
Takeovers, corporate control, and return to target shareholders

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Abstract: In this paper, we investigated the impact of ownership concentration on the returns to target shareholders. In order to determine such impact, we have employed three models namely:

- the atomistic shareholder model
- the large shareholder model
- the single shareholder model.

We found empirical evidence that the degree of ownership concentration in target firms has a significant negative effect on the returns to shareholders. These findings are consistent with the theoretical takeover models which support a negative relationship between bid premium and ownership concentration of target firms.

Keywords: takeovers; free-rider problem; corporate control; ownership structure.

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1 Introduction

In the case of mergers and acquisitions, ownership concentration significantly influences the returns to target shareholders. Theoretical models have demonstrated that the wealth to shareholders of target firms is at its maximum when ownership is atomistic (widely held). Grossman and Hart (1980) have proved that in target firms with widely held shareholdings, shareholders believe that they have no influence on the share price and will behave as free-riders. Shareholders of target firms are keen to free-ride in order to capture the post-takeover value-enhancements realised by bidding firms. They argued that the decision of any individual target shareholder does not affect the success of a tender offer outcome. No target shareholder will accept any conditional bid below the post-takeover value of the target company. As a result, bidding firms will be successful when they pay out all the post-takeover benefits. In such a case, the takeover premium will be at a maximum level.

Bagnoli and Lipman (1988), as well as Holmström and Nalebuff (1992), analysed takeover models with a finite number of shareholders in which bidders can overcome the free-rider problem by making some shareholders crucial. When a shareholder becomes crucial (large), he or she can affect the outcome of the takeover. This concept makes it possible for bidders to lower their bid premium and gain from takeovers.

Shleifer and Vishny (1986) and Hirshleifer and Titman (1990) solved the free-rider problem by introducing a large shareholder (bidder with toehold) who is willing to take over a target firm even if he or she can realise small post-takeover value-enhancing improvements. As a result, the higher the toeholds of the bidder, the lower the minimum level of value-increasing improvements and the lower the takeover bid premium.

In the case of a single shareholder model, the bidding firm has to bargain with the controlling shareholder of the target firm. Corporate sell-offs are good examples of the single shareholder model in which the parent firm is the controlling shareholder of the subsidiary (target firm).

This paper provides several contributions related to the impact of ownership structure on takeover premiums. In our research, we incorporate the whole ownership spectrum from single shareholder to widely held firms in one study which is done for the first time. Our results provide empirical evidence that the higher ownership is concentrated, the lower the cumulative abnormal returns to target shareholders. This is consistent with Grossman and Hart (1980), Shleifer and Vishny (1986), Hirshleifer and Titman (1990), Bagnoli and Lipman (1988), as well as Holmström and Nalebuff (1992) who support a negative relationship between bid premium and ownership concentration of target firms.

The paper proceeds as follows. The next section, we develop our hypothesis. In Section 3, we describe our sample and research methodology, and in Section 4, we present our results. Section 5 discusses the implications of our results and finally we present the conclusions.

2 Hypotheses development

In the atomistic shareholder model, Grossman and Hart (1980) explain that, without dilution, the free-rider problem completely excludes bidders from capturing any of the post-takeover value increases. They argue that atomistic shareholders have the ability to free ride on a bidder's attempt to improve the value of the target. The decision of any

individual target shareholder does not affect the success of a tender offer outcome. No shareholder will accept any conditional bid below the post-takeover value of the target company. The target shareholders will refuse to tender until the bidder is prepared to pay out all post-takeover gains. Not tendering is a dominant strategy when the bid is conditional. As a result, raiders will be successful when they pay out all post-takeover benefits. In this case, the takeover premium will be at a maximum level and hence takeovers are not profit. In order to solve this problem, Grossman and Hart (1980) suggest that bidders should prevent target shareholders from capturing post-takeover value-increasing opportunities.

Holmström and Nalebuff (1992) argue that the free-rider problem depends on the assumption of equal and indivisible shareholdings. There is no possibility to split up the surplus, because each shareholder has only one share (one-share-per-shareholder model). Therefore, tendering is an all-or-nothing decision. Target shareholders are atomistic and behave as price-takers. Bagnoli and Lipman (1988) show that when there is a finite number of shareholders, some of them must be crucial (in the sense that they do recognise that they may influence the takeover outcome). Once a shareholder is crucial, he will tender his shares at a small takeover bid premium (otherwise, the takeover may fail). The main outcome of increased ownership concentration is that if shareholders become crucial and recognise that they can influence the takeover outcome, they will accept a low takeover bid premium. Holmström and Nalebuff (1992) demonstrate that once shareholdings are large and potentially unequal, a bidder may capture a part of the post-takeover value improvements.

