HOW TOEHOLDS BECOME FOOTHOLDS

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Abstract

We document empirical evidence that bidders tailor their takeover strategy when facing entrenched target managers. Key elements of a takeover strategy comprise the toehold purchase and the initial bid premium. We find that toeholds are acquired in cognizance of the principal outsider and target management block. Bidders' free rider cost savings are measured by the product of the toehold and the initial bid premium. Several relationships are identified. Initial bid premiums for targets characterized by entrenchment are comparatively low and result in low free rider benefits to bidders. To avoid overpayment, bidders do not compensate entrenched managers for lost private benefits. Instead, in entrenchment scenarios toeholds are optimized with respect to the principal outsider as well as the target management block in order to create a foothold that neutralizes entrenchment. At the median toeholds match the spread between the principal outsider and the target management block in entrenchment scenarios, are about double the spread for shareholder-aligned targets and much smaller for owner-managed targets. Takeovers of owner-managed targets rely more on a higher offer price.

Keywords: takeover, toehold, entrenchment, ownership

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1. Introduction

A toehold, the initial offer (or bid) premium are key offer parameters. Betton and Eckbo (2000) find that toeholds are largest in successful, single-bid contests (average 20%) and smallest in multiple-bid contests (average 5%). In their sample, simultaneous equation estimation indicates that toeholds and bid premiums are negatively correlated. They also find that toeholds are smaller as pre-bid runups in the target stock price are higher. When an initial bid fails to deter competition, the first and second bidders are found to own similar toeholds. Their most striking empirical finding is that toehold acquisitions result in gains to bidders only when bidders sell their toehold without proceeding to control.

The Betton and Eckbo (2000) analysis does not consider (i) the degree of target management stock ownership and (ii) the size of the principal outside block holding (principal outsider). We contend that both variables influence bidders' takeover strategies. Morck, Shleifer and Vishny (1988) employ management ownership as a sorting variable to determine the likelihood of entrenchment. Entrenched managers have lower incentives than shareholders to accept value-increasing bids because they require compensation for lost private benefits. Bidders facing entrenched managers can not remove them without overpaying, unless they employ a complementary strategy to deal with entrenchment. Bidders with toeholds are able to overcome entrenchment by selecting a toehold which, in tandem with purchase of the principal outside block, creates a foothold sufficiently large to allow entrenched managers to be bypassed in the bidding process.

Entrenchment occurs when managers choose investments that make it costly for shareholders to replace them (Morck, Shleifer and Vishny, 1988), thus enabling consumption of private benefits. Morck et al. (1988) suggest a lower bound of 5 per cent of outstanding common (equal to the minimum disclosure threshold) and an upper bound of 25 per cent (along with Cronqvist and Nilsson, 2003), which we adopt. Target management blocks below 5 per cent are argued insufficiently high to grant any control benefits, while target management blocks above 25 per cent are argued to be sufficiently high to give target mangers owner-manager status[1].

The present paper examines the duality between a toehold and the initial bid premium according to the equity ownership structure of the target. Ownership structure is represented by the block controlled by target managers and the principal outsider block. Since principal outsiders are potential rivals, this argument is consistent with the view

[1] This is not to say that target managers controlling 25 per cent or more stock do not receive private benefits, which may also occur in the lowest equity ownership group.

toeholds are beneficial when a rival bid is likely[2]. We identify takeover strategies associated with ownership structures consistent with shareholder-alignment (no agency problems), entrenchment and owner-managers. For shareholder-aligned targets we document evidence of a dual offer price and toehold/principal outsider strategy. In contrast, for targets characterized by entrenchment toeholds are optimized with respect to the principal outsider rather than the target management block in order to create a foothold that effectively threatens entrenchment. For owner-managed targets, takeover strategy is found heavily dependent on the offer price. Our interpretation is as follows. When facing shareholder-aligned targets, intending bidders rely jointly on a regular bid premium in tandem with a toehold, the sole purpose of which is to lower free rider costs as far as market liquidity allows. On the other hand, when facing entrenched managers and to avoid overpayment, bidders with toeholds do not attempt to compensate these managers for their lost private benefits. By setting a lower offer price at which the principal outsider will sell, the toehold *plus* the principal outside block creates a foothold sufficient to threaten target managers' entrenchment. The principal outsider accepts a lower offer price because (i) she does not need to be compensated for lost private benefits, and (ii) her acceptance is necessary to remove entrenched managers. In this scenario, toeholds are not acquired to maximize free rider benefits because bidder cost savings are lowest due to the lower bid premium relative to shareholder-aligned and owner-managed targets. When bidders face owner-managers, the evidence is that takeover-strategies rely strongly on the offer price, which is expected because the target management block and the principal outsider a likely to account for the lion's share of outstanding target stock. Collectively, these findings constitute the contributions of this paper to the empirical literature. The method of payment or cash/stock choice is not analyzed because the choice is not entrenchment-specific: in general, stock is accepted whenever removal of target managers substantially adds value to the target[3].

The remainder of the paper is organized as follows. The toeholds literature is reviewed in the next Section, where we focus on the state of knowledge concerning inter-relationships between toeholds, target management entrenchment, principal outside blocks and bid premiums, along with their valuation consequences, with hypotheses formed in Section 3. The composition of the sample is described in Section 4 together with details of the measures employed. The analysis takes place in Section 5, followed in the final Section by the summary and conclusions.

[2] For example, see Ravid and Spiegel (1999).
[3] See for example Travlos (1987).

2. Review

Toeholds have been argued to induce overpayment (the owner's curse[4]) (Burkart, 1995; Singh, 1998), deter competing bids (Ravid and Spiegel, 1999) and may also enable savings on the offer premium (Betton and Eckbo, 2000; Shleifer and Vishny, 1986; Hirshleifer and Titman, 1990). Target managers who consume private benefits are found least likely to accept a tender offer when they control an intermediate equity block-holding (Shleifer and Vishny, 1989; Morck, Shleifer and Vishny, 1988). The latter report the agency costs of entrenchment are likely highest when target managers own between 5% and 25% of the target's stock, implying entrenchment is highest for this group relative to target managers who control smaller or larger block holdings. In the latter case target managers are effectively owner-managers. As target board ownership increases to an owner-manager threshold, the incentive to reject value-increasing offers diminishes to zero. The convergence-of-interests hypothesis (Morck, Shleifer and Vishny, 1988) predicts that increased board ownership is associated with higher market valuation as the agency costs of entrenchment are reduced, while the entrenchment hypothesis predicts that corporate assets are less valuable when managed by an individual free from checks on her control. Hence, the convergence-of-interests hypothesis suggests a positive relation between target board ownership and the market valuation of the target, while the entrenchment hypothesis implies a negative relation for moderate levels of board equity ownership.

Goldman and Qian (2005) alone internalize pre-offer target board ownership in their toehold acquisition model. Consistent with Grossman and Hart's (1980) free rider rationale, they demonstrate that large toeholds generate profits if a takeover succeeds, so consistent with Hirshleifer and Titman (1990), Walking (1985), Choi (1991), Jennings and Mazzeo (1993) and Betton and Eckbo (2000) toeholds increase with the probability of success. However, Goldman and Qian (2005) show that larger toeholds can be detrimental to bidders if takeovers fail. Failure signals a higher than anticipated level of entrenchment, whereupon larger toeholds suffer larger losses when the market corrects. Consistent with Mikkelson and Ruback (1985), Ruback (1988), Choi (1991) and Saffedeine and Titman (1999), all show that stock prices respond negatively to the announcement of a failed takeover. Betton, Eckbo and Thorburn (2004) argue

[4] Bidders who acquire toeholds also face the risk of the *owner's curse*: Burkart (1995) and Singh (1998) show analytically that a single bidder with a toehold will bid more aggressively to induce an outsider to bid higher than the toeholder's private value, but at the risk of acquiring the target at a price higher than its value to the toeholder. Bulow Huang and Klemperer (1999) obtain a similar result for multiple block-holders who bid and have common values.

that mere acquisition of a toehold can trigger target management hostility which in turn increases the acquisition outlay.

