

Stimmelmayer, Michael; Liberini, Federica; Russo, Antonio

**Conference Paper**

## The Role of Toeholds and Capital Gain Taxes for Corporate Acquisition Strategies

Beiträge zur Jahrestagung des Vereins für Socialpolitik 2015: Ökonomische Entwicklung - Theorie und Politik - Session: Financial Economics IV, No. D10-V1

**Provided in Cooperation with:**

Verein für Socialpolitik / German Economic Association

*Suggested Citation:* Stimmelmayer, Michael; Liberini, Federica; Russo, Antonio (2015) : The Role of Toeholds and Capital Gain Taxes for Corporate Acquisition Strategies, Beiträge zur Jahrestagung des Vereins für Socialpolitik 2015: Ökonomische Entwicklung - Theorie und Politik - Session: Financial Economics IV, No. D10-V1, ZBW - Deutsche Zentralbibliothek für Wirtschaftswissenschaften, Leibniz-Informationszentrum Wirtschaft

This Version is available at:

<https://hdl.handle.net/10419/112926>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*

# The Role of Toeholds and Capital Gain Taxes for Corporate Acquisition Strategies

This Version: February, 24, 2015

## **Abstract**

Ownership takeovers often follow complex strategies where the control of the target firm is acquired through a sequence of independent contracts. We study the role of capital gain taxes on the contract structure and on the method of finance of merger and acquisitions (M&A). We find that capital gain taxes discourage cash-to-stock transactions and that this effect is stronger in sequential acquisitions. In addition, we show that capital gain taxes promote sequential acquisitions and thus carry a beneficial welfare effect by avoiding the waste of productive resources due to unprofitable mergers. We provide empirical support for the model predictions by estimating a bivariate probit on a sample of acquisition contracts collected from the Thomson Financial SDC database.

**JEL-Classification:** C25, G34; G32; H25; D22;

**Keywords:** merger & acquisition; toehold; capital gains taxation;

# 1 Introduction

Over the last decade merger and acquisition (M&A) contracts have become more sophisticated. Looking at historical firm level data by Thomson Financial, it becomes evident that only about sixty percent of all acquisitions listed since 2005 correspond to instantaneous, one-shot, full ownership transactions (see Fig.1). For the large part of the remaining cases we observe complex acquisitions, where the acquirer begins with purchasing an initial minority share, a so-called “toehold”, of the target firm. Then, participation into the target is gradually increased by a sequence of independent transactions until complete ownership is eventually reached.<sup>1</sup>

This paper draws from the prominent empirical relevance of sequential contracts in the market for corporate control. We develop a novel theoretical model where the acquiring firm has to decide on the number of steps towards the full ownership of the target (i.e. the acquisition structure) and on the combination of cash and equity used to finance the transaction (i.e. the method of payment). Based on the literature on risk containing strategy of sequential acquisition (see Canil and Rosser 2004, for instance), we emphasise the role of the toehold as a screening device which allows to pre-assess whether the merger creates sufficient value to justify the investment.<sup>2</sup> To our knowledge, this paper constitutes the first attempt to explicitly formalize sequential M&A transactions.

In detail, the model proposes a world where risk averse acquiring shareholders have alternative strategies to insure against the possibility of an unprofitable merger. They can either split the acquisition contract and purchase a toehold to pre-asses the merger’s profitability, or they can use equity finance in order to share the risk of low post-acquisition performance with the initial target shareholders. Risk sharing with target shareholders however incurs additional costs in the form of transaction cost, if target shareholders have a preference for liquidity, or of prospective tax cost which are associated with future dividends and capital gains originating from the equity payment.<sup>3</sup> The purchase of a

---

<sup>1</sup>In 2005, about 60% of all acquisitions listed by Thomson Financial classified as “instantaneous full ownership transactions”. With the financial crisis and the growing relevance of so-called *megadeals*, not only the total number of yearly acquisitions declined substantially, but so did also the number of immediate full ownership transactions. The latter dropped to around 46% in 2009 and stabilized in the following years at around 50%.