Shleifer and Vishny (1986) argue that large shareholders are valuable for firms because they will monitor incumbent management. Shleifer and Vishny (1986) demonstrate that the value of the firm increases when there is a large shareholder who forces incumbent management to implement value-increasing changes in corporate strategies. Such improvements may not lead potential bidders to offer a high premium above the prevailing stock price due to the likelihood of post-takeover value-enhancing improvements reduction. Shleifer and Vishny (1986) point out that the takeover bid premium above the prevailing stock price is lower if there is a large shareholder. If the large shareholder owns more shares, then he is willing to take over the firm for a smaller increase in the post-takeover profits of the target firm. In addition, Hirshleifer and Titman (1990) show that the average bid premium declines if initial shareholdings of the bidder increase. A higher toehold of the bidder makes it more profitable for lower-type bidders to make an offer; hence, the average bid declines.

Large shareholders can rigorously monitor target management. As a result of such effective monitoring, firms are valued higher, and potential bidders will offer a lower takeover premium (because of the limited value-increasing post-takeover opportunities). Large outside shareholders use rigorous monitoring to discourage incumbent management from shirking. In very diffusely owned firms, the monitoring costs that each individual shareholder would have to bear to prevent management from consuming externalities, such as perquisites through management, is relatively high. The divergence between benefits and costs of monitoring is more favourable for large shareholders than for small shareholders (Demsetz and Lehn, 1985).

Burkhart (1995), Liebler (1997) and Singh (1998) have come up with alternative hypotheses.¹ Liebler (1997) argues that the larger the toehold of the bidder, the higher the probability of takeover success. The opportunity for target shareholders to free ride increases. Therefore, the bidder will pay a larger takeover bid premium. Burkhart (1995)

and Singh (1998) argue that the bidder will overbid in order to extract a counter offer from another bidder. When the large shareholder loses the takeover contest, he will gain on his initial shareholdings because he can sell these shares at a high price to the winning bidder.

In the takeover models of Grossman and Hart (1980), Shleifer and Vishny (1986), Bagnoli and Lipman (1988) and Holström and Nalebuff (1992), the takeover premium decreases with ownership concentration. In the atomistic shareholder case of Grossman and Hart (1980), the takeover bid premium is at its maximum level. As shareholders become crucial (pivotal), a lower takeover bid premium will be sufficient (Bagnoli and Lipman, 1988). In the large shareholder model of Shleifer and Vishny (1986), a small bid premium will be enough to take over the target firm. As a result, they suggest a negative relation between ownership concentration in target firms and the bid premium paid in the takeover. However, Burkhart (1995), Liebler (1997) and Singh (1998) suggest a positive relation between ownership concentration (large initial stake) and the takeover bid premium. Slusky and Caves (1991) suggest that large shareholders increase the value of the firm through intensive monitoring of incumbent management. Hence, the takeover bid premium decreases with the fraction of outside shareholdings. They find statistically significant evidence for a negative relation between the takeover bid premium and the concentration of external shareholdings. Sudarsanam et al. (1996) find that the bid premium is small for target firms with large shareholders.² Högfeldt and Högholm (2000) argue that large shareholders of target firms hold the bargaining power in takeover negotiations. If this bargaining power is severe, they can enforce a higher takeover bid premium. However, they do not find support for their hypothesis. More than that, they find a negative relation between large shareholdings and the returns to target shareholders, which implies that a large shareholder, who is crucial, cannot capture all the post-takeover value-enhancing improvements.

Hypothesis 1: The cumulative abnormal returns to target shareholders decrease with the degree of concentration in the ownership structure of the target company.