Consistent with the free rider rationale of Grossman and Hart (1980), Goldman and Qian (2005) demonstrate that large toeholds generate profits if a takeover succeeds, but they also show that large toeholds cause losses for bidders if the takeover fails. Given a large toehold, a failed takeover attempt signals a higher than expected level of entrenchment. Failed takeovers have two consequences: bidders lose (Mikkelson and Ruback, 1985; Ruback, 1988; Choi, 1991 and Saffedeine and Titman, 1999) and targets gain only if target managers learn from the experience or are replaced. Saffedeine and Titman (1999) show that target company shareholders stand to gain from failed bids only if incumbent managers change their policies: absent such changes, target shareholders are better off with a successful takeover. Denis and Serrano (1996) find that target managers remaining in control after failed takeover bids impose costs on their shareholders, so entrenched managers have no incentive to change their policies without compensation for their lost private benefits[5]. They also find that failed takeovers in which target management retains control are characterized by ineffective block shareholder monitoring and under-perform relative to firms that replace their managers. Further, Jennings and Mazzeo (1993) find that the probability of a competing bid increases with target management resistance but does not justify the expected wealth loss due to rejection of existing bids. Target management resistance is not predicated unless target managers are entrenched. Non-entrenched managers have no reason to reject value-increasing bids. When target managers are entrenched, Goldman and Qian (2005) would predict a small or even zero toehold to the extent that entrenchment increases the probability of a failed takeover attempt. However, when a principal outsider exists there is an additional rationale for a toehold over and above free rider benefits. The principal outsider does not need to be compensated for lost private benefits, so will accept a lower offer price than the entrenched managers. In this scenario, a toehold is purchased because previously the principal outside block was not large enough to induce a control transfer.

Denis and Serrano (1996) report direct evidence that entrenchment is value-reducing: failed takeovers leaving managers in control have ineffective outside block monitoring and underperform relative to firms that replace managers. Denis and Denis (1995) and Denis and Serrano (1996) hypothesize an inverse relation between target board ownership and the principal outsider because principal outsiders have an incentive to monitor entrenched managers inclined not to accept value-increasing bids. Hence, under this competing hypothesis, toeholds are expected increasing in principal outside blocks.

3. Expectations and hypotheses

Expectations on takeover strategies conditional on target management block size are shown in Table 1. The premium offered to owner-managed targets (target management ownership more than 25 per cent of outstanding stock) necessarily includes a control premium which is implicit in at least the final bid, if not the initial bid. Even so, there is no fundamental difference between expected bid premiums for owner-managed and shareholder-aligned targets because in both cases bidders do not offer a price in excess of their own valuation. Both initial and final bid premiums for targets characterized by entrenchment (target management ownership between 5 and 25 per cent of outstanding stock) are expected lower than for corresponding premiums offered to shareholder-aligned targets (target management ownership less than 5 per cent of outstanding stock). The inequality is due to bidders being unwilling to compensate entrenched target managers for lost private benefits without overpaying. This constitutes our first hypothesis.

Hypothesis 1

The initial bid premium for targets with entrenched managers is less than the initial bid premium for shareholder-aligned targets.

Toeholds unambiguously reduce free rider costs when bidders acquire shareholder-aligned and owner-managed targets.

However, when intending bidders face entrenched managers, a toehold is argued to fulfill a strategic role. Given an entrenched manager will not accept an offer incorporating a low bid premium, bidders purchase a toehold in cognizance of the block controlled by the principal outsider. The motivation is to set an offer price (absent a control premium) which the principal outsider will accept. Given entrenchment, principal outsiders accept this lower bid rather than wait for free rider benefits because their decision to sell is crucial to bid success. If the principal outsider does not accept the offer, the bid is likely to fail, signaling market that target managers are more entrenched than first realized. Knowing this, the intending bidder first targets the principal outsider in order to secure a foothold that threatens the entrenchment.

Hypothesis 2

The ratio of toehold to principal outsider for targets with entrenched managers is greater than one.

Bidder cost savings (expressed as a percentage) are the product of the toehold and the initial bid premium, and are a direct measure of free rider cost savings. These savings are expected maximized when bidders face owner-managers. A high bid premium is necessary to cover the control premium,

[5] Morck, Shleifer and Vishny (1988) show that agency costs of entrenchment are at a maximum for intermediate management blocks and decline as larger blocks describe owner-managers

so a larger toehold increases free rider benefits. For entrenched managers the bid premium is expected substantially lower, so bidder cost savings are lower even with a large toehold.

Hypothesis 3

Bidder cost savings for targets with entrenched managers are less than for shareholder-aligned targets.

Table 1. Expectations and hypotheses on takeover strategies conditional on target management block

'Target management block' is the ratio (expressed as a percentage) of the number of voting stock in which target company directors have a direct or indirect interest to the aggregate number of voting stock outstanding at the toehold acquisition date. A shareholder-aligned target is denoted by the subscript 'sa'. Target management entrenchment is denoted by the subscript 'ent'. An owner-managed target is denoted by 'om'. 'Initial bid premium' is calculated as $\frac{\text{offer price}_t - \text{target stock price}_{t-3}}{\text{target stock price}_{t-3}}$, where the target stock price is measured three trading days prior to the offer date. 'Toehold' is the ratio (expressed as a percentage) of stock acquired pre-bid pursuant to the first *Substantial Shareholder* notice to the target's outstanding voting stock on the day the notice is lodged with the ASX, which is taken as the toehold acquisition date. Principal outsider' is the ratio (expressed as a percentage) of the largest single stockholding excluding the toehold and the block controlled by target management to the aggregate number of voting shares outstanding at the toehold acquisition date. 'Bidder cost savings' is the product of the toehold percentage and the initial bid premium percentage, divided by 100. A revised offer is measured by final bid premium/initial bid premium (FBP/IBP) where the final bid is the last bid made by the first bidder.

	Shareholder-aligned targets [sa]	*Target firms with entrenched managers [ent]*	*Owner-managed targets [om]*
Target management block (TMB):	< 5 %	5 % ≤ block ≤ 25 %	> 25 %
Takeover strategy			
Initial bid premium (IBP)	Implies offer price up to bidder's valuation	Implies offer price < bidder's valuation (no compensation for entrenched managers lost private benefits)	Implies offer price up to bidder's valuation
		H1: $IBP_{ent} - IBP_{sa} < 0$	
Toehold (TH)	Determined by market liquidity; acquired only to reduce free rider costs	Optimized w.r.t. principal outsider to neutralize entrenchment	Acquired only to reduce free rider costs because PO + TMB account for large portion or majority of target stock
		H2: $\frac{TH_{ent}}{PO_{ent}} > 1$	
Bidder cost savings (BCS)	No prediction	Optimized: (i) substantially lower bid premium to avoid overpayment, and (ii) toehold w.r.t. principal outsider	Maximized because high bid premium necessary to cover control premium, while large toehold increases free rider benefits
		H3: $BCS_{ent} - BCS_{om} < 0$	

4. Sample and measures

In Australia, the disclosure threshold for substantial shareholder stock acquisitions is 5 per cent of the number of outstanding common voting stock. As in the U.S., substantial shareholder notices (Form 603) must be lodged with the ASX within two business days whenever a shareholder owns more than 5 per cent of the outstanding ordinary shares of a listed company (*Corporations Law* , s. 710(4))[6]. Material changes above 5 per cent must also be advised. This threshold is usually many times daily trading volume, especially for low market capitalization stocks. In both the U.S. and Australia, large companies are similarly characterized by high concentrations of equity ownership in the hands of pension and other investment funds, and occasionally parent company control blocks. However, high concentrations of equity ownership in small companies usually exist for another reason: either the chairman or the CEO effectively controls

[6] A substantial shareholder is defined by s.708 of the *Corporations Law* as a person who has a substantial shareholding, that is, an entitlement to not less than 5 per cent of: (a) where the voting shares are not divided into two or more classes - those voting shares; or (b) where the voting shares are divided into two or more classes - the shares in one of those classes.

the company while at the same time maintaining a sufficiently wide shareholder base to comply with listing requirements. There are two principal advantages in using an Australian data set. First, there exists a mandatory bid rule whereby any investor acquiring 20 per cent or more of outstanding target sock is obligated to make an offer for the remaining stock in the target company [7, 8]. This rule has two major implications: (a) toeholds are effectively capped at 19.99 per cent of outstanding target stock, and (b) principal outsiders are also capped at the same percentage, save for allowed growth of three per cent every six months[9]. Thus, pre-emptive toehold acquisitions large enough to circumvent a contest (e.g., in excess of 30 per cent) are effectively prohibited, so pre-bid positioning is more likely to be observed than in the United States. Furthermore, target board ownership is likely to have more economic impact when toeholds and principal outside blocks are constrained.

The second advantage of Australian data originates from the compulsory acquisition rule, which grants a bidder the right to compulsory acquire all remaining target stock once 90 per cent of acceptances have been obtained[10]. This means that entrenched managers holding less than 10 per cent of outstanding target stock are at risk of having their stock compulsory acquired. If a bidder is prepared to set the offer price at a sufficient premium to achieve a 90 per cent acceptance rate then it is doubtful that there is any role for the toehold other than reducing free rider costs. But, if a higher bid premium is too costly for the bidder, then a toehold has strategic value to the extent that the bid premium can be lowered. Finally, there was a paucity of termination contracts during the sample period (the 1990s), so the relation between entrenchment and toeholds can be observed without any need to control for the impact of such agreements.

