



## Review • Derleme

### Agency Theory: A Review in Finance

#### Vekalet Teorisi: Finans Alanında Bir İnceleme

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#### ABSTRACT

The problems of agency and risk sharing arise due to the separation of ownership and control of a large firm, when conflicts of interest exist between principals (owners) and agents (managers). The main source of these problems is asymmetric information, which implies an agency cost for the principal. Agency theory, which is still one of the fundamental theories in corporate finance, focuses on minimizing costs in agency relations. This study critically evaluates the principal-agent relations, focusing on the interaction between the shareholder-manager and bondholder-shareholder in corporate finance.

#### ÖZ

Temsil ve risk paylaşımı problemleri büyük firmalarda sahiplik ve kontrolün ayrılmış olmasından dolayı, müvekkil (sahipler) ve vekil (yöneticiler) arasında çıkar çatışması olduğunda ortaya çıkmaktadır. Bu problemler temel olarak bilgi asimetrisinden kaynaklanmaktadır. Bu da müvekkil için vekalet maliyeti ortaya çıkarmaktadır. Halihazırdaki önemli teorilerden biri olan Vekil Teorisi vekalet ilişkilerindeki maliyetleri minimize etmeye odaklanmaktadır. Bu çalışma müvekkil-vekil ilişkilerini daha iyi anlamak için, kurumsal finans alanındaki hissedar-yönetici ve tahvil sahibi-hissedar ilişkilerine odaklanarak, müvekkil-vekil ilişkilerini kritik bir şekilde değerlendirmektedir.

### 1. Introduction

The main goal of firms is to maximize their value and the way to do this depends on the organizational structure of the firm. Particularly in large firms, a specific relationship is built between the owner (as the principal) and the manager (as the agent), the so-called agency (principal-agent) relationship (Jensen and Meckling, 1976). The agent should make corporate decisions which are aligned with the principal's objectives to maximize the value of the firm. Myers (2001) argues that choosing the optimum mix of debt and equity, the optimal capital structure, is important for the principals' maximum profit. Furthermore, the status

of profit or loss is determined by the critical decisions of the agent on optimal capital structure. Consequently, the value of the firm may show the quality of the agency relationship.

In an agency relationship, after the separation of ownership and control of the firm, the problems of agency and risk sharing occur when conflicts of interest arise between principals and agents. The main reason for these problems is asymmetric information when one party (agent) has more or better information than the other party (principal) which implies an agency cost for the principal.

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Agency theory, which is still one of the essential theories in corporate finance, focuses on minimizing costs in agency relations. Therefore, agency theory is adopted in this study to understand principal-agent relations properly, which are shareholder-manager and bond holder-shareholder relationships in corporate finance.

As the aim of this study, principal-agent relations will be critically evaluated. Specifically, Section 2 briefly mentions corporate finance and optimal capital structure to establish a link between optimal capital structure and agency theory. Section 3 elaborates on the origins of agency theory and the assumptions. Section 4 analyses agency theory by specifying principal-agent relationships, principal-agent conflicts and agency costs in corporate finance. Section 5 critically evaluates agency theory's methodological applications in corporate finance. Lastly, section 6 concludes.

## 2. Corporate Finance and Capital Structure

Corporate finance, which is a wide, ever-expanding, and ever-developing field, focuses on value maximization in the decision-making process. Damodaran (2011) provides a big picture of corporate finance by mentioning three main decisions in the fields: investment decisions, financial decisions and dividend decisions. While these critical decisions are made by the owner (principal) in small firms, capital structure decisions (CSDs), in particular, are made by the manager (agent) in larger firms.

### *Optimal Capital Structure*

Tirole (2006) argues that the life cycle changes depending on the choices of debt and equity. There are four ways to determine the capital mix. The first is recapitalization, achieved by using new equity to reduce debt or vice versa. The second is selling assets and using cash to reduce the debt ratio. The third is financing new investments using either a high level of debt or equity. Since financing new investments require a long period of time the capital mix will adjust gradually. And the fourth is changing dividend payout or buying back stock (Damodaran, 2011).