<sup>2</sup>Canil and Rosser (2004) argue that bidders purchase small shares of the target in order to collect information on its value (or on its market). The information obtained is then used to decide whether to stipulate a second contract and acquire full control of the target. Anecdotal evidence of the strategic risk-containing role played by toehold purchases is provided by The American Movil and KPN case. In May 2012, American Movil, a Mexican telecoms group, purchased 28% of the Dutch telecom KPN (just below the 30% threshold that imposes, by Dutch law, mandatory takeover). American Movil officially announced its interests were limited to acquiring a minority share, despite this gained them access to KPN’s board. In August 2013, the Mexican telecoms unexpectedly withdrew a previously advanced takeover offer. Later, information was released that American Movil had advanced to KPN’s board proposals of corporate restructuring which had been refused, unless the offered price for the final merger was substantially raised. Clearly, American Movil believed that the merger would have not been profitable unless a full reorganization had taken place, while holding the initial offered price.

<sup>3</sup>In the literature the prospective tax cost associated with equity payments (stock-to-stock trans-

significantly sized toehold might as well result in adverse effects by affecting the rival bidders' awareness and thus feeds back on the target's firm value.<sup>4</sup> Within this novel framework of sequential acquisitions we analyse the impact of capital gains taxation on the takeover strategy and method of finance of M&As.

First, in line with the existing literature, the model predicts that the capital gains tax generates a *lock-in* effect.<sup>5</sup> That is, capital gains taxation creates a disincentive for the use of cash finance (cash-to-stock transactions) vis-a-vis equity payments (stock-to-stock transactions), because target shareholders demand compensation for the tax burden associated with the realization of capital gains in cash transactions. This, in turn, may increase the takeover price significantly. Adding to this finding, the model predicts that the lock-in effect is much stronger in sequential acquisition compared to immediate full ownership transactions. The result originates from the fact that the use of equity finance in case of the instantaneous, full ownership acquisitions is driven by a double incentive: the tax effect and the insurance motive.

Second, the paper ventures into uncharted terrain by highlighting the impact of capital gains taxation on the contract structure of acquisitions. When the capital gains tax burden is relatively low to justify the optimality of cash financing (cash-to-stock transactions), an increase in the capital gains tax encourages the acquirer to choose the sequential acquisition. On the contrary, when the capital gains tax is relatively high and equity payments (stock-to-stock transactions) become the preferred source of finance, the decision on the optimal contract choice, i.e. whether to purchase a toehold and pursue a sequential acquisition, is independent of the capital gains tax. Thus, introducing a positive capital gains tax constitutes a valid policy instrument for promoting sequential acquisitions. As such, the tax carries a beneficial welfare effect by avoiding the waist of productive resources in case of unprofitable mergers.

In order to test the implications arising from the theoretical model, we estimate a bivariate probit on a sample of acquisition contracts collected from the Thomson Financial SDC database. Our estimates show that the taxation of capital gains discourages the use of cash-to-stock transaction as a method of finance (i.e. confirm the lock-in effect), and particularly so when sequential acquisition contracts are the optimal strategy. In fact,

---

actions) are referred to as the "*capitalization effect*". See Guenther and Willenborg (1999), Lang and Shackelford (2000), Ayers et al. (2003), for instance.

<sup>4</sup>The rival bidders' awareness of the acquirer's toehold investment may either increase competition and consequently boost the takeover premium (see Bulow et al. (1998), for instance), or it may also have the opposite effect and deter rival bidders as argued in Eckbo and Thorburn (2009). Anecdotal evidence seems to be in line with the latter argument such as, for example, in the FIAT and Crysler deal. In 2009, the Italian car manufacturer FIAT SpA purchased a stake of 20% of its overseas competitor Crysler LLC. Thomson Financial reports that "the purpose of the transaction was for FIAT SpA to compete with larger and more global rivals". In 2012, the deal was completed and FIAT purchased the remaining interest of the Crysler LLC.

<sup>5</sup>See Klein, 1999, 2001 and 2004, Ayers et al., 2003, Jin, 2006, Dai et al., 2008, and Voget et al., 2013, for instance.

following a 10%-point increase of the target country’s capital gains tax rate, we find that the likelihood of choosing cash payments decreases by 4.5% in case of immediate full ownership transactions but by 7% in case of the sequential acquisitions. As explained by the theoretical model, the distinction between the two acquisition strategies (instantaneous versus sequential) has a key role in the identification of the effect of the capital gain tax on the financing method. In fact, the use of equity finance in the sequential acquisition can only be motivated by tax avoidance incentives, while equity finance serves in case of the instantaneous full ownership transaction additionally as a mean of ensuring against an unprofitable merger.

