

Agency theory 2

Reza Salehnejad

Manchester Business School
Reza.Salehnejad@mbs.ac.uk

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Agency theory

- ▶ **Agency theory**, in its simplest form, discusses the relations between two people - a principal and an agent who makes decisions on behalf of the principal.
- ▶ Two streams of literature can be distinguished with agency theory:
 1. the positive theory of agency
 2. the theory of principal and agent
- ▶ **Positive theory of agency**: views the firm as a nexus of contracts. The main research questions:
 - ▶ how do contracts affect the behavior of participants?
 - ▶ why do we observe certain organizational form in the real world?
- ▶ **Theory of principal and agent**: how should the principal design the agent's reward structure?

Separation of Ownership and Control

- ▶ Both streams of literature - positive agency theory and theory of principal and agent - have their antecedents in the literature on the separation of ownership and control.
 - ▶ Large corporations are owned by so many shareholders that no single shareholder owns a significant fraction of the outstanding stock. Therefore, no single shareholder has the power really to control the actions of the officers (managers) of the corporation.
- ▶ In such situations the interests of the managers and shareholders diverge widely. The managers may be in search of power, prestige and money for themselves, while the shareholder may be interested only in profits.
 - ▶ Senior managers may exploit their positions to enrich themselves at the expense of the shareholders and sometime engage in corporate plundering.

Factors Restricting Managers' Actions

- ▶ It must, though, be borne in mind that managers do not work in isolation but in an environmental and institutional context, consisting of company law, auditing, antitrust authorities and public opinion.
- ▶ In addition to the above factors, there are powerful mechanisms that prevent managers from engaging in excessive on-the-job consumption, including:
- ▶ **Corporate Control Competition:** competition between management teams in the market for corporate control increases the pressure on managers to perform well.
 - ▶ If a corporation performs badly because the managers of that corporation are incompetent, lazy or not really interested in running the corporation as well as they can, the market price of that company's stock will decline. If it becomes clear why the market price of that company's stock is so low, a determined outsider can try to acquire a majority of the shares at a low price. The outsider can then oust the managers. *Therefore, managers who perform poorly must always fear that their company can be taken over.*

Factors Restricting Managers' Actions (cont'd)

- ▶ **Reputation:** Managers have to worry about their reputations. If they acquire a reputation for pursuing their personal interests instead of profit opportunities, it is likely that their chances of being offered a better position in the future are small.
- ▶ **Market Competition:** The more intense the market competition in the company's products, the less opportunity there is for managers to pursue their own interests. If they do so, the company will have higher unit costs than its competitors or it will turn out products of a lower quality than those of its competitors. It will lose market share and, ultimately, cease to exist.
- ▶ **Pay package / Compensation pay:** this can also bring the interests of top managers more in line with those of the shareholders. The role of reward structures is the key issue in the theory of principal and agent.
 - ▶ The starting point in the literature on this issue is Jensen and Meckling (1976)

Theory of Principal and Agent

- ▶ The theory of principal and agent is developed in mathematical models that, even in their simplest form, are already quite complicated. The essentials of such models can be explained by giving an example.
- ▶ Take the relationship between the owner and a piece of land and someone who is willing to use that land to grow strawberries. The owner is the principal and the other person the agent.
- ▶ The principal is willing to give the agent the right to use her land to grow strawberries for one summer. The principal's problem is that of designing the agent's reward structure.
- ▶ The quantity and quality of strawberries that are available for sale at the end of the summer depend on two factors: how well the agent cares for the strawberries and the weather.
 - ▶ In the language of the theory of principal agent, the pay-off (the amount of money realized from the sale of the strawberries) depends on two variables - the level of effort exerted by the agent and another random variable (the weather).

The Example (cont'd)

- ▶ A crucial question in the theory of principal and agent is how well the principal can observe the agent's behavior. Three Possibilities:
 1. The principal can observe the agent's behaviour (symmetrical information);
 2. The principal has no information about the agent's behaviour (asymmetrical information);
 3. The principal cannot observe the agent's behaviour directly, but can obtain a signal concerning the level of effort being put in by the agent ((asymmetric information).
- ▶ In Case 2 and 3, the agent has private information (about his level of effort).

