agency problems

Abstract:
Agency problems arise from incomplete and asymmetric information as principals attempt to motivate agents to act in their interest. Incomplete and asymmetric information, conflicting incentives, and imperfect monitoring can result in outcomes undesirable for the principal. The key to mitigating such problems is in the efficient design of incentive systems broadly defined. Agency problems in business relationships are pervasive both within and between organizations and arise in relationships between employers and employees, shareholders and managers, and buyers and suppliers.

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Agency problems arise when a principal (such as an employer or buyer) seeks to motivate an agent (such as an employee) to take action on the principal's behalf under conditions of incomplete and asymmetric information. Such problems stem from uncertainty on the principal's part concerning both an agent's actions (past or future) and an agent's type or attributes. Solutions to agency problems focus on crafting incentives in ways that induce behavior desired by the principal or that induce agents to reveal critical hidden information. Agency problems occur any place that principal/agent relationships exist, including both within and between organizations.

Agency problems were noted as early as Adam Smith, who argued that directors of joint stock companies cannot be expected to watch over other people's money with the same anxious vigilance with which private partners watch over their own (1776, p.700). Berle and Means (1932) later applied this logic to organizations, arguing that the growing separation of ownership and control in public firms was leading to a new age of inefficient organization. Scholars highlight two distinct problems of information asymmetry: hidden action, often referenced as moral hazard, and hidden information, often referenced as adverse selection. Early work by Akerlof (1970), Spence (1973), and Stiglitz (1975) advanced the problem of hidden information in markets. Work by Arrow (1971), Ross (1973), Jensen and Meckling (1976), Hölmstrom (1979), Fama (1980), and Grossman and Hart (1983) advanced theoretical work on the problem of hidden action.

Hidden Action or Moral Hazard

Moral hazard is a problem of hidden action where asymmetric information and imperfect monitoring results in agents exerting effort on activities that benefit themselves at the expense of the principal. Such activities may include shirking, spending company time on personal projects, or minimizing effort on tasks where the outcome is unobservable to the principal. Moral hazard often arises when parties are insulated from the output implications of their behavior. The following canonical problem, called the principal-agent problem (Ross 1973; Hölmstrom 1979; Grossman & Hart 1983), provides the basic framework by which to understand problems of hidden action. A risk-neutral principal contracts with a risk-averse agent to provide effort necessary to generate some output. The agent's effort is neither

observable nor verifiable to the principal or an outside third party, such as the courts, and thus no contractual agreement can depend on effort. Because providing effort causes disutility for the agent, there is a fundamental misalignment of interests between the principal and the agent. In an effort to overcome this problem, the principal designs a contract that aligns the agent's interests with their own, such as contracting on some observable output. The trade-off in designing such a contract is between risk-sharing and incentives. If the principal decides to insure the agent against output uncertainty, such as by guaranteeing a wage, it may destroy incentives and encourage the agent to take actions undesirable to the principal, such as shirking. However, high levels of risk may lead a risk-averse agent to reject the contract, or to minimize effort on activities (e.g. quality control) that do not directly impact the measured output upon which pay is based. If a contract is accepted, the relationship ensues and the agent chooses a level of effort. The uncertainty of the output is then realized and wages are paid according to the contract.

There are many examples of moral hazard in business relationships. For instance, the inability of shareholders (the principals and owners of the firm) to directly observe the actions of the CEO (the agent) may result in the CEO making careless or self-serving decisions. Furthermore, as the results of such decisions are usually not immediate, and blame is often hard to assign, the CEO bears little comparative risk for the outcome. In employer/employee relationships, employers have limited knowledge about the difficulty of employee tasks and are often unable to observe and reward based on employee effort. Moreover, noise is added because employees have incentive to understate their ability to prevent employers from ratcheting up expectations. In corporate strategy, added distance from geographic expansion can increase the cost and difficulty of monitoring manager or employee effort at each individual branch. This can result in shirking or delivering sub-par effort, especially on unobserved outputs, such as customer service.

Solutions to Hidden Action Problems

Two ways have been proposed to resolve the hidden action problem. The first is through increased monitoring of effort or actions. Monitoring allows the principal to directly observe the agent's behavior and allows the principal to reward or punish accordingly. Yet, monitoring is often either impossible or excessively costly. A second approach involves designing incentive systems or contracts that motivate agents to act in ways consistent with the desires of principals. This approach commonly involves compensating based on output (i.e. piece-rate pay, stock options, or commissions), transferring a portion of the principal's residual claim to agents (i.e. franchising, equity ownership, or profit sharing), or through increasing the cost of undesirable behavior (i.e. mandating the agent to post a bond or through increasing the fear of being fired). From a strategic perspective, firms, as principals, gain advantage as they craft more efficient means to induce optimal actions on the part of agents.

Hidden Information or Adverse Selection

Another subset of agency problems revolves around inefficiencies due to hidden information, which lead to problems of adverse selection. The problem arises in market or exchange settings where

information about the outputs or services to be procured is costly to extract. For instance, consider a firm that seeks to contract with suppliers of unknown capability, or a manager who must hire employees of unknown ability, or a manager who must choose among investment proposals from subunits with unknown future returns. Akerlof (1970) examines the used car market to highlight the potential seriousness of the problem. Because the principal (in this case a buyer) cannot discern the quality of used cars, the buyer may offer to pay a price that reflects the average quality for a particular category or class of cars. However, agents knowing the true quality of their individual cars will choose to selectively withhold their cars from the market if the average price is below the value of their car, or sell if the average price is greater. Of course, this leaves only those cars of lower quality on the market. As a consequence, the buyer lowers the price to reflect this lower average quality, which in turn causes those sellers with higher quality (among the low quality cars) to withhold their cars. This adverse sorting dynamic or adverse selection results in a market saturated with low quality and leaves essentially no market for high quality. A similar dynamic may play out in a variety of markets where the inability to discern quality results in an underprovision of high quality and an overprovision of low quality. For instance, in labor markets employers may presume that anyone looking for work is of low quality and discount accordingly, while those employed are of high quality. In capital markets, investors may presume that those investments looking for public capital are of low quality and accordingly discount, while those privately funded are of high quality.

Solutions to Hidden Information Problems

Two broad resolutions to this problem are discussed in the literature. Sellers, buyers or agents, who are of high quality, can discover ways to signal their quality to the other party (Spence, 1973). For instance, sellers may use guarantees or warranties to signal high quality, under the assumption that only sellers of high quality products can afford such costly guarantees. Agents seeking employment may use investments in education, again under the assumption that education is less costly for high quality agents. During an IPO, owners may choose to signal high quality by retaining ownership of a large portion of the company. Alternatively, buyers, sellers, or principals can attempt to use screens that induce sellers, buyers, or agents to reveal their level of quality (Stiglitz, 1975). For instance, a provider of insurance may use deductibles to screen and sort buyers into varying risk classes. Employers may use low-paying probationary periods to screen away those who are unlikely to perform well. From a strategic standpoint, competitive advantage is gained by efficiently luring the most attractive customers from competitors, or finding clever ways to lure the most valuable talent.

Cross-references:

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