Given our principal focus on how a toehold acquisition and an offer premium interact to form a takeover strategy for dealing with entrenched target managers, zero toeholds are not collected. Zero toeholds transfer the weight of a takeover strategy to the offer premium and the method of payment, which removes a key strategy option when bidders face entrenched managers. Moreover, discussions with investment bankers indicate that intending bidders often do not purchase toeholds because (i) bid anticipation has already caused a run up in the stock price, and (ii) acceptances pursuant to a bid are commission-free. Our sample comprises 88 takeovers or mergers of companies listed on the Australian Stock Exchange (ASX) involving a pre-acquisition toehold, from 1989 through 2000, with a preponderance of observations coming from the mid-1990s[11]. Toeholds not leading to an offer by the toeholder were excluded. Only first bids are taken because Betton and Eckbo (2000) show that multiple-bidder contests serve principally to increase the gains to target shareholders without materially affecting takeover strategy as represented by the toehold and the bid premium. Toehold size is measured as the ratio (reported as a percentage) of target stock acquired pre-bid (pursuant to the first *Substantial Shareholder* notice) to the target's outstanding voting stock on the day the notice is lodged with the ASX, which is taken as the toehold acquisition date. The toehold date is the earliest announcement date of establishment of a toehold or the first in a series of toehold acquisitions where the series subsequently triggers a disclosure.

The initial bid premium is calculated as $\frac{\text{offer price}_t - \text{target stock price}_{t-3}}{\text{target stock price}_{t-3}}$, where the target stock price is measured three clear days prior to the offer date. The intention is to measure the offer premium in relation to the stock price prevailing when the offer terms are decided; industry comments suggest this can be as recent as three trading days before the offer announcement. In other words, we are assuming the toehold target and the planned initial bid premium are decided upon simultaneously. As a consequence, there is no need to control for any pre-bid target stock price run up. Our final sample was arrived at as follows:

[7] Corporations Law, s. 615.
[8] There is no mandatory bid rule in the U.S.; the corresponding percentage in the United Kingdom is 30 per cent.
[9] Corporations Law, s. 618.
[10] Corporations Law, s. 661A.
[11] The sample is believed to approach the population size.

Total number of merger/takeover offers (1989-2000)[∞]	883
Total number of takeover offers with a toehold purchase	181
Less deletions due to	
(i) insufficient disclosures†	32
(ii) thin trading††	61
around toehold acquisition or bid dates	
Remaining sample	88

Source: *Huntley's* Annual Stockmarket Summaries, various years, Takeovers Section.
† Main disclosure deficiencies are: unknown toehold purchase quantity; absence of toehold acquisition date; absence of board stock ownership on that date.
†† Thin trading refers to very small companies characterized by occasional trading in their stock, rendering calculation of abnormal returns unreliable.

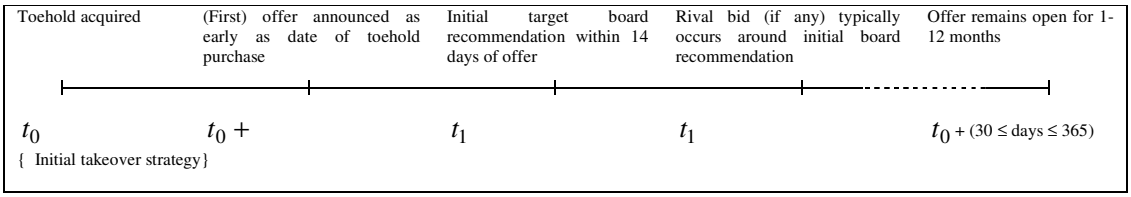

Figure 1. Typical sequence of events in initial stages of a takeover

Financial data were obtained primarily from company annual reports and the now defunct *DataDisc* service of the ASX, the latter providing copies of the initial Form 603 lodged with the ASX and the date of lodgment, which is taken as the announcement date. The sequence of takeover events outlined in Figure 1 represents a typical time line for the early stages of a takeover but is subject to some variation. The toehold acquisition date is t_0. An offer may be made simultaneously or later (t_0+). Shareholders may accept the offer as soon as it is made, but more commonly shareholders wait for the recommendation of their board, which must be made known within 14 days of the offer (t_1). The board recommendation is not binding on shareholders, but is likely to influence uninformed investors. A rival bid (if any) can occur any time after the first offer has been made, but more usually a competing bid occurs after the initial board recommendation has been formally announced (in a Part B or Part D statement). We characterize the time of a rival bid (if any) also as t_1. Often the board recommendation is made in anticipation of a competing bid and perhaps a revised first bid. In the event of a bidding contest an offer may be revised and/or extended but must close no later than 12 months from the original offer date[12]. We define the initial takeover strategy as comprising the toehold and offer price decisions. The initial target board recommendation and emergence of a rival are responses to the first bid.

The illustration is for a bid (not 'on-market') that occurs more than ten days following purchase of a toehold; when toehold purchase and bid coincide, t_1 merges with t_0.

Equity block distributions are reported in Table 2 and shows independent frequencies of toeholds, target management blocks and principal outside blocks by block quintiles defined with reference to target outstanding common. Principal outsiders typically comprise pension and superannuation funds, investment companies and trusts and in the case of small companies related interests. There is no apparent reason why any principal outsider should not accept value-increasing bids. In all cases, these positions existed at least 6 months before the toehold acquisition date, so there is a reasonable assumption of independence between the contest parameters and principal outsider.

Several regularities are observed. First, toeholds in Australia are clustered between the minimum disclosure threshold of 5 per cent and the mandatory bid threshold of 20 per cent, with heavy clustering immediately below 20 per cent. In contrast, target management blocks are distributed much more widely (up to a value of 80 per cent). There is clustering in the first quintile (below 5 per cent), reflecting the low ownership stakes of many target boards, particularly in large companies. There is also some clustering between 10 and 15 per cent in contrast to just three observations between 5 and 10 per cent. We attribute the disparity to the 90 per cent compulsory acquisition rule: entrenched managers have an incentive to ensure that their ownership stake does not fall below 10 per cent. This factor, not present in United States data, strengthens the inference of entrenchment from mid-range equity ownership. Third, the distribution of principal outside stockholdings is skewed to the left, with 68 cases exhibiting block sizes below 20 per cent.

[12] s. 624(1). 'On-market' bids, which are rare, are extendable to a maximum of 6 months.

Table 2. Equity block distributions

'Toehold' is the ratio (expressed as a percentage) of stock acquired pre-bid pursuant to the first *Substantial Shareholder* notice to the target's outstanding voting stock on the day the notice is lodged with the ASX, which is taken as the toehold acquisition date. 'Target management block' is the ratio (expressed as a percentage) of the number of voting stock in which target company directors have a direct or indirect interest to the aggregate number of voting stock outstanding at the toehold acquisition date. 'Principal outsider' is the ratio (expressed as a percentage) of the largest single stockholding excluding the toehold and the block target management block to the aggregate number of voting shares outstanding at the toehold acquisition date.

Block size relative to outstanding common (percentage)	Toehold	Target management block	Principal outsider
	(count)	(count)	(count)
0<block<5	0	38	11
5≤block<10	24	3	18
10≤ block<15	25	10	25
15≤ block<20	38	3	14
20≤block<25	1	5	6
25≤block<30	0	4	5
30≤block<35	0	8	0
35≤block<40	0	2	2
40≤block<100	0	13	7

Figure 2 portrays the pair-wise relationship between toeholds and target management blocks. Since many management block holdings are tiny, we take the natural logarithm of the ratio of toehold to target management block to yield the metric *ln*(Toehold/Target management block), which shows a tendency to decline at a decreasing rate as the size of the target management block rises. This tendency is apparent across the full range of target management block holdings, and is exhibited also within the 5 to 25 per cent range employed by Morck, Shleifer and Vishny (1988) to indicate an increase likelihood of entrenchment. Hence, in subsequent analysis we employ both the discrete and continuous approaches to modeling target management equity ownership.

Summary statistics are presented in Table 3. Target management block below 5 per cent (small) of outstanding common imply alignment with shareholders' interest because small shareholdings of this order have no control implications. Block sizes between 5 and 25 per cent (medium) are associated by Morck, Shleifer and Vishny (1988) with an increased likelihood of managerial entrenchment. Their rationale relies on block holdings within this range being sufficient to exert some influence over major decisions yet not necessarily in shareholders' interest. Block holdings in excess of 25 per cent (large) are taken as signifying owner-manager status. Agency problems of equity are hypothesized absent in the small and large management block holding groups. For the whole sample, the median Target management block is 12.03 per cent of outstanding common.