In case that cash-to-stock transactions are the optimal method of finance, the likelihood of choosing a sequential contract (toehold) is positively affected by an increase in the target country’s capital gains tax rate. A 10%-point increase in the target country’s capital gains tax rate raises the likelihood of purchasing a toehold by 0.5%. When, instead, equity payments (stock-to-stock transactions) is preferred over cash finance (cash-to-stock transactions) the decision of whether to purchase a toehold, i.e. to carry out a sequential acquisition, is not affected by the capital gain tax – as predicted by the model.

Lastly, the paper contributes to the debate on the “toehold puzzle”. Pre-assessing a merger’s profitability, or simply having the possibility of purchasing a share of the target prior to the realization of high takeover premiums seem beneficial enough to raise the question of why toeholds are not observed more frequently, as discussed in Betton et al. (2000 and 2009). Our model provides clear cut conditions under which a toehold is beneficial since purchasing a toehold might entails adverse competition effects which could be detrimental for the acquirer’s expected profit.

The paper proceeds as follows. Section 2 presents the theoretical model while Section 3 illustrates our empirical methodology. In Section 4 we describe the applied data and in Section 5 the regression results are discussed. Section 6 concludes.

## 2 Theoretical model

### 2.1 Setup

We consider two firms, denoted as A and B. Firm A is interested in acquiring firm B for industrial purposes (entry to a new market, increase of production capacity, exploitation of economies of scale, etc.). We refer to firm A as the “acquirer” and to firm B as the “target”. The stand-alone value of each firm is denoted by  $V_i$ , with  $i = A, B$ . The acquisition creates a stochastic value of  $\theta^H > 0 > \theta^L$  which is a priori unknown to both firms and distributed as follows

$$\theta = \begin{cases} \theta^H & p, \\ \theta^L & 1 - p. \end{cases} \quad (1)$$

The synergies  $\theta$  generated by the transaction determine the value of the newly merged firm,  $V_M(\theta) = V_A + V_B + \theta$ . The realization of  $\theta$  depends on the compatibility between the acquirer and the target firm. A low (negative)  $\theta$  may be due to a lack of interoperability between firms, a poor integration of the target into the acquirer’s conglomerate, or more simply due to a negative shock to the economic environment. In this framework uncertainty emerges from the randomness of the synergies generated by the acquisition, rather than through unknown or hidden characteristics of either of the two firms (i.e. asymmetric information). In the event that  $\theta^H$  ( $\theta^L$ ) is realized, the acquisition generates profits (losses) and the value of the newly merged firm,  $V_M$ , is larger (smaller) compared to the sum of the two stand-alone firm values. For convenience, we assume that the acquirer has all bargaining power, that is, the acquiring firm makes a take-it-or-leave-it offer to the target’s shareholders, who can choose whether to accept the offer or not.<sup>6</sup>

### Acquisition Contract Structure

The acquirer can choose between a sequential acquisition or a one-shot, full ownership acquisition. We distinguish firms involved in a sequential acquisition by denoting their firm value with a superscript  $T$ , that is  $V_i^T$ . The sequential acquisition is modelled as a two-stage process. In the first stage, the acquirer decides whether to purchase a minority share (toehold) of exogenous size ( $\delta$ ) of the target at a unit price ( $V_B$ ).<sup>7</sup> In the second stage, the acquirer chooses whether to acquire the target firm in full or to renounce the acquisition.

The advantage arising from the toehold investment is that the acquirer receives a perfectly informative signal on the value of  $\theta$  at an interim stage. Thereby it can be assessed whether the merge will yield a positive surplus before altering the ownership structure of the two firms involved. If the merger is expected to be not value enhancing, the toeholder can interrupt the acquisition and avoid an unproductive sunk investment. We call this feature the “*informational*” role of the toehold.

The stand-alone value of the acquiring firm,  $V_A$ , is independent of the acquisition structure pursued, i.e.  $V_A^T = V_A$ . Arguably, this is not true for the target firm. Its firm value most likely changes according to whether the toehold investment is made or not. The

---

<sup>6</sup>Qualitatively, our results do not change, if the target has some bargaining power as well. This extension nonetheless complicates the presentation of the model structure and is therefore suppressed in the following. A version of the model with the target firm having some bargaining power as well is available upon request from the authors.

