities. Bond ratings are valuable to the extent that they are viewed as credible third party certification of credit quality of corporate borrowers. If these signaling strategies are credible, they cause the firm's shares to trade at higher prices and enable the firm to borrow money on more favorable terms by mitigating adverse selection.

- *Contract design innovations* mitigate adverse selection by encouraging self-selection to occur. The basic idea is that if you are not sure whether someone is a good or bad risk, one way around this problem is to design self-selecting contracts which incentivize the person or business in question to effectively reveal their risk characteristics through their contract choices. Many years ago, Rothschild and Stiglitz (1976 *Quarterly Journal of Economics*) showed that the adverse selection problem can be resolved by simply limiting the set of contract choices offered to consumers. Their model involves an insurance market setting in which there are good and bad risks, and the problem is that you aren't sure who is who. The "trick" involves offering lots of coverage at a price that only the high risk consumers consider fair, and limited coverage at a price that is only attractive to low risk consumers.