Optimal Contract under Symmetrical Information

- ▶ Assuming the principal can observe the level of effort being exerted by the agent, **what is the optimal reward structure from the principal's point of view?**
- ▶ If the principal can observe the agent's level of effort, the principal can, first, determine which level of effort, from his point of view, is optimal and, second, give the agent a forcing contract that obliges him to choose that level of effort. As the principal can observe the actual level of effort chosen by the agent, she will pay W_0 only if the agent works at level e_0 .
- ▶ Forcing Contract: Under a forcing contract, the principal promises to pay an amount W_0 if the agent's level of effort is at least e_0 and to pay nothing if the agent's level of effort is smaller than e_0 . Under such a contract, the agent is forced to bring his level of effort up to e_0 otherwise he will not be paid. He will not increase his level of effort any further, as he receives no extra reward for doing so.

Asymmetrical Information

- ▶ Assume that the principal has no way to observe the level of effort exerted by the agent and, after the summer, she also has no detailed information about weather conditions during the summer. All she can observe is the pay-off - the amount of money made by selling the strawberries.
- ▶ If the pay-off is high, it can be the result of a high level of effort on the part of the agent and average weather conditions or an average level of effort by the agent and good weather conditions.
- ▶ The principal cannot tell what contributed more to a good result - agent's effort or the weather conditions.
- ▶ Optimal reward structure (contract) under asymmetrical information?

Asymmetrical Information & Risk

- ▶ What reward structures are acceptable to both parties will depend on the attitude to risk. They may be risk-neutral, risk-averse or risk loving.
- ▶ In agency models, the principal is assumed to be risk-neutral and the agent either risk neutral or risk-averse.
- ▶ If both principal and agent are risk-neutral, the best reward structure is a rent contract. It gives the agent maximum incentive. It also imposes all the risk on the agent, but, as he is risk-neutral, he does not care about risk.
 - ▶ **Rent Contract:** the agent receives the pay-off (revenue) minus a fixed amount to be agreed at the beginning of the summer. ... The agent rents the land from the landowner for a fixed amount. The rent is not dependent on the pay-off.

Asymmetrical Information & Risk

- ▶ Suppose that the principal is risk-neutral and the agent is risk-averse. With a rent contract, the agent has maximum incentive to put in a high level of effort, but he also has to bear all the risk. As we are now assuming that agent is risk-averse, the agent cares about the amount of risk he has to bear. He, therefore, is willing to accept more risk only if it is offset by a high expected income.
- ▶ The principal wants to give the agent incentives in order to make him put in more effort, but, in order for this to occur, the agent must *also* bear risk. The agent is willing to accept risk only if he is compensated in the form of a higher expected income. So, the principal must make a trade-off between giving the agent incentives (the more incentives, the higher the expected pay-off) and having the agent bear more risk (the higher the level of risk borne by the agent, the more the principal has to pay him in the form of expected income).

Asymmetrical Information & Risk

- ▶ ... the optimal contract for the principal involves risk-sharing between agent and principal.
- ▶ Why does the theory of principal and agent assume that the principal is risk-neutral while the agent is risk-averse? ... In most situations, the principal can diversify risk while the agent cannot. If, for example, the principal is the landowner and the agent the farmer, the principal may own several pieces of land in locations with different climates. The principal can then make contract with several agents and, in so doing, diversify away most of the risk.
- ▶ As shareholders can be regarded as risk-neutral, and the top manager (the CEO) as risk-averse, we would expect to find performance-related pay packages for top managers.

Summary Results

- ▶ If the agent is risk-averse and the principal risk-neutral, the principal has to make a trade-off between giving the agent incentives and having the agent bear more risk. The best solution in that case is to give the agent a reward structure that depends to some extent on the pay-off but also contains a fixed element independent of it. Such a contract involves risk-sharing between principal and agent.
- ▶ In summary, we want to emphasize:
 - ▶ the agency problem is a very real one in many settings;
 - ▶ economists have started to conceptualize and model the agency problem, which has led to some insightful results;
 - ▶ there is still a gap between rather 'pure' agency models (focusing on one or a few variables only) and the rather 'messy' real world, in which many factors are at play.