<sup>7</sup>The opportunity to acquire a toehold may, for example, come in the form of providing “growth capital” to the target firm. In this case, the target also decides on the amount of shares made available to the toeholder (See, e.g., Povel and Sertsios 2013). Further, many countries set legal limits on the amount of shares which can be controlled by a different company without the requirement to launch a full acquisition bid. This practice constitutes a legal cap on the maximal size of the toehold.

presence of a significant toehold by acquirer  $A$  has a crucial impact on the target firm's ability to attract rival competitors different to  $A$  in the takeover process. Thus, the toehold directly affects the target shareholders' outside option and thereby their reservation price. If the toehold made by  $A$  is substantial in size, rival bidders become discouraged to enter the bidding process as they anticipate that they have additionally to negotiate with firm  $A$  to establish a full takeover of the target.<sup>8</sup> As a consequence, the deterring effect has a negative impact on the takeover price, i.e.  $V_B^T < V_B$ , and is thus similar to the effect described by Eckbo and Thorburn (2009).<sup>9</sup> We refer to the change in the takeover price, which determines the target's firm value at the second stage of the acquisition process, as the “*strategic*” effect of the toehold. For simplicity we assume without loss of generality that the decision of whether the merger is completed has no further impact on the target's firm value.

### Method of Payment and Capital Gain Taxes

When the acquirer advances an offer to the target, it specifies both the purchase price and the method of payment. The latter can involve exchange of cash-to-stock (cash finance), of stock-to-stock (equity payments), or a mix of both. A cash-to-stock transaction requires the target shareholders to sell their shares to the acquiring firm implying the immediate realization of all taxable capital gains which accrued over the period prior to the merge. A stock-to-stock transaction, instead, stipulates that the target shareholders receive a fraction  $s$  of the newly merged firm,  $V_M$ , in exchange for their shares. Since shares are not sold but exchanged, all capital gains accrued by the target shareholders are (indefinitely) deferred. For this reason, the method of payment has a bearing on the amount of capital gains taxes to be paid. In line with the existing literature, the taxation of realized capital gains generates an increase of the sale price which results in a “lock-in” effect on the volume of sales.<sup>10</sup> Target shareholders are only willing to accept a cash-to-stock transaction if they are compensated by the acquirer for the incurred capital gains tax burden. Thus, cash finance becomes increasingly expensive for the acquirer the higher the capital gains tax.

Equity payments, on the other hand, have the drawback of not delivering liquid assets. Assuming a fraction  $\alpha$  of target shareholders who are characterized by a preference for liquidity, these shareholders have to incur additional transaction cost of  $c$  to convert the

---

<sup>8</sup>Contrary to the deterring effect, the news that firm  $A$  has acquired a toehold in firm  $B$  might attract the attention of other potential acquirers, thereby increasing the number of rival bidders. The fiercer competition for the target firm arguably increase the takeover price. One could formally capture the effect by assuming that the toehold is a signal to (rationally inattentive) potential bidders who would be idle in its absence. The presence of additional competing bidders raises the value at which shareholders of the target firm can sell their firm, if the acquisition is not completed by acquirer  $A$  which increases their reservation value vis-a-vis the toeholder.

<sup>9</sup>Betton *et al.* (2009) argue that the acquisition of a sizeable toehold induces acquiring shareholders to bid more aggressively in the takeover process which might distract other competitors.

<sup>10</sup>See, among others, Feldstein *et al.* (1980), Landsman and Shackelford (1995), Reese (1998), Poterba and Weisbenner (2001), Klein (2001).

received equity into liquid cash. For the remaining fraction of target shareholders  $(1 - \alpha)$ , the equity payment incurs prospective tax cost on expected future distributions or capital gains.<sup>11</sup> The variable  $\tau^*$  captures all prospective tax payments which effectively fall on equity holdings originating from the stock-to-stock transactions. Due to transaction and tax costs, the equity payment comes on average at a discount of  $z = \alpha c + (1 - \alpha)\tau^*$ . For target shareholders, the effective value of the equity payment is thus reduced to  $(1 - z) = \alpha(1 - c) + (1 - \alpha)(1 - \tau^*)$ .