Management block holdings below 5 per cent have a very low median value of 0.31 per cent, caused by the presence of many very small equity positions ($\frac{13}{38}$ cases have equity blocks below 0.10 per cent). Target firm size is measured by *ln*(total assets), which is highly positively correlated with market capitalization ($r = 0.621$, $p = .000$).

Target firm size does not differ significantly for block holdings above 5 per cent of outstanding common, whereas block holdings below 5 per cent are associated with larger target firms. In other words, small target management equity positions are a characteristic of large firms, which are about three times the size of target firms having larger management block holdings. A similar relation is obtained for bidder firms. Following Smith and Watts (1992), Skinner (1993) and Berger and Ofek (1995), investment opportunities are measured by the ratio of the market value of issued ordinary shares to the book value of net assets for the first fiscal year-end following the bid date (market-to-book of equity). The figures indicate there are no significant differences in growth opportunities between the three groups. Leverage is measured by the ratio of total debt to total assets, and again there is no difference between the three groups. This result is in contrast to Berger, Ofek and Yermack (1997) who argue and find that entrenched managers use less debt than owner-managers.

Finally, Table 3 also shows that the total risk (measured by the standard deviation of a minimum 36 monthly stock returns prior to the toehold acquisition date) is significantly lower for the small block holding group. In summary, the evidence suggests that large bidders buy toeholds in large targets that have lower risk and smaller target management block holdings. On the other hand, entrenched managers (medium block holding) and owner-managers (large block holdings) show no differences.

Table 3. Summary statistics

'Target management block' is the ratio (expressed as a percentage) of the number of voting stock in which target company directors have a direct or indirect interest to the aggregate number of voting stock outstanding at the toehold acquisition date. 'Firm size' is measured by *ln*(total assets) for the first fiscal year-end following the bid date. 'Target market-to-book of equity' is measured by the ratio of the market value of issued ordinary shares to the book value of net assets for the first fiscal year-end following the bid date. 'Target debt/assets' are measured by the ratio of total debt to total assets. 'Standard deviation of target stock returns' is determined from a minimum of 36 monthly returns prior to the toehold acquisition date. The significance of mean differences is tested by *t* (unequal variances assumed); median differences are tested using Mann-Whitney *U*.

	Whole sample	Target management block			Significance of group differences		
		(1) < 5 %	(2) 5 % ≤ block ≤ 25 %	(3) > 25 %	(1) and (2)	(1) and (3)	(2) and (3)
Number of cases	88	38	23	27			
Target management block statistics (%)							
minimum	0.00	0.00	5.54	26.00			
median	12.03	0.31	14.15	39.46	***	***	***
maximum	80.00	3.97	25.00	80.00			
Target firm size							
mean	10.7	11.4	10.1	10.1	***	***	
median	10.4	11.5	10.4	10.1	***	***	
standard deviation	1.6	1.5	1.1	1.5			
Bidder firm size							
mean	12.0	12.6	11.1	11.9	***		
median	11.8	12.7	11.1	11.9	***		
standard deviation	1.9	2.0	1.6	1.8			
Target market-to-book of equity							
mean	1.83	1.79	1.88	1.84			
median	1.14	1.26	1.04	1.13			
standard deviation	1.71	1.33	1.92	2.03			
Target debt/assets (%)							
mean	38.1	35.26	38.07	42.17			
median	38.6	37.06	39.62	40.04			
standard deviation	23.5	21.47	22.58	26.88			
Standard deviation of target stock returns (%)							
mean	13.97	12.59	15.83	14.34	*		
median	13.70	10.98	15.90	13.80	**	*	
standard deviation	6.02	5.91	7.00	4.90			

*** Two-tail group difference significance at the 1% level.
** Two-tail group difference significance at the 5% level.
* Two-tail group difference significance at the 10% level.

5. Analysis

Characteristics of the toehold acquisition process are detailed in Table 4 before specifically testing the hypotheses. Initial target board acceptance for mid-range target management ownership (suggesting entrenchment) is about double that for stock ownership levels below 5 per cent (47.8 versus 23.7 per cent, respectively), but is similar to the rate of initial acceptance exhibited for stock ownership levels above 25 per cent (51.9 per cent). Given the propensity of entrenched managers to reject value-increasing bids, the 47.8 per cent initial acceptance rate is comparatively high, suggesting that bidders have succeeded in devising an effective strategy. The percentage of bids revised by the toeholder is virtually the reverse: shareholder-aligned target companies with target management stock ownership below 5 per cent exhibit about double the incidences of bid revisions than do targets with higher levels of management stock ownership (52.6 per cent *versus* 26.1 and 33.3 per cent).

The percentage of bids attracting a rival exhibits a tendency to be higher for the owner-manager group that has stock ownership above 25 per cent (44.4 per cent versus 31.6 and 26.1 per cent). Bids mounted by the toeholder exhibit a high rate of success (81.5 per cent) for the owner-manager group. A successful (failed) bid is defined as one that secures at least (less than) 35 per cent of target stock, which in Australia is reckoned sufficient to exercise effective control in the absence of an even larger

independently-owned block[13,14]. Bids made to shareholder-aligned companies show a solid success rate of 68.4 per cent. Somewhat surprisingly, the success rate for the entrenchment group is similar (69.6 per cent). Given the predisposition of target managers to reject value-increasing bids, this success rate can be regarded as unusually high, and suggests bidders are employing toeholds in tandem with the offer premium to circumvent the problem.

Acceptance and success rates are potentially linked because prior target board acceptance increases the likelihood of shareholder acceptance. The ratio acceptance/successful indicates the degree of importance of early target board acceptance. For the shareholder-aligned group (group 1), a low ratio of 0.346 along with a high revised bid percentage of 52.6 per cent suggests bidders with toeholds low-ball when facing dispersed shareholders. On the other hand, acceptance/successful ratios around 0.65 for entrenched and owner-managed groups suggest, in tandem with low bid revision rates, that bidders with toeholds seek to avoid a contest. Contests for control of targets with either entrenched or owner-managers are likely to be costly: entrenched managers are predisposed not to sell, while owner-managers require a premium for their control stake. The form of consideration parallels this reasoning. Bids made to owner-managed targets have the highest percentage of cash bids relative to other forms of consideration (70.4 per cent), *versus* 52.6 and 60.9 per cent for shareholder-aligned groups and entrenched groups respectively. Owner managers maybe expected to demand cash consideration because there appears to be no reason to hold a minority interest in a combined firm after holding a control interest in the target. Likewise, entrenched managers are expected also to demand cash consideration because the value of private benefits is lost when their firm's policies are changed. On the other hand, when target management ownership is small and it is costly for shareholders to organize a defense, bidders have a valuable option to offer cash or stock consideration. If the combined firm has good prospects, bidders offer cash in order to capture the expected gains. Alternatively, if the combined firm has poor prospects, bidders offer stock in order to share the risks with target shareholders[15].

Pre-toehold, for the whole sample the median principal outside block at 13.59 per cent is only just above the median target management block (12.03 per cent). Principal outsiders are highest for shareholder-aligned targets and lowest for owner-managed targets. Thus, stepwise increases in target management ownership are associated with decreases in the principal outside block. For continuous variables across the whole sample, the relation between the principal outsider and the target management block: r= -0.372, p= 0.000. Principal outsider *less* Target management block differences are shown to be substantially positive for shareholder-aligned targets, approximately zero for targets with entrenched managers and strongly negative for owner-managed targets. This outcome reflects the size distribution of target management blocks. Denis and Serrano (1996) propose that principal outsiders have an enhanced monitoring role when target managers are entrenched. If so, in this scenario it is apparent that principal outsiders are content to approximately match the target management block. Toeholds are found not to vary with stepwise changes in the target management block; for the continuous variables across the whole sample, there is no evidence of correlation between toeholds and target management block size: r= -0.057, p= 0.600. Goldman and Qian's (2005) expectation of smaller toeholds for entrenched mangers is not observed. The high values observed for Toehold/Target management block in the shareholder-aligned group are driven by several very low block sizes, which are eliminated once target management ownership exceeds 5 per cent. Nonetheless, for targets characterized by entrenchment the median Toehold/Target management block value (1.08) is roughly four times the value observed for owner-managed targets (0.25). The former result suggests approximate parity-matching of toeholds with target management blocks (as far as market liquidity allows), given the size of the existing principal outside block. At the same time, *Toehold/Principal outsider* displays decreasing increments for upward steps in target management block size. The median *Toehold/Principal outsider* ratio is highest for owner-managed targets (median 1.29), and lowest for shareholder-aligned targets (median 0.92), with a median ratio of 1.16 for the entrenchment group.

The median initial and final bid premiums for the mid-range target management block (denoting entrenchment) are significantly lower in three out of four comparisons to the other two groups. This is enough to suggest that bidders with toeholds pare the offer premium when facing entrenched target managers. The high bid premiums shown for both the shareholder-aligned and the owner-managed targets appear to reflect the higher incidence of rival bids for these two groups (31.6 and 44.4 per cent, respectively).