The *convergence-of-interest hypothesis* emphasises the joint interests of managers and outside shareholders. Jensen and Meckling (1976) argue that the costs of deviation from value-maximisation will decline if managerial shareholdings rise. High levels of management ownership encourage management to behave in the interest of the shareholders, and squander a lesser amount of corporate wealth. Monitoring by the board of directors will force managers to act in concert with the interests of outside shareholders. The interests of outside shareholders and managers converge when management ownership increases according to the *convergence-of-interest hypothesis*. The value of the firm will increase, the larger the fraction of shares held by the management. Agency problems arise whenever management owns fewer than the total number of common shares of the firm. Accordingly, agency problems are severe at low levels of managerial ownership. If management is not operating efficiently, then replacement will cause a value increase. If replacement of inefficient management causes large post-takeover value improvements, then potential bidders are willing to pay a higher takeover premium. Therefore, firm value will be low at low levels of managerial ownership (severe agency problems). At the same time, a potential bidder is more likely to offer a high bid premium, because of the low current value of the target firm and the prospects of high post-takeover value improvements.

Stulz (1988) devised a model in which (at low levels of management ownership) increased managerial shareholdings enhance the convergence of interests between management and outside shareholders. As a result, firm value increases. At high levels of management ownership, managerial *entrenchment* will arise and cause bid resistance to takeover attempts. Takeovers become more costly. He shows that an increase in the fraction of shares held by the management of target firms decreases the likelihood of a tender offer. Tender offers will be successful only if the bidder is willing to offer a large takeover bid premium. Assuming an upward-sloping supply curve for target shares, Stulz argues that if target management tenders for a low premium, then bidders have fewer shares to acquire from atomistic shareholders. However, when management does not offer its shares or offers them just for high bid premiums, then bidders are forced to buy a larger fraction of shares from the atomistic shareholders. As a result, the bidder is forced to acquire shares from shareholders with higher reservation prices. The crucial shareholder is higher on the supply curve and forces the bidder to pay a higher bid premium to the target shareholders, which means that the bidder receives a smaller fraction of the post-takeover gains.

The prediction of the *entrenchment hypothesis* is that there is a positive relation between managerial ownership and the takeover bid premium.

Mikkelsen and Partch (1989) report (in accordance with the results of Stulz, 1988) that target firms with low management holdings can be taken over at lower prices because managers are more willing to allow a takeover.

Another reason for a positive relationship between managerial shareholdings and the returns to target shareholders is that managers will be compensated for their losses. Particularly in hostile takeovers, managers fear loss of employment and other non-pecuniary losses when the takeover is successful. An alternative explanation for a positive relation between management ownership and the returns to target shareholders is that management will increase its bargaining power at higher levels of managerial shareholdings. Management with high bargaining power has a stronger position in negotiations. Consequently, target management will drive up the takeover price, which will increase the returns to target shareholders. Billett and Ryngaert (1997) argue that managers will tender at higher takeover premiums in comparison with institutional shareholders, because they will tender only if they are compensated for the loss of control benefits.

A number of empirical studies have tested the relationship between managerial ownership and market valuation of the firm's assets in order to distinguish between both hypotheses. Morck et al. (1988) find a non-linear relation between management ownership and Tobin's q .³ They have tested firm performance at different levels of managerial ownership and report a positive relationship between 0% and 5%, a negative, but less pronounced, relationship between 5% and 25% and a positive relationship above 25%. They suggest that entrenchment dominates between 5% and 25%, and the *convergence-of-interest hypothesis* holds between 0% and 5%, and above 25%. McConnell and Servaes (1990) reported a significant curvilinear relation between Tobin's q and insider ownership. First, Tobin's q increases towards the inflection point⁴ and decreases beyond that point – although the downward slope is not steep. Others, such as Morck and Yeung (1992), recognised the existence of a non-linear relation between firm value and insider holdings. The value of the firm rises at the beginning with insider holdings (*convergence-of-interest hypothesis*), and then falls with insider holdings (*entrenchment hypothesis*). In order to test this non-linear relation for bidding firms,

Morck and Yeung (1992) use the fraction of insider holdings⁵ and an indicator variable⁶ to measure *convergence-of-interest* and *entrenchment*. They examine the influence of insider holdings on the abnormal returns for bidding firms and found significant support for convergence of interest (alignment) at low levels of insider holdings, and entrenchment at insider holdings above 20%.⁷ Cotter and Zenner (1994) and Bugeja and Walter (1995)⁸ find a negative relation between managerial shareholdings and the returns to target shareholders. Their results are consistent with the *convergence-of-interest hypothesis* which predicts a negative relation between managerial shareholdings and the takeover bid premium.⁹ Stulz et al. (1990) examine 104 successful takeover bids from 1968 to 1986. Managerial ownership contains target stock ownership of officers, directors, and other insiders reported by Value Line. They find that managerial ownership has a positive effect on the target's abnormal return,¹⁰ but is significant only in the multiple-bidder sample. They suggest that the management of the target firm, which has a large stake, is better off in transforming the auction into a multiple-bidder contest. Song and Walking (1993) also find support for a positive relation between managerial shareholdings and the cumulative abnormal returns to target shareholders in their sample of contested successful takeovers.