### Pay-Off Structure and Acquirer's Risk Attitude

As a special feature, the model builds on the assumption that acquiring and target shareholders differ in terms of risk sensitivity. The acquiring shareholders are risk averse, while the target shareholders are risk neutral. The rationale for the assumption originates from the fact that acquiring shareholders seek an acquisition for industrial motives. Their objective is to strengthen and expand the activity of their firm which leaves them exposed to different types of risk, such as, for example, the uncertainty about the economies of scale created by merging with the target. On the contrary, the target shareholders' objective is simply to maximize the value of the asset demanded by the acquirer. When selling their shares to the acquirer, the target shareholders extinguish their exposure to business risk.<sup>12</sup>

We capture the acquiring shareholders sensitivity to risk by  $\mu - \sigma$ -preferences over the state-dependent pay-off,  $\pi_A$ . That is, acquiring shareholders utility,  $g_A$ , arising from the merge is not only dependent on the expected value of the state-dependent pay-off,  $E(\pi_A)$ , but it is also negatively affected by its variance,  $\sigma^2(\pi_A)$ . This yields

$$g_A = E(\pi_A) - \gamma_A \sigma^2(\pi_A),$$

with  $\gamma_A \geq 0$  indicating the acquiring shareholders' aversion to risk.

In the event of the sequential acquisition, uncertainty about  $\theta$  reveals at the interim stage and the merger is only consummated if  $\theta^H$  is observed. This happens with probability  $p$ . Given that there is no uncertainty at the interim stage of the sequential acquisition, the risk averseness of acquiring shareholders becomes irrelevant. As a result, we have

$$g_A^T = p\hat{\pi}_A^T + (1 - p)\pi_A^T. \quad (2)$$

---

<sup>11</sup>In the literature, the prospective tax cost associated with equity (stock-to-stock) transactions is referred to as the "capitalization" effect (see Guenther and Willenborg (1999), Lang and Shackelford (2000), Ayers et al. (2003), for instance).

<sup>12</sup>Even in the event of equity finance when a stock-to-stock transaction is used, target shareholders still have the possibility of selling their stocks on the market and hence to eliminate their business risk.



The respective pay-offs in case the merger is consummated or abandoned state

$$\hat{\pi}_A^T = [1 - s] V_M(\theta^H) - x - \delta V_B, \quad \text{and} \quad (3)$$

$$\pi_A^T = V_A + \delta (V_B^T - V_B), \quad (4)$$

with  $V_M(\theta^H) = V_A + V_B^T + \theta^H$ . The hat indicates that the acquirer has pursued the merge. Note, when the acquisition is abandoned, the acquiring shareholders are left with the stand-alone value  $V_A$  plus the net (possibly negative) gain from the toehold investment,  $\delta(V_B^T - V_B)$ .

It turns out, the acquirer is always better off completing the acquisition at the interim stage unless  $\theta = \theta^L$ . Given that the sequential acquisition has repercussions on the bidders competition ( $V_B^T \leq V_B$ ), a downside risk evolves when deciding to acquire a toehold.

In the event of the instantaneous full ownership acquisition the uncertainty about the economies of scale realized by the merger vanishes only after the takeover is completed. The interim utility arising from the pay-off to acquiring shareholders is given by

$$g_A = [1 - s] E[V_M(\theta)] - x - \gamma_A(1 - s)^2 \sigma^2(\theta), \quad (5)$$

with  $V_M(\theta) = V_A + V_B + E(\theta)$ .

The state-dependent pay-off for target shareholders in case the merger is consummated states

$$\hat{\pi}_B = s(1 - z) (I_T V_M(\theta^H) + (1 - I_T) E[V_M(\theta)]) + (1 - \tau^G)x + I_T \delta V_B. \quad (6)$$

$I_T$  represents an indicator function of whether a toehold is acquired,  $\tau^G$  denotes the capital gains tax, and  $z = \alpha c + (1 - \alpha)\tau^*$  captures the effective costs of the equity payment including transaction cost,  $c$ , and prospective tax costs,  $\tau^*$ .

If no full acquisition is pursued, the pay-off to target shareholders is

$$\pi_B = I_T [(1 - \delta) V_B^T + \delta V_B] + (1 - I_T) V_B. \quad (7)$$

The timing of the game is as follows: At stage 1, firm  $A$  decides whether to acquire a toehold in the potential target  $B$ . If the toehold is acquired, information on the economies of scale arising from the merger is immediately revealed to both  $A$  and  $B$ . At stage 2, firm  $A$  decides whether to complete the merger. If no toehold was previously acquired, the take-over strategy resembles a one-shot, full ownership transaction. Otherwise the acquisition continues as a sequential deal. At stage 3, firm  $A$  makes a take-it-or-leave-it offer to the target shareholders, specifying the amount of equity,  $s$ , and of cash payment

$x$ . Alternatively, firm  $A$  decides not to merge with firm  $B$  and abandons the deal. At the final stage,  $\theta$  is realized and all parties receive their state-dependent pay-offs. We solve the model by backward induction.