The manager should choose among aforementioned ways by optimizing between their relative costs for the firm since the choice of method may imply a signal for the market and how quickly the adjustment process is expected to take place for the new optimal capital structure. Therefore, the agent should carefully make CSDs by determining optimal capital structure as the main financial policy of the firm. This policy might be affected by the principal-agent relationship. Therefore, this relationship should be understood clearly in all its aspects to have a good understanding of firms' CSDs and financial policy.

## 3. Agency Theory

### *Origins of Agency Theory*

Berle and Means (1932) argue that agency issues arise when the management mechanism of the firm is separated into ownership (principal) and control (agent). Jensen and Meckling (1976) later defined the agency relationship as follow: "one or more persons (the principal/s) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making

authority to the agent" (p. 308). Therefore, the alignment degree of the objective function of the principal and the agent will determine how achievable it will be to get optimal capital structure.

Furthermore, discussions of risk sharing between individuals or groups were started by Wilson (1968) and Arrow (1971). Later, Ross (1973) and Jensen and Meckling (1976) argue that two parties (principal and agent) have different goals and divisions of labor, which create agency problems due to the self-interested decisions or information manipulation by managers. If it is difficult to verify the real action of the agent, the principal should bear a cost in order to incentivize the agent to follow his/her objective. Also, the principal's and the agent's having different attitudes toward risk causes risk sharing problems (Eisenhardt, 1989).

Agency theory discussions have followed two approaches: (1) positivist, which examines empirically-oriented research focusing on owner-manager relations and (2) principal-agent, which includes more mathematical proof and logical deduction focusing different types of agency relations like owner-manager, employer-employee, customer-supplier, lawyer-client and so on (Harris and Raviv, 1978).

### *Principal-Agent Assumptions*

In many agency models in corporate finance, principal-agent issues arise when the principal has to choose the relevant compensation contract for the agent contingent on performance measures and the final outcome. The most convenient contract (outcome-based or behavior-based) should be chosen for effective agency relations depending on the availability of monitoring and the information structure. The main assumptions will be discussed below to clearly understand principal-agent relations in corporate finance.

According to positivist researchers, outcome-based contracts incentivize the agent to act according to the principal's objective since it will decrease the opportunistic behavior of the agent (Eisenhardt, 1989). If the principal has available information systems to verify the agent's actions, the behavior-based contract should be preferred. However, principal-agent research focuses on the asymmetric information as the main reason of the agency problem which is classified into two categories: adverse selection and moral hazard.

Adverse selection arises before the transaction when the buyer has less information than the seller about the commodity. In the used car market, for example, since buyers cannot verify the quality, they will pay an average price for used cars implying a lower price for the good cars' owners, so that they leave the market and only the bad cars' owners remain (Akerlof, 1970). Therefore, bad cars dismiss good cars from this market similar to that of Gresham's law. In corporate finance, adverse selection arises when the principal cannot determine the agent's abilities or skills before hiring him/her. Consequently, the high-skilled worker (agent) gives a signal regarding his/her abilities to differentiate himself/herself from the low-skilled (Spence, 1973).

Moral hazard focuses on the problem of asymmetric information after the transaction due to hidden action when

the agent's effort choice is not observable (Ross, 1973). For instance, a researcher works for a company and if he/she does his/her personal works in the work time, the owner cannot get full performance from him/her. However, if principals get accurate information from agents or if principals incentivize the agent to make his performance aligned with principals' objectives, either of these problems may be minimized or the firm's profit may be maximized.

Principal-agent researchers examined the efficiency of contracts regarding various conditions of information, risk aversion and uncertainty (Cuevas Rodríguez et al., 2012). Where there exists complete information between principals and agents such as reporting procedures and budgeting systems then there is no problem of monitoring and first best can be implemented using a behavior-based contract. Whereas, if there is information asymmetry and only the final outcome can be observed, then the principal should choose an outcome-based contract. If the agent is risk-neutral, the first-best solution can be implemented using outcome-based contract since the agent does not need any compensation for risk. If the outcome is uncertain and the agent is risk-averse, s/he has to be compensated in order to be incentivized to act in the interest of the principal. If uncertainty is high, the compensation cost for the principal may be so high that the outcome-based contract is suboptimal and behavior-based contracts may be more attractive. Thus, the agent's risk aversion is positively related to behavior-based contracts, whereas the principal's risk aversion is positively related to outcome-based contracts. Finally, under the multiple action scenario compensation should depend on these multiple actions. However, the performance measurement of the multiple-action framework is more difficult than the single-action framework due to observation problems and higher complexity of the contract.