Hypothesis 2a: The takeover premium is a decreasing function of managerial shareholdings (convergence-of-interest hypothesis).

Hypothesis 2b: The takeover premium is an increasing function of managerial shareholdings (entrenchment hypothesis).

Effective and constant monitoring of management is a costly process, only large shareholders and bondholders are motivated to monitor incumbent management and actively participate in the corporate strategic decisions. This implies that target firms with active institutional investors will be properly valued, because firms with large monitoring shareholders will operate efficiently. The activism of institutional shareholders will increase the value of the firm and will lower agency costs. Because of the high valuation of these target firms, bidding firms will offer a small bid premium just above the current share price of the target firm. Gillan and Starks (2000) mentioned that opponents of institutional shareholder activism are sceptical about the expertise of institutional investors to advise management on corporate strategic decisions. The criticism is focused on the issue of whether shareholder proposals change corporate investment decisions. In the literature, there is another approach that considers the behaviour of institutional investors on the capital market. Stulz et al. (1990) suggest that typical institutional investors are in low tax brackets. The larger the fraction of institutional investors in low tax brackets, the lower the premium offered by bidders and the smaller the takeover gains to the target shareholders for a given total takeover gain. Institutional shareholders are on the lower part of the supply curve. A small premium over the current share price will be sufficient to buy these shares. Furthermore, institutional shareholders are likely to have low transaction costs and information costs. Stulz et al. assume that institutional investors ignore their influence on the probability of tender offer success, because the number of different institutional investors is generally large. The authors assume that institutional investors behave as atomistic shareholders. If the fraction of shares held by institutional shareholders is large, then the crucial shareholder is lower on the supply curve and the premium offered by the bidder will be lower. Stulz et al. (1990) and Billet and Ryngeart (1997)¹¹ find support for shareholder activism. They report that institutional holdings have a negative effect on the abnormal returns to target shareholders.

Hypothesis 3: The takeover premium is a decreasing function of institutional shareholdings (monitoring hypothesis).

Bradley et al. (1988) estimated a significantly positive slope supply of target shares. The cumulative abnormal returns to target shares in successful tender offers is an increasing function of the fraction of target shares purchased in the offer by a successful bidder. Bradley et al. (1988) find a slope coefficient (0.167) of the supply curve that was significantly positive ($t = 4.26$). Bagwell (1992) shows that in a Dutch auction stock repurchase, the average elasticity of the supply curve is equal to 1.65.¹² In order to purchase 15% of the outstanding target shares, a bidder must offer a 9.1% premium above its pre-announcement market price. Stulz et al. (1990) report that in the sample of multiple-bidder contests, the target gain is a significantly decreasing function of the fraction of target shares held by institutional investors and increasing with managerial ownership. This is consistent with the hypothesis that institutional investors with low capital gains tax rates are more likely to tender for a given premium. It is also consistent with the hypothesis that managerial resistance will lead to a higher premium being offered by bidders. In that case, bidders have to receive more shares from the remaining group of atomistic shareholders which implies that the crucial shareholder is higher on the supply curve. Bradley et al. (1988), Eckbo and Langohr (1989),¹³ Stulz et al. (1990), Song and Walking (1993) and Billett and Ryngaert (1997)¹⁴ find empirical evidence for an upward-slope supply curve of target shares, which mean that the return to target shareholders will be positively related to the outstanding shares acquired by bidders.¹⁵ Eckbo and Langohr (1989) find a significantly positive effect of the fraction of shares purchased by bidders on the takeover premium.

Hypothesis 4: The greater the percentage of shares acquired by the bidder, the higher the cumulative abnormal returns to target shareholders (upward-slope supply curve).