## 2.2 Optimal Financing Behaviour and Decision to Merge

The negotiation preceding the merger at Stage 3 has the intention to assure that target shareholders accept the offer made by  $A$ . That is, the offer has to leave the target shareholders with a pay-off which is at least as good as their outside option. In the simple version of the model, the outside option of target shareholders is given by the pay-off arising in case of no merger as described in (7).<sup>13</sup>

In the event of the sequential merger, the take over of the target is only proceeded if a positive pre-assessment of the merger is revealed by the toehold, i.e. if  $\theta = \theta^H$  realizes. Hence, the value of the merged firm equals  $V_M(\theta^H) = V_A + V_B^T + \theta^H$ . For the target shareholders to accept the acquiring firm's offer, the following participation constraint has to be satisfied

$$\begin{aligned} s(1-z)V_M(\theta^H) + (1-\tau^G)x + \delta V_B &\geq (1-\delta)V_B^T + \delta V_B, \\ \Rightarrow x^T &\geq \frac{(1-\delta)V_B^T - s(1-z)V_M(\theta^H)}{1-\tau^G}. \end{aligned} \quad (8)$$

If instead  $\theta = \theta^L$  realises, the toeholder is aware that the merger will not be profitable, and decides to abandon the deal.

Given the participation constraints in (8), the acquirer decides on the optimal method of finance by choosing the share of equity  $s^T$  which maximizes the pay-off  $\pi_A^T$  in (3). Anticipating that the participation constraint is binding in equilibrium, the maximand becomes

$$\hat{\pi}_A^T = (1-s)V_M(\theta^H) - \max \left[ 0; \frac{(1-\delta)V_B^T - s(1-z)V_M(\theta^H)}{1-\tau^G} \right] - \delta V_B. \quad (9)$$

---

<sup>13</sup>If the existence of a rival bidder is considered in the bargaining process, the outside option of target shareholders is given by the expected pay-off arising from the merger with the rival (quasi 2nd best) acquirer.

The first order condition yields

$$\frac{\partial \hat{\pi}_A^T}{\partial s} : \frac{1-z}{1-\tau} V_M(\theta^H) - V_M(\theta^H) \leq 0, \quad (10)$$

$$(a) \Rightarrow x^T = 0 \quad \text{and} \quad s^T = \frac{(1-\delta)V_B^T}{(1-z)V_M(\theta^H)} \quad \text{if} \quad \tau^G \geq z;$$

$$(b) \Rightarrow s^T = 0 \quad \text{and} \quad x^T = \frac{(1-\delta)V_B^T}{1-\tau^G} \quad \text{if} \quad \tau^G < z;$$

where  $s^T$  and  $x^T$  denote the optimal amount of equity and cash finance, respectively. Each additional dollar financed by a stock-to-stock (equity) transaction brings a marginal gain in tax savings (first term in (10)), but bears the cost of a marginal loss of participation in the gains arising from the merger (second term in (10)). The benefit emerging from the tax saving is however alleviated by the transaction cost  $c$  associated with either the liquidation of the equity payment or the prospective tax burden  $\tau^*$  originating from future dividend distributions or capital gains.

Corollary 1: *In a world with no capital gains taxes, a cash-to-stock transaction is the optimal source of finance in the event of a sequential merger.*

Given the optimal method of finance, the acquiring firm  $A$  continues the merger if and only if  $\hat{\pi}_A^T > \pi_A^T$ , that is, if  $\theta^H$  realizes. Formally, the condition for completing the merger requires

$$\theta^H + V_B^T - s^T V_M(\theta^H) - x^T \geq \delta V_B^T, \quad (11)$$

which leads to

$$\theta^H + V_B^T - \frac{(1-\delta)V_B^T}{1-z} \geq \delta V_B^T, \quad \text{if} \quad \tau^G \geq z \quad \text{and} \quad x^T = 0;$$

$$\theta^H + V_B^T - \frac{(1-\delta)V_B^T}{1-\tau^G} \geq \delta V_B^T, \quad \text{if} \quad \tau^G < z \quad \text{and} \quad s^T = 0;$$

under full equity and cash finance, respectively. Note that both equations are only fulfilled in case  $\theta^H$  is sufficiently large, but not for  $\theta^L < 0$ . An increase in the capital gains tax rate  $\tau^G$  or the aggregate transaction cost  $z$  have a negative impact on the left hand side of (11) and thus reduce the likelihood of the merger being proceeded.