[13] Legally, bidders in Australia have the right to return acceptances if their pre-specified minimum acceptance condition is not met, but in practice most bidders waive this right. In about one-third of cases the minimum acceptance condition was set at zero, meaning that bidders were obliged to accept any acceptances received.

[14] This percentage is consistent with those frequently applied in the market. The Australian Accounting Standard, AASB 1024, para. 9, defines control as "the capacity of an entity to dominate decision-making, directly or indirectly, in relation to the financial and operating policies of another entity so as to enable that other entity to operate with it in pursuing the objectives of the controlled entity".

[15] See for example Franks, Harris and Titman (1991).

Table 4. Characteristics of the toehold acquisition process

A successful (failed) bid is defined as a bid made by the toeholder that secures at least (less than) 35 per cent of target stock. 'Target management block' is the ratio (expressed as a percentage) of the number of voting stock in which target company directors have a direct or indirect interest to the aggregate number of voting stock outstanding at the toehold acquisition date. 'Principal outsider' is the ratio (expressed as a percentage) of the largest single stockholding excluding the toehold and the block controlled by target management to the aggregate number of voting shares outstanding at the toehold acquisition date. 'Toehold' is the ratio (expressed as a percentage) of stock acquired pre-bid pursuant to the first *Substantial Shareholder* notice to the target's outstanding voting stock on the day the notice is lodged with the ASX, which is taken as the toehold acquisition date. 'Initial bid premium' is calculated as $\frac{\text{offer price}_t - \text{target stock price}_{t-3}}{\text{target stock price}_{t-3}}$, where the target stock price is measured three trading days prior to the offer date. 'Final bid premium' is calculated as $\frac{\text{final offer price}_t - \text{target stock price}_{t-3}}{\text{target stock price}_{t-3}}$. The significance of mean differences is tested by *t* (unequal variances assumed); median differences are tested using Mann-Whitney *U*.

		Whole sample	Target management block			Significance of group differences		
			(1) < 5 %	(2) 5 % ≤ block ≤ 25 %	(3) > 25 %	(1) and (2)	(1) and (3)	(2) and (3)
Number of cases		*88*	*38*	*23*	*27*			
Contest parameters								
Percentage of bids initially accepted by target (friendly bids)		38.6	23.7	47.8	51.9			
Percentage of revised bids		39.8	52.6	26.1	33.3			
Percentage of bids attracting a rival		34.1	31.6	26.1	44.4			
Percentage of successful bids by toeholder		72.7	68.4	69.6	81.5			
Percentage of bids with cash consideration		60.2	52.6	60.9	70.4			
Pre-toehold target equity ownership								
Target management block (%)	mean	17.82	0.96	15.41	43.60	***	***	***
	median	12.03	0.31	14.15	39.46	***	***	***
	std. dev.	20.19	1.25	5.58	14.99			
Principal outsider (%)	mean	16.67	22.03	18.02	9.68	*	***	**
	median	13.59	15.74	13.00	8.15		***	**
	std. dev.	13.85	17.16	10.59	5.85			
Principal outsider *less* Target management block (%)	mean	-1.13	21.07	0.69	-33.93	***	***	***
	median	-3.23	14.23	-0.63	-29.35	***	***	***
	std. dev.	28.40	17.43	12.06	17.42			
Toehold characteristics								
Toehold (%)	mean	13.63	13.50	15.15	12.51			*
	median	14.65	14.15	16.15	12.60			*
	std. dev.	5.47	5.53	5.27	5.45			
Toehold/Target management block	mean	72.78	167.65	1.12	0.32	***	***	***
	median	1.26	34.13	1.08	0.25	***	***	***
	std. dev.	175.62	237.18	0.67	0.18			
Toehold/Principal outsider	mean	1.40	0.98	1.28	2.08		***	**
	median	1.05	0.92	1.16	1.29	**	***	
	std. dev.	1.37	0.88	0.89	1.93			
Bid premium characteristics								
Initial bid premium (%)	mean	14.41	14.60	4.66	22.44	**		***
	median	9.88	10.43	6.84	11.90			**
	std. dev.	20.79	18.72	15.19	24.52			
Final bid premium (%)	mean	27.12	23.81	35.14	24.95			
	median	16.32	16.68	10.00	20.89	**		**
	std. dev.	55.77	25.92	100.29	29.38			

*** Two-tail group difference significance at the 1% level. ** Two-tail group difference significance at the 5% level.
* Two-tail group difference significance at the 10% level.

Table 5 describes interrelationships between toehold, principal outsider and the target management block along with free rider cost savings that accrue to bidders (bidder cost savings). Since entrenched managers are likely to have no incentive to sell their stake at a price bidders can afford, intending bidders are argued to purchase a toehold not only to create free rider benefits but principally to acquire a foothold to neutralize the target

management block. A composite variable, *Foothold*, measured as Toehold + Principal outsider – Target management block, represents this argument. For the whole sample, footholds tend around 15 per cent, which is almost the same as the median toehold (14.65 per cent).

However, for shareholder-aligned targets, footholds rise to about 30 per cent and fall to around 12 per cent for the entrenchment group and become negative (about -20 per cent) for owner-managed targets. These percentages differ markedly from the corresponding toehold figures for these groups, which are flat.

Footholds are standardized on toehold size. For the whole sample, Foothold/Toehold exceeds unity (median 1.24), indicating that internalization of Principal outsider and Target management block serves to increment toeholds. The median ratio of 2.09 for shareholder-aligned targets is a benchmark. It suggests that intending acquirers of shareholder-aligned targets move to footholds that are about twice the size of their toehold. In other words, these bidders lever up their toehold through the principal outsider block (recalling that target management blocks are small in this group). "Levering up" is effected by pitching the bid to the principal outsider who is expected to accept. For targets characterized by entrenchment, Foothold/Toehold tends to unity (median 0.94), which implies that intending bidders do not lever up their toehold position, that is, their foothold is approximately equal to their toehold. In contrast, Foothold/Toehold for owner-managers is strongly negative (median -2.21) implying that footholds are levered down for this group. We infer that intending bidders facing owner-managers rely more on the offer price than a neutralizing toehold position. Tests of the hypotheses are presented in Table 6.

All hypotheses receive empirical support, especially *H1* and *H3*. The more modest showing of *H2* is inevitable because the toehold is chosen in relation to the size of the principal outsider, and not necessarily maximized to realize free rider benefits.

Table 5. Foothold

'Foothold' is Toehold plus Principal outsider less Target management block. 'Target management block' is the ratio (expressed as a percentage) of the number of voting stock in which target company directors have a direct or indirect interest to the aggregate number of voting stock outstanding at the toehold acquisition date. 'Principal outsider' is the ratio (expressed as a percentage) of the largest single stockholding excluding the toehold and the block controlled by target management to the aggregate number of voting shares outstanding at the toehold acquisition date. 'Toehold' is the ratio (expressed as a percentage) of stock acquired pre-bid pursuant to the first *Substantial Shareholder* notice to the target's outstanding voting stock on the day the notice is lodged with the ASX, which is taken as the toehold acquisition date. 'Initial bid premium' is calculated as $\frac{\text{offer price}_t - \text{target stock price}_{t-3}}{\text{target stock price}_{t-3}}$, where the target stock price is measured three trading days prior to the offer date. The significance of mean differences is tested by *t* (unequal variances assumed); median differences are tested using Mann-Whitney *U*.

	Whole sample		Target management block		Significance of group differences		
		(1) < 5 %	(2) 5 % ≤ block ≤ 25 %	(3) > 25 %	(1) and (2)	(1) and (3)	(2) and (3)
Number of cases	*88*	*38*	*23*	*27*			
Foothold (%)							
mean	12.50	34.57	15.84	-21.42	***	***	***
median	17.38	28.82	11.32	-19.71	***	***	***
standard deviation	29.58	19.24	13.21	18.33			
Foothold / Toehold							
mean	-0.20	3.31	1.26	-6.37	***	***	**
median	1.24	2.09	0.94	-2.21	***	***	**
standard deviation	13.32	4.29	1.64	22.48			
Initial bid premium (%)							
mean	14.41	14.60	4.66	22.44	**		***
median	9.88	10.43	6.84	11.90			**
standard deviation	20.79	18.72	15.19	24.52			

*** Two-tail group difference significance at the 1% level.
** Two-tail group difference significance at the 5% level.

Table 6. Tests

Initial bid premium (IBP) is calculated as $\frac{\text{offer price}_t - \text{target stock price}_{t-3}}{\text{target stock price}_{t-3}}$, where the target stock price is measured three trading days prior to the offer date. Target management entrenchment is denoted by the subscript 'ent'. Shareholder-aligned targets are denoted by the subscript 'sa'. Toehold (TH) is the ratio (expressed as a percentage) of stock acquired pre-bid pursuant to the first *Substantial Shareholder* notice to the target's outstanding voting stock on the day the notice is lodged with the ASX, which is taken as the toehold acquisition date. Principal outsider (PO) is the ratio (expressed as a percentage) of the largest single stockholding excluding the toehold and the block controlled by target management to the aggregate number of voting shares outstanding at the toehold acquisition date. Target management block (TMB) is the ratio (expressed as a percentage) of the number of voting stock in which target company directors have a direct or indirect interest to the aggregate number of voting stock outstanding at the toehold acquisition date. All tests are one-tailed.