Bradley et al. (1988) and Stulz et al. (1990) argue that competition between bidders increases the demand for target shares. With an upward-slope supply curve for target shares, increased demand for target shares implies that the takeover price will be higher on the supply curve for target shares. The impact of competition on the returns to bidding firms is ambiguous. One can distinguish between the *winner's curse* and *high valuation signalling*. Generally, competition between bidders will drive up takeover bid premiums. Roll (1986) developed the *winner's curse*, which suggests that the return to bidders is negative. He proposes that managers of bidding firms overestimate the value of their targets (*winner's curse; hubris hypothesis*).

However, when other bidders appear in the takeover battle, the return to the first bidders may be positive, because the probability of their takeover success decreases with competition. First bidders will gain on the holdings they already possess. Fishman (1988) launched a model of *pre-emptive bidding*, which provides a rationale for bidding firms to offer high pre-emptive initial bids if there is competition, rather than making low initial offers and raising them little by little (English auction). Fishman analyses a two-bidder model with strategic interaction between bidders. The model starts with a first bidder who makes an initial offer. A second bidder revises his prior information about the first bidder's valuation. After updating his beliefs, the second bidder determines his bidding strategy. When a first bidder determines his initial offer, he takes the updates and decisions of the second bidder in his calculations. Fishman called this strategic interaction. The higher the private valuation of the first bidder, the lower is the second

bidder's expected outcome from entering the bidding process. In equilibrium, a first bidder may offer a high bid premium (pre-emptive) in order to signal a high valuation and to discourage a second bidder from making a competing bid. On the other hand, a low bid premium of the first bidder indicates a low private valuation and encourages a second bidder to enter the takeover contest (De et al., 1996).¹⁶ The *pre-emptive bidding models* have in common that first bidders offer high bid premiums, either to signal the market that there are high valuation bidders or to provoke a high counter-offer.¹⁷ Alternatively, an offer announcement of a bidder may be a signal to other potential bidders that there are high synergistic gains available in the target firm. The presence of high potential gains in the target firm will attract more bidders who can generate high net present value takeovers. In that case, competition in takeovers is also a signal that the creation of wealth is not firm-specific (Shleifer and Vishny, 1989). Numerous empirical studies have investigated the impact of competition on the returns to shareholders. Bradley et al. (1988) examine 236 tender offer contests, which include 163 single-bidder contests and 73 multiple-bidder contests between 1963 and 1984. The abnormal returns to target shareholders $[-20, +5]$ represent 4.5% points higher in the multiple-bidder sub-sample than in the single-bidder sub-sample. The abnormal returns to bidding firms $[-5, +5]$ represent (-0.95%) for the multiple-bidder sub-sample, and positive (1.55%) for the single-bidder sub-sample. In the regression model, the coefficient on competition between bidders is significantly positive ($t = 4.23$) for the abnormal returns to target shareholders, and insignificantly negative ($t = -1.32$) for the abnormal returns to bidding firms. They conclude that the net effect of multiple-bidder contests is to increase the abnormal returns to target shareholders and to decrease the abnormal returns to bidding firms.

Stulz et al. (1990) examine 104 successful takeovers from 1968 to 1986, and find that the average cumulative abnormal return for target shareholders is 45.58% in the multiple-bidder sub-sample. The average cumulative abnormal return for target shareholders is significantly ($t = 14.27$) higher in the multiple-bidder sub-sample than it is in the single-bidder sub-sample. The average abnormal return for bidders is -4.21% ($t = -1.11$) in multiple-bidder contests.

Hypothesis 5a: The cumulative abnormal returns to target shareholders increase with competition.

Hypothesis 5b(1): The cumulative abnormal returns to bidding firms increase with competition (signalling high synergistic gains).

Hypothesis 5b(2): The cumulative abnormal returns to bidding firms decrease with competition (overbidding).

Shleifer and Vishny (1986) predict a negative relation between initial shareholdings and the bid premium. A low bid signals a small increase in the post-takeover value of the target. It is in the interest of the large shareholder to convince small shareholders that he will continue with low value improvements after the takeover occurs. Hirshleifer and Titman (1990) argue that the probability of takeover success increases with the takeover premium and the initial holdings of the bidder. They further suggest that the probability of an offer's success decreases with the fraction of shares necessary to acquire control. They argue that the average bid premium decreases with the initial shareholdings held by the bidder in the target firm. Larger toeholds make it profitable for lower-type bidders