When the acquirer opts in favour of the one-shot full ownership acquisition, the merger takes place with  $\theta$  being unknown to both parties. The expected value of the merged firm is  $E[V_M(\theta)] = V_A + V_B + E(\theta)$ , with  $E(\theta) = p\theta^H + (1-p)\theta^L$ , and the target's participation

constraint is

$$s(1-z)E[V_M(\theta)] + (1-\tau^G)x \geq V_B, \quad (12)$$

$$\Rightarrow x \geq \frac{V_B - s(1-z)E[V_M(\theta)]}{1-\tau^G}.$$

Thus, in the event of an instantaneous full ownership transaction, the expected pay-off for acquiring shareholders is derived from combining (5) and (12). The optimal method of finance chosen by the acquiring firm follows from maximizing

$$g_A = (1-s)E[V_M(\theta)] - \max \left[ 0; \frac{V_B - s(1-z)E[V_M(\theta)]}{1-\tau^G} \right] - \gamma_A(1-s)^2\sigma^2(\theta) \quad (13)$$

with respect to  $s$ , where  $\sigma^2(\theta) = p(1-p)(\theta^H - \theta^L)^2$ .

The first order condition yields

$$\frac{\partial g_A}{\partial s} : -E[V_M(\theta)] + \frac{1-z}{1-\tau^G}E[V_M(\theta)] + 2\gamma_A(1-s)\sigma^2(\theta) \leq 0, \quad (14)$$

$$\Rightarrow s = \left( \frac{\tau^G - z}{1-\tau^G} \right) \frac{E[V_M(\theta)]}{2\gamma_A\sigma^2(\theta)} + \frac{2\gamma_A\sigma^2(\theta)}{E[V_M(\theta)]} \quad \text{if } \frac{\partial g_A}{\partial s} = 0;$$

$$(a) \Rightarrow x = 0 \quad \text{and} \quad s = \frac{V_B}{(1-z)V_M[E(\theta)]} \quad \text{if } \tau^G \geq z;$$

$$(b) \Rightarrow s = 0 \quad \text{and} \quad x = \frac{V_B}{1-\tau^G} \quad \text{if } \tau^G + (1-\tau^G)\gamma_A \frac{2(1-s)\sigma^2(\theta)}{E[V_M(\theta)]} < z;$$

where  $s$  and  $x$  denote the optimal levels of equity and cash finance, respectively. The interpretation of (14) is similar in structure to the one in (10). The first term denotes the marginal disadvantage of equity finance emerging from not participating in the gains from the merger, while the second term indicates the marginal tax saving under equity finance adjusted for the aggregate transaction cost  $z$ . The difference with respect to the sequential acquisition is the third term which captures the risk insuring effect associated with equity financing. Letting target shareholders participate in the uncertain proceeds of the merger serves as a beneficial insurance device, because it reduces the variance of the acquiring shareholder's pay-off.

The acquirer opts in favour of the one-shot ownership acquisitions only if

$$E(\theta) + V_B - s^F E[V_M(\theta)] - x^F - \gamma_A(1-s)^2\sigma^2(\theta) \geq 0. \quad (15)$$

which, under the alternative modes of finance, translates into

$$E[V_M(\theta)] + V_B - \frac{V_B}{1-z} - \gamma_A (1-s)^2 \sigma^2(\theta) \geq 0 \quad \text{if} \quad \tau^G \geq z,$$

$$E[V_M(\theta)] + V_B - \frac{V_B}{1-\tau^G} - \gamma_A (1-s)^2 \sigma^2(\theta) \geq 0 \quad \text{if} \quad \tau^G + (1-\tau^G)\gamma_A \Delta < z,$$

with  $\Delta = \frac{2(1-s)\sigma^2(\theta)}{E[V_M(\theta)]}$ . The term  $\frac{\sigma^2(\theta)}{E[V_M(\theta)]}$  is a measure of risk dispersion. In case of no capital gains tax and no transaction costs, the merger is consummated only if the expected value of the economies of scale accompanying the merger are sufficiently large. That is, if the gains are high enough to cover the costs associated with the larger variance of the acquirer's income after the merge.