	Test metric	Differences	Results
H1	$IBP_{ent} - IBP_{sa}$	Mean difference (%)	-9.94***
		t	-2.151
		Median difference (%)	-3.59**
		U	327.0
H2	$\frac{TH_{ent}}{PO_{ent}} > 1$	Mean difference	0.335*
		t	1.500
		Median difference	0.220*
		Z	1.338
H3	$BCS_{ent} - BCS_{om} < 0$	Mean difference (%)	-1.899**
		t	-2.392
		Median difference (%)	-0.676**
		U	210.0

*** One-tail significance at the 1% level.
** One-tail significance at the 5% level.
One-tail significance at the 10% level.

Table 7. Wealth effects at toehold and bid announcement by target management stock ownership

Abnormal stock returns are determined by subtracting the expected daily return (using market model estimates) from the observed daily return, which has been adjusted for capitalization changes and dividends. The two-day cumulative abnormal return [CAR] is the product of the day-1 and day 0 returns, where day 0 is the announcement day.

	Target management block			Significance of groups differences		
	(1) < 5 %	(2) 5 % ≤ block ≤ 25 %	(3) > 25 %	(1) and (2)	(1) and (3)	(2) and (3)
Bidder [-1, 0] CARs at toehold						
mean	-0.009	0.021†	-0.009	**		**
median	-0.002	0.014†	-0.010	*		*
standard deviation	0.049	0.080	0.032			
Target [-1, 0] CARs at toehold						
mean	0.107†††	0.061††	0.096††			
median	0.053†††	0.025††	0.063†††			
standard deviation	0.144	0.143	0.180			
Bidder [-1, 0] CARs at bid						
mean	-0.020†††	0.018	-0.014††	**		**
median	-0.014†††	0.003	-0.011††	*		*
standard deviation	0.034	0.084	0.036			
Target [-1, 0] CARs at bid						
mean	0.109†††	0.093†††	0.142†††			
median	0.062†††	0.026†††	0.100†††			
standard deviation	0.140	0.143	0.192			

††† Two-tail significance at the 1% level.
†† Two-tail significance at the 5% level.
† Two-tail significance at the 10% level.
** Two-tail group difference significance at the 5% level.
*Two-tail group difference significance at the 10% level.

Thus far, the evidence suggests that target manager entrenchment (i) attracts toeholds of similar size to the principal outsider, and (ii) is associated with lower initial and (final bid) premiums for the shareholder-aligned and owner-manager groups. To assess the valuation consequences for shareholders, the costs and benefits of dealing with entrenched *versus* non-entrenched target managers are analyzed in Table 7. 'Bidder cost savings' is the product of the toehold percentage and the initial bid premium percentage, divided by 100.

Thus, bidder cost savings are expressed as a percentage of the stock price at *t*-3. This construct indicates the amount invested in the target without paying a premium to market; it is a direct measure of free rider cost savings as defined by Grossman and Hart (1980). Following Goldman and Qian (2005), bidders facing entrenched managers are argued to reduce investment in a toehold because there is a

higher probability of being unable to sell out of their position in the event of a failed bid, for which there is a higher likelihood than for targets with non-entrenched managers[16].

We find that bidder cost savings are effectively zero for the entrenchment group, but are positive for the shareholder-aligned and owner-manager groups. This result is expected because toeholds are similar across the three groups but the initial bid premium is lowest for the entrenchment group. It turns out that the initial bid premium for the entrenchment group is set sufficiently low that cost savings to the bidder are effectively zero.

We have argued previously that bidders with toeholds facing entrenched target managers are unlikely to be able to afford to compensate these managers for lost private benefits. Our evidence supports this conjecture.

Bidder two-day cumulative abnormal returns (CARs) at toehold and bid are also reported in Table 7. At toehold, bidder [-1, 0] CARs are observed to be positive for targets with entrenched managers, but zero for both the shareholder-aligned and owner-manger groups. The zero abnormal returns observed for these two groups are expected because bidders need only set an attractive offer price to secure a successful outcome: all target shareholders including target managers, principal outsiders, institutions and small investors are equally likely to accept an attractive bid. In this scenario, the only role of a toehold is to reduce free rider costs (Grossman and Hart, 1980).

In other words, toeholds simply represent the highest investment a bidder can achieve without triggering a target stock runup. For the entrenched group, positive bidder CARs at toehold reflects the market's approval of the bidders' strategies to remove these managers.

Bidder [-1, 0] CARs at bid are shown to be zero for targets with entrenched managers but negative for both shareholder-aligned groups. The zero return at bid for bidders facing entrenched managers is expected because their likely success (posterior probability $^{69.6}/_{31.4}$) was anticipated at toehold.

Else, bidders' small negative returns at bid are similar to those reported in other takeover studies[17]. In contrast, target [-1, 0] CARs both at toehold and bid are ubiquitously positive.

However, these abnormal returns are lowest for targets with entrenched managers (median 2.5 per cent at toehold and bid additively), compared with median target returns around 5.5 per cent at toehold and 8.0 per cent at bid for non-entrenched managers. Lower target abnormal returns indicate that bidders have retained more of the synergy gains than experienced by bidders dealing with non-entrenched managers.

Interaction between the key strategy variables of toehold, principal block, entrenchment and the initial bid premium are explored in Table 8. In OLS regression (1), toehold size is regressed on the principal outside block and entrenchment (=1) to ascertain any relationship on equity blocks alone. The regression diagnostics are satisfactory[18]. We find that toeholds relate only to the principal outsider. In regression (1A) *Target management block* is substituted for *Entrenchment* in the event that the dichotomized *Entrenchment* variable does not fully explain toehold purchase[19]. *Entrenchment* is set at 1 when the target management block is between 5 and 25 per cent of outstanding equity, inclusive. Neither of these two variables achieves significance when separately specified. In regression (2), we replicate Betton and Eckbo's (2000, p. 859) estimation:

$$Toehold = \alpha_0 + \beta_1 Initial\ bid\ premium + \beta_2 Hostile + \beta_3 Success + \beta_4 Rival\ win + \beta_5 Revised\ bid + \beta_6 Single\ bid + \varepsilon,$$

where *Hostile* is a binary variable that assumes a value of unity if the target board does not initially recommend acceptance of the first bid, *Success* = 1 if the toeholder's bid secures at least 35 per cent of target stock, *Rival win* = 1 if a rival wins a bidding contest, *Revised bid* = 1 if the initial bid is revised, and *Single bid* = 1 if there is no rival bid and the bidder does not revise its bid. In contrast to Betton and Eckbo (2000), the estimation turns out to be unsuccessful (F = 1.774, p = 0.115). Inclusion of principal outsider and entrenchment variables does not remedy the problem. In regression (3), the dependent variable is redefined as *Toehold/Principal outsider* to endogenize this relationship. The estimation is highly successful. It shows that the toehold/ principal block choice is sensitive to three pre-outcome contest parameters: namely, a hostile bid, a revised bid and a single bid (all three negatively related). Neither entrenchment nor the initial bid premium intervene in determination of toehold/principal block.

However, hostile bids are more likely when target managers are entrenched, as are single bids, so it is likely these contest parameters are representing portions of the entrenchment factor. In regression (3A), we again substitute *Target management block* for *Entrenchment*. On this occasion, however, the *Target management block* outperforms *Entrenchment*, with the result that *Toehold/Principal outsider* is found increasing in *Target management block*, i.e., across notional entrenchment and non-entrenchment ranges in target manager ownership.

[16] Zero toeholds are not predicated because free rider cost savings are still available.

[17] See, for example, Asquith, Bruner, and Mullins (1983), Travlos (1987) and Morck, Shleifer, and Vishny (1990).

[18] When the data are ordered on a key independent variable (target management equity ownership), the Durbin-Watson statistic is also a test for heteroscedasticity. The values reported in Table 7 are satisfactory.

[19] For Table 7, *Target management block* was also represented in different functional formats including a quadratic specification, but none performed as well as the linear form.

Owing to the poor showing of the entrenchment and bid premium variables, *Bidder cost savings* are regressed on the same set of explanatory variables as employed by Betton and Eckbo (2000); refer regression (4).

Since the equation does not achieve statistical significance, we conclude that variables representing contest parameters do not impact on bidder costs. Hence, in regression (5) *Toehold/principal outsider* and *Entrenchment* are specified as the only explanatory variables.

This estimation is highly successful and shows that *Bidder cost savings* are increasing in *Toehold/Principal outsider* but decreasing in *Entrenchment*. We interpret this result as evidence that bidders acquire toeholds in cognizance of the block controlled by the principal outsider and entrenchment. In regression (5A), as before, *Target management block* is substituted for *Entrenchment*, but without success.

In summary, the regressions of Table 8 indicate that *Toehold/Principal outsider* is increasing in the *Target management block* (and not *Entrenchment*) along with the *Initial bid premium*. Since toeholds are decreasing in the principal outsider (refer Table 4), the evidence is that toeholds relative to the principal outsider are increasing in the target management block and the initial bid premium. Bidder cost savings are found decreasing in entrenchment, and not the target management block. This result is expected because entrenchment is defined to exist in mid-range target management ownership.

A potential difficulty with regression (5) is that *Bidder cost savings* and *Toehold/Principal outsider* are likely determined simultaneously, which renders OLS coefficients inconsistent. To overcome this problem, we perform two-stage least squares (2SLS) regressions in which *Bidder cost savings* is the dependent variable and on *Hostile*, *Revised bid* and *Single bid* are instruments for *Toehold/Principal outsider*:

$$Toehold/Prinicpal\ outsider = \alpha_0 + \alpha_1 Hostile + \alpha_2 Revised\ bid + \alpha_3 Single\ bid + \alpha_4 Target\ size + \varepsilon \quad \text{(i)}$$

$$Bidder\ cost\ savings = \beta_0 + \beta_1 Toehold/Principal\ outsider + \beta_2 Entrenchment + \beta_3 Hostile\ bid + \beta_4 Revised\ bid + \beta_5 Single\ bid + \varepsilon \quad \text{(ii)}$$

Equation (i) specifies *Hostile bid* (=1), *Revised bid* (=1) and *Single bid* (=1) along with *Target size* (as a control variable) as instruments for *Toehold/Principal outsider.* Apart from the control variable, these three variables represent the pre-outcome contest parameters that achieve significance in Table 8, regression (3). Equation (ii) states that *Bidder cost savings* depend on *Toehold/Principal outsider* and *Entrenchment*, controlling for the pre-outcome contest parameters. *Toehold/Principal outsider* is expected to be positively signed because a larger toehold relative to the principal outside block generates higher cost savings for the bidder. *Entrenchment* is expected negatively signed for two reasons: first, firms characterized by entrenchment are likely to have larger principal outside blocks and, second, we have already presented evidence that initial bid premiums are lower when managers are entrenched (refer Table 4). The results are presented as regression (1) in Table 9, and confirm the earlier OLS regression results reported in Table 8, regression (5). *Bidder cost savings* are found to be increasing in *Toehold/Principal outsider* and decreasing in *Entrenchment*, as expected. Thus, we conclude that bidders adjust their toehold investment and initial bid premium in devising a strategy to deal successfully with target firms having entrenched managers. For a robustness check, we split the dependent variable *Bidder cost savings* into its constituent parts (*Toehold* and *Initial bid premium*) and perform another 2SLS estimation with *Initial bid premium* as the dependent variable in regression (2) and Toehold as the dependent variable in regression (3):

$$\text{Toehold} = \alpha_0 + \alpha_1 \text{Hostile bid} + \alpha_2 \text{Revised bid} + \alpha_3 \text{Single bid} + \alpha_4 \text{Target size} + \varepsilon \quad \text{(i)}$$

$$Initial\ bid\ premium = \beta_0 + \beta_1 Toehold + \beta_2 Entrenchment + \beta_3 Hostile\ bid + \beta_4 Revised\ bid + \beta_5 Single\ bid + \varepsilon \quad \text{(ii)}$$

Equation (i) specifies the three contest parameters and *Target size* as instruments for *Toehold.* Equation (ii) states that the *Initial bid premium* depends on the *Toehold* and *Entrenchment* along with the three contest parameters. We expect the *Initial bid premium* to be decreasing in *Entrenchment*. This outcome obtains in regression (2) of Table 9, which also shows no relationship between the *Initial bid premium* and *Toehold.*

$$Initial\ bid\ premium = \alpha_0 + \alpha_1 Hostile\ bid + \alpha_2 Revised\ bid + \alpha_3 Single\ bid + \alpha_4 Target\ size + \varepsilon \quad \text{(i)}$$

$$Toehold = \beta_0 + \beta_1 Initial\ bid\ premium + \beta_2 Entrenchment + \beta_3 Hostile\ bid + \beta_4 Revised\ bid + \beta_5 Single\ bid + \varepsilon \quad \text{(ii)}$$

Equation (i) specifies the three contest parameters and *Target size* as instruments for *Initial bid premium.* Equation (ii) states that the *Toehold* depends on the *Initial bid premium* and *Entrenchment* along with the three contest parameters. The outcome, reported in regression (3) of Table 9 shows that toeholds have no explanatory power whatsoever, thus validating the metric *Toehold/Principal outsider.*

Lastly, bidder [-1, 0] CARs at toehold announcements are regressed on *Toehold/Principal outsider*, *Entrenchment* and *Bidder cost savings* to reveal the source of excess bidder returns (median 0.014) reported in Table 4, after controlling for the likely determinants of *Toehold/Principal outsider*:

$$Toehold/Principal\ outsider = \alpha_0 + \alpha_1 Hostile\ bid + \alpha_2 Revised\ bid + \alpha_3 Single\ bid + \alpha_4 Target\ size + \varepsilon \quad \text{(i)}$$

$$Bidder\ CAR\ at\ toehold = \beta_0 + \beta_1 Toehold/Principal\ outsider + \beta_2 Entrenchment + \beta_3 Bidder\ cost\ savings + \varepsilon \quad \text{(ii)}$$

The construct *Bidder cost savings* assumes toeholders successfully anticipate the subsequent bid premium. The results of regression (4) in Table 9 show that bidder [-1, 0] CARs at toehold are

positively associated only with *Entrenchment*, and not *Toehold/Principal outsider* and *Bidder cost savings*.

The implication is that bidders with toeholds gain only when facing targets with entrenched managers. This outcome is replicated when bidder [-1, 0] CARs at bid are substituted as the dependent variable (refer regression (5)).

Thus, the market responds favorably to bidders' takeover strategies both at toehold and at bid. Since the key elements of these strategies do not attract significance, the strong showing of *Entrenchment* is attributed to unexpected initial response to the toehold purchase and subsequent bid.

We have shown earlier in Table 4 that bidders with toeholds facing entrenched managers enjoy a success rate (69.6 per cent) on a par with bids for shareholder-aligned targets (68.4 per cent).

All estimations of Table 9 are rerun in Table 10 with the continuous variable, *Target management block*, substituted for the binary variable *Entrenchment*. Only regressions (1) and (2) have significant *F* values, and both have inferior regression diagnostics to those reported in Table 9. The positive significance obtained on *Target management block* in regression (2) is expected because *Entrenchment* was negatively signed in the corresponding regression of Table 9 and because *Entrenchment* is defined as mid-range target management ownership. Given the indifferent results presented in Table 10, our conclusions are based on the results presented in Table 9. In short, 2SLS estimation in Table 9 that *Bidder cost savings* (representing free rider cost savings) are increasing in *Toehold/Principal outsider* and decreasing in *Entrenchment*. *Initial bid premium* is found decreasing in *Entrenchment*, as expected. Conversely, Bidder [-1, 0] CARs at both toehold and bid are increasing in *Entrenchment*.

Thus, we have shown conclusively that entrenchment strongly influences bidding strategies with respect to the relative size of the toehold and the initial bid premium.

6. Summary and conclusions

Our analysis of Australian toeholds yields several insights on bidders' initial takeover strategies for entrenched and non-entrenched target managers.

First, the toehold and the initial bid premium when considered separately have no explanatory power in explaining these strategies, not is there any relation between toehold and initial bid premiums.

Table 8. OLS Regressions of toehold on bidder cost savings, entrenchment and selected block relationships

'Toehold' is the ratio (expressed as a percentage) of stock acquired pre-bid pursuant to the first *Substantial Shareholder* notice to the target's outstanding voting stock on the day the notice is lodged with the ASX, which is taken as the toehold acquisition date. 'Principal outsider' is the ratio (expressed as a percentage) of the largest single stockholding excluding the toehold and the block controlled by target management to the aggregate number of voting shares outstanding at the toehold acquisition date. 'Bidder cost savings' is the product of the toehold percentage and the initial bid premium percentage, divided by 100. *Substantial Shareholder* notice to the target's outstanding voting stock on the day the notice is lodged with the ASX, which is taken as the toehold acquisition date. The initial bid premium is calculated as $\frac{\text{offer price}_t - \text{target stock price}_{t-3}}{\text{target stock price}_{t-3}}$, where the target stock price is measured three trading days prior to the offer date. 'Entrenchment' is set at1 when the target management block is between 5 and 25 per cent of outstanding equity, inclusive. Target management block is the ratio (expressed as a percentage) of the number of voting stock in which target company directors have a direct or indirect interest to the aggregate number of voting stock outstanding at the toehold acquisition date.

n=88	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Adjusted R^2	.034	.142	.254	.176	.097	.254	.097	.176
F	4.056	5.818	10.889	7.197	4.127	10.889	4.127	7.197
Probability	.047	.001	.000	.000	.009	.000	.009	.000
Durbin-Watson *d*	1.992	2.226	2.317	2.276	2.162	2.317	2.157	2.276
Constant	12.930*** (19.295)	12.521*** (16.411)	13.443*** (17.799)	12.761*** (16.822)	12.227*** (15.872)	12.922*** (17.962)	12.418*** (15.842)	12.666*** (16.848)
Bidder cost savings (%)	0.389** (2.014)	0.349** (2.359)	0.372** (2.130)	0.422** (2.307)	0.461** (2.415)	0.372** (2.130)	0.461** (2.415)	0.422** (2.307)
Entrenchment (=1)		2.436* (1.933)	2.301* (1.958)	2.365* (1.914)	2.555** (1.977)	2.301* (1.958)	2.555** (1.977)	2.365* (1.914)
Target management block/Toehold		-0.097*** (-2.859)						
Principal outsider/Toehold			-0.521*** (-4.690)					
[Principal outsider +Target management block]/Toehold				-0.095*** (-3.454)				
[Principal outsider -Target management block]/Toehold					0.079* (1.887)			
[Toehold – Principal outsider]/Toehold						0.521*** (4.690)		
[Toehold + Principal outsider - Target management							0.079* (1.887)	
[Toehold - Principal outsider - Target management								0.095*** (3.454)

*** Two-tail significance at the 1% level. ** Two-tail significance at the 5% level. * Two-tail significance at the 10% level.

Table 9. Two-stage least squares regressions with a binary variable for entrenchment

'Bidder cost savings' is the product of the toehold percentage and the initial bid premium percentage, divided by 100. 'Initial bid premium' is calculated as $\frac{\text{offer price}_t - \text{target stock price}_{t-3}}{\text{target stock price}_{t-3}}$, where the target stock price is measured three trading days prior to the offer date. 'Toehold' is the ratio (expressed as a percentage) of stock acquired pre-bid pursuant to the first *Substantial Shareholder* notice to the target's outstanding voting stock on the day the notice is lodged with the ASX, which is taken as the toehold acquisition date. 'Hostile bid' is a binary variable that assumes a value of unity if the target board does not initially recommend acceptance of the first bid, 'Revised bid' = 1 if the initial bid is revised, and 'Single bid' = 1 if there is no rival bid and the bidder does not revise its bid. 'Principal outsider' is the ratio (expressed as a percentage) of the largest single stockholding excluding the toehold and the block controlled by target management to the aggregate number of voting shares outstanding at the toehold acquisition date. 'Entrenchment' is set at 1 when the target management block is between 5 and 25 per cent of outstanding equity, inclusive.

n=88	(1)	(2)	(3)	(4)	(5)
Dependent variable:	Bidder cost savings	Initial bid premium	Toehold	Bidder [-1, 0] CARs at toehold	Bidder [-1, 0] CARs at bid
Adjusted R^2	.115	.114	.013	.041	.074
F	3.262	3.247	1.228	2.240	3.307
Probability	.010	.010	.303	.090	.024
Constant	1.613 (1.467)	31.580*** (3.931)	14.286*** (7.713)	-0.001 (-0.046)	-0.017* (-1.908)
Toehold/Principal outsider	0.611** (2.517)			-0.005 (-1.028)	-0.004 (-0.917)
Toehold (%)		-0.489 (-1.243)			
Initial bid premium (%)			-0.038 (-1.243)		
Bidder cost savings (%)				-0.001 (-0.386)	0.002 (1.184)
Entrenchment (=1)	-1.502** (-2.151)	-14.428*** (-2.950)	1.156 (0.813)	0.028** (2.065)	0.039** (3.013)
Hostile bid (=1)	-0.540 (-0.782)	-8.708* (-1.926)	-0.046 (-0.036)		
Revised bid (=1)	-0.276 (-0.291)	-4.896 (-0.754)	-1.582 (-0.878)		
Single bid (=1)	0.367 (0.398)	1.223 (0.195)	0.532 (0.305)		

*** Two-tail significance at the 1% level. ** Two-tail significance at the 5% level. *Two-tail significance at the 10% level.

Table 10. Two-stage least squares regressions with a continuous variable for target management ownership

'Bidder cost savings' is the product of the toehold percentage and the initial bid premium percentage, divided by 100. 'Initial bid premium' is calculated as $\frac{\text{offer price}_t - \text{target stock price}_{t-3}}{\text{target stock price}_{t-3}}$, where the target stock price is measured three trading days prior to the offer date. 'Toehold' is the ratio (expressed as a percentage) of stock acquired pre-bid pursuant to the first *Substantial Shareholder* notice to the target's outstanding voting stock on the day the notice is lodged with the ASX, which is taken as the toehold acquisition date. 'Hostile bid' is a binary variable that assumes a value of unity if the target board does not initially recommend acceptance of the first bid, 'Revised bid' = 1 if the initial bid is revised, and 'Single bid' = 1 if there is no rival bid and the bidder does not revise its bid. 'Principal outsider' is the ratio (expressed as a percentage) of the largest single stockholding excluding the toehold and the block controlled by target management to the aggregate number of voting shares outstanding at the toehold acquisition date. 'Target management block' is the ratio (expressed as a percentage) of the number of voting stock in which target company directors have a direct or indirect interest to the aggregate number of voting stock outstanding at the toehold acquisition date.

n=88	(1)	(2)	(3)	(4)	(5)
Dependent variable:	Bidder cost savings	Initial bid premium	Toehold	Bidder [-1, 0] CARs at toehold	Bidder [-1, 0] CARs at bid
Adjusted R^2	.074	.066	.007	-.007	-.026
F	2.394	2.228	1.122	0.782	0.255
Probability	.045	.059	.355	.508	.857
Constant	0.695 (0.587)	20.593** (2.169)	15.179*** (7.401)	0.008 (0.923)	-0.005 (-0.553)
Toehold/Principal outsider	0.596** (2.321)			-0.004 (-0.876)	-0.004 (-0.746)
Toehold (%)		-0.586 (-1.458)			
Initial bid premium (%)			-0.043 (-1.458)		
Bidder cost savings (%)				-0.002 (-0.786)	-0.001 (-0.561)
Target management block (%)	0.015 (0.894)	0.232** (2.000)	-0.013 (-0.402)	-0.000 (-0.096)	-0.000 (-0.070)
Hostile bid (=1)	-0.295 (-0.413)	-5.240 (-0.188)	-0.302 (-0.229)		
Revised bid (=1)	-0.002 (-0.002)	-1.087 (-0.518)	-1.837 (-0.990)		
Single bid (=1)	0.397 (0.414)	2.886 (0.436)	0.479 (0.266)		

*** Two-tail significance at the 1% level. ** Two-tail significance at the 5% level.

While a higher bid premium increases the likelihood of target board acceptance and a successful takeover, it alone is not effective in dealing with entrenched managers who will not accept an offer price below that needed to compensate them for lost private benefits.

Instead, and second, we find the strategy for tackling entrenched managers comprises (i) a comparatively low initial bid premium, in tandem with (ii) toeholds that empirically are approximately parity-matched to the principal outsider. By gaining principal outsider acceptance at a premium below that demanded by entrenched managers, intending bidders secure a foothold that effectively bypasses the target management block.

Third, the free rider cost saving potential of toeholds is found to be decreasing in target manager entrenchment but increasing in toehold/principal outsider, after controlling for likely determinants of the toehold/principal outsider decision.

Fourth, bidder abnormal returns at toehold and bid are found increasing in entrenchment, confirming that bidders facing entrenched managers have adopted a strategy that is likely to remove entrenched managers without overpaying.

In conclusion, we have shown that toeholds benefit bidders over and above free rider cost minimization when facing entrenched mangers. In this scenario, toeholds assume a complementary role to the offer premium.

A major contribution is recognition of the role of the principal outsider in this process.

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