#### 4. Agency Theory and Corporate Finance

##### *Principal-Agent Relationships*

A principal-agent relationship arises when the agent is hired to perform certain managerial decisions on behalf of the principal. In corporate finance, two main principal-agent relationships are those between shareholders and managers, and between shareholders and debt holders. Agency theory analyses these relationships focusing on agency costs under principal-agent conflicts.

##### *Principal-Agent Conflicts*

###### *Shareholder-Manager Conflicts:*

According to agency theory approach, although debt acts as a disciplining and informative device reducing conflicts of interest between shareholders and managers, this issue is reversed for shareholders and debt holders. As long as managers' investment level remains constant, debt financing increases their equity share which decreases the conflicts of interest between shareholders and managers (Harris and Raviv, 1991). Moreover, the debt decreases agency costs of free cash flow by reducing the available cash flow to the manager (Jensen, 1986). Managers do not prefer to go bankrupt and, therefore, share detailed information with the shareholders related to bankruptcy, whereas shareholders use debt to get information and monitor managers (Harris and Raviv, 1990).

While the payout policy is preferable for investors, managers prefer to invest all available sources rather than paying dividends. Thus, debt helps to overcome this conflict by decreasing the investment and forcing managers to pay back. The benefit of debt is preventing managers to invest in value-decreasing projects, whereas the cost of debt is the foregone opportunity of value increasing projects (Stulz, 1990). Jensen (1986) argues that debt limits agency costs of the managerial discretion for firms who do not have strong investment opportunities.

###### *Shareholder-Debt holder Conflicts:*

Debt agreement allows investing by shareholders in difficult conditions. However, the conflict arises due to shareholders incentive for investing in high-risk value-decreasing projects. If investment brings high return shareholders will benefit whereas if the investment fails, debt holders bear the costs due to limited liability. This is called asset substitution effect (Jensen and Meckling, 1976). If the current debt level is very high, the firm may face a debt-overhang problem. Even high-profitable projects which can enable the firm to decrease the debt ratio over time may not be invested since the firm cannot raise new debt (Myers, 1977).

Moreover, established firms invest in reliable projects to avoid the loss of reputation, whereas young firms prefer high-risk projects. Since established firms will have a lower default rate, debt costs less than that of young firms. In this case, it is expected that young firms would have less debt (Harris and Raviv, 1991).

To conclude, if principals are in conflict with agents, these conflicts can affect the financing, investment and dividend decisions of firms. Consequently, these conflicts cause agency costs and agency theory focuses on minimizing these costs.

##### *Agency Costs*

As the main reason of agency costs, some scholars (Eisenhardt, 1989; Fama and Jensen, 1983; Jensen and Meckling, 1976; Myers, 1977; Ross, 1973) mentioned the conflicts of interest between principals and agents, while Shapiro (2005) argues that agents' complying with different expectations of a large number of shareholders is the main problem.

###### *Agency Costs of Equity:*

Managers want to benefit from the agency relationship by adopting the opportunistic behavior, so this conflict causes agency costs of outside equity which can be classified into monitoring costs, bonding costs and residual loss (Jensen and Meckling, 1976). The principal uses monitoring systems to verify the performance of the agent by incurring monitoring costs. Moreover, bonding costs of the contract arise when principals minimize the possibility of mistreatment of agents to maintain the agent's action aligned with the principal's objectives. Both the principal and the agent try to minimize all costs and, if they succeed, their profit will be maximized. In other words, when the agent focuses on achieving optimal capital structure, all costs will reduce implying a higher efficiency. Nonetheless, full efficiency still may not be achieved due to residual loss arising from misalignment between the agent's decisions and the principal's interests.

*Agency Costs of Debt:*

To reduce conflicts of interests, Jensen and Meckling (1976) propose to increase the debt level. Nevertheless, agency costs of debt arise between shareholders and debt holders due to conflicts of interest between them. Highly indebted firms abandon the good investment opportunities bearing agency costs of debt due to missed opportunities and stringent contract terms (Booth et al., 2001). Consequently, the development of a firm's growth opportunities causes an increase in agency costs of debt and a decrease in agency costs of the managerial discretion.

**5. Agency Applications in Corporate Finance**

Empirical studies of agency theory have been undertaken by corporate finance researchers in broad and varied concepts. In this section, recent studies related to executive

compensation, in particular, are explained and criticized. In these studies, executive compensation was tested by using various contexts: long-term incentives, risk-taking, and CEO compensation. Table 1 summarizes these empirical works.

Nyberg et al. (2010) argue that CEO compensation studies have not proven the prediction of incentive alignment on agency theory.

**Table 1.** Summary of Agency Applications in Corporate Finance

Author	Method & Sample	Context	Agency variables	Conclusions
Buck et al. (2003)	Secondary data; 287 UK firms 1997-1998	long-term incentive plan	long-term incentives; shareholder return	long-term incentive-based policies are not effective
Buck et al. (2010)	Case study; Beam Stearns & Lehman Brothers 2000-2008	CEO compensation	risk-taking	banks can be financed with more equity
Brockman et al. (2010)	Secondary data; 1,312 unique firms 1994-2005	managerial risk preferences	debt maturity structure; CEO portfolio sensitivities	negative relationship between CEO sensitivity and changes in stock prices & short-maturity debt
Nyberg et al. (2010)	Secondary data; 2,166 US firms 1992-2004	incentive alignment prediction	CEO return; shareholder return	positive relationship between CEO return & shareholder return
Fahlenbrach and Stulz (2011)	Secondary data; 132 firm-years in 2006	Bank CEO incentives	stock return; equity return; shareholder performance	banks can be financed with less equity in the crisis of 2008 and 2009
Graham et al. (2012)	Secondary data; 25,586 US firms 1992-2006	manager-specific heterogeneity	salary; bonus; option; compensation	managerial ability affects firm performance
Lewellyn and Muller-Kahle (2012)	Secondary data; 344 US firms 1997-2005	CEO power and risk taking	managerial risk taking; CEO power	positive relationship between excessive risk taking & CEO power
Bhagat and Bolton (2013)	Secondary data; 14 largest US institutions 2000-2008	bank executive compensation; capital requirements	net trades; salary; bonus	banks can be financed with more equity
DeYoung et al. (2013)	Secondary data; 1,057 bank-year observations 1995-2006	contractual risk-taking incentives	pay-risk sensitivity; pay-performance sensitivity	bank boards can take higher than average risk
Pepper et al. (2013)	Secondary data; FTSE 350 senior executives	the efficiency of long-term incentives	long-term incentives	long-term incentive-based policies are not efficient
Chen et al. (2014)	Secondary data; 3,617 CEOs in UK 1998-2009	financial distress risk effect on CEO compensation effectiveness of long-term incentives	CEO experience; financial distress; equity compensation	high skilled CEOs want to work in high risky firms
Pepper and Gore (2014)	Survey; 756 senior executives	effectiveness of long-term incentives	risk; uncertainty; time discounting; long-term incentives	long-term incentives are undervalued
Bolton et al. (2015)	Secondary data; proxy statements from 27 US banks	executive compensation; risk taking	stock holdings value; option holdings value	executives' debt-like compensation declines risk for financial institutions
Seifert and Gonenc (2016)	Secondary data; 15,449 firms / 47 countries 1996-2006	corporate cash holdings	creditor rights; governance	cash holdings decrease with the higher creditor rights and good governance
Berzins et al. (2017)	Secondary data; Private Norwegian firms 2006-2013	shareholder conflicts and dividends	corporate governance	controlling shareholders decrease agency problems and build trust by paying dividends
Seifert and Gonenc (2018)	Secondary data; 2,914 firms / 42 countries 2002-2013	cash management	corporate governance; country governance; shareholder rights	cash is negatively related to corporate governance, country governance and shareholder rights
Vo (2018)	Secondary data; Vietnamese firms 2007-2015	foreign ownership and cash holdings	cash flow; foreign holdings	when investor protection is weak due to higher agency costs, firms hold more cash
Tekin (2020)	Secondary data; 14,885 firms / 11 countries 2001-2015	optimal cash holdings	governance	firms in poor governance countries raise their adjustment speed faster than those in good governance countries

They analyze the concept of financial alignment by testing the prediction abilities of organizational performance. They showed that there is a significantly positive relationship between shareholder and CEO return. Their result proves that firms understand agency costs and use strategies to align CEO actions by creating equity-based pay and policies and giving shares to the CEO. Graham et al. (2012) question the effect of manager-specific heterogeneity on executive compensation. They supported the theoretical conclusion that managers concerned with their under-diversified human capital reduce leverage. Bolton et al. (2015) recently obtain proxy statements from 27 US banks testing executive compensation and risk-taking. They found that the debt-like compensation of executives causes a fall in risk in financial institutions. Similarly, Brockman et al. (2010) analyze managerial risk preferences focusing on debt maturity structure and CEO portfolio sensitivities. They found that there is a negative relationship between CEO sensitivity and changes in stock prices and short-maturity debt.

However, in the long-term process, Pepper and Gore (2014) discuss the effectiveness of incentives by conducting a survey with 756 senior executives. Consistent with the earlier results but with a different behavioural explanation, they found that long-term incentives are undervalued by senior executives due to their bounded rationality. Buck et al. (2003) and Pepper et al. (2013) also support that long-term incentive-based policies for executives are often neither effective nor efficient for overcoming agency issues.

Disproving the theoretical predictions of agency theory that CEOs act in their own interest, Fahlenbrach and Stulz (2011) find no evidence that CEOs hedged their exposures or reduced their equity shares anticipating the crisis of 2008 and 2009. However, their results are not supported by findings of Bebchuk et al. (2010) and Bhagat and Bolton (2013) who conclude that incentives of executives' matter and their excessive risk-taking contributed to the crisis. According to the findings of Bhagat and Bolton (2013), banks can be financed with more equity. Therefore, equity can be preferable to debt in the banking sector in crisis conditions.

The risk-taking effect on CEO power is examined by Lewellyn and Muller-Kahle (2012). They found that there is a positive relationship between excessive risk-taking and CEO performance. DeYoung et al. (2013) and Chen et al. (2014) support this result in different concepts. DeYoung et al. (2013) test contractual risk-taking incentives using pay-risk sensitivity and pay-performance sensitivity and found that boards of banks adjusted CEO incentives for risk taking as a response to above-average risk levels. Chen et al. (2014) test the financial distress risk effect on executive compensation by regressing CEO experience on financial distress. They showed less skilled CEOs are hired by high-risk firms.

According to empirical studies discussed above, the following implications can be made. Firstly, if managers (agents) become successful and behave in the interest of shareholders, the firm value and the gain of shareholders (principals) will be increased. Secondly, empirical evidence confirmed the prediction of agency theory that short-term debt can be preferred by shareholders to limit the managers'

risk-taking. Thirdly, long-term incentives, which are not effective as opposed to agency theory's predictions, should not be preferred by principals due to high agency costs and lower returns in the long run. Fourthly, risk-taking behavior of CEOs (agents) should be monitored and their pay policy should be adjusted accordingly by shareholders to prevent any excessive risk-taking at the expense of firm value. Lastly, there is mixed evidence for the effect of equity as an incentivizing device on CEO decisions under crisis conditions.

## 6. Conclusions

Several major implications can be derived from agency theory discussions. Firstly, the contract mechanism should be properly established to ensure quality monitoring in all agency relations. Secondly, the incentive mechanism should work by preserving both parties' interests. Thirdly, agency costs should be minimized with the help of screening, signaling and self-selection. Lastly, the two parties should determine the risk at an optimal level for minimizing agency costs. Therefore, if risk taking incentives approach the optimum point, firms' financing performance will be increased. In conclusion, the main implication of this study is that agency theory aims to either maximize the firm value or minimize the firm's costs like optimal capital structure.

Principal-agent research is a well-established framework with clear theoretical results but there may be challenges regarding the measurement of risk aversion and other coefficients especially when the theory is applied to empirical work. Furthermore, many real-life scenarios include ambiguity instead of uncertainty which makes the theoretical conclusions hard to apply and predict. Agency theory assumes a simplistic view of human behavior focusing only on economic incentives, but according to behavioral and organizational studies, besides extrinsic motivations, intrinsic motivations such as trust, reciprocity and reputation also matter. Therefore, although agency theory helps to conceptualize and understand agency relations clearly, it is not fully exhaustive so should be supported with strong empirical findings.

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