To summarize, for both types of acquisition, the sequential and the instantaneous one, stock-to-stock payments are optimal, if capital gains are taxed and if aggregate transaction costs (including the cost of liquidating the equity payment and the prospective tax burden originating from the equity transaction) are not too pronounced. Besides saving the cost of reimbursing target shareholders for the tax burden on realized capital gains, equity finance has an additional role in the instantaneous, one-shot full ownership acquisition. It provides partial insurance against an unprofitable acquisition by shifting part of the uncertain proceeds of the merger to target shareholders. In case of the instantaneous, one-shot acquisitions, the insurance incentive prevails even when capital gains are untaxed signing equity finance always as the optimal source of finance. On the contrary, if the uncertainty about the profitability of the merger is revealed through the toehold investment, the insurance incentive justifying the use of equity finance no longer exists. Therefore, cash payments become optimal as they eliminate the disadvantage of transaction costs associated to stock-to-stock transaction given that capital gain taxes are sufficiently low.

**Testable Implication I:** All else equal, the use of cash finance is more likely for sequential than one-shot full ownership acquisitions. That is, the toehold reduces the downside risk associated to the merger and thereby eliminates one of the benefits associated with equity finance.

**Testable Implication II:** An increase of capital gain tax discourages the use of cash finance, irrespective of the contract structure. This effect is however stronger in case of the sequential than the one-shot full ownership acquisitions. Given a pre-existing toehold, equity finance is only preferred if cash payments result in a severe tax burden due to the immediate realization of capital gains. This link provides a clear identification strategy for analysing the role of capital gains taxes on the financing of merger and acquisitions.

## 2.3 Optimal Acquisition Structure

The acquirer evaluates the expected pay-off arising under each of the two alternative types of acquisition structures and then decides whether to purchase a toehold and learn about  $\theta$ . As the optimal method of finance depends on a constellation of parameters, we proceed with analysing three different scenarios.

### Low Capital Gains Tax and High Transaction Costs

First, we consider the case where the capital gains tax is low relative to the aggregate transaction costs,

$$\tau^G + (1 - \tau^G)2\gamma_A(1 - s^T) \frac{\sigma^2(\theta)}{E[V_M(\theta)]} < z.$$

Under this constellation the use of cash finance is the preferred payment method irrespective of the contract structure. For simplicity we assume that  $\theta^H$  and  $E(\theta)$  are sufficiently large in order to always assure that the acquirer has no incentive to abandon the merger. In this scenario, purchasing the toehold requires  $\hat{\pi}_A^T|_{s^T=0} \geq g_A|_{s=0}$ , which requires

$$\frac{\tau^G}{1 - \tau^G} (V_B - p(1 - \delta)V_B^T) + \delta (V_B^T - V_B) \geq (1 - p)\theta^L - \gamma_A\sigma^2(\theta). \quad (16)$$

In the simple case of no capital gains tax and zero risk aversion of the acquirer ( $\tau^G = \gamma_A = 0$ ), equation (16) implies that opting for the sequential acquisition (i.e. the toehold) is the optimal contract structure as long as the loss arising from the toehold investment,  $\delta (V_B^T - V_B)$ , is smaller (i.e. less negative) compared to loss associated with the unprofitable merger which occurs with probability  $(1 - p)$ . In essence, the optimality of the toehold investment crucially depends on the size of the “strategic” effect, that is to which extent the toehold investment affects competition and thus has an impact on the value of the target firm.<sup>14</sup>

The comparative static analysis indicates that an increase of the capital gains tax raises the likelihood of pursuing the sequential acquisition, as it augments the left hand side of (16). Intuitively, the increase in the capital gains tax has, due to the lock-in effect, a strict positive impact on the takeover price which can be limited by the purchase of the toehold. Given the deterrence of rival bidders due to the strategic effect, the outside option of target shareholders is weakened. The latter allows the acquirer to access the remaining fraction of the target at a lower price compared to the case of no toehold.

For higher levels of the acquirer’s risk aversion, the likelihood of choosing the sequential acquisition becomes larger, as well. If acquiring shareholders are more risk sensitive, the possibility of pre-assessing the profitability of the merger, i.e. to utilize the informational character of the toehold, becomes more valuable.

---

<sup>14</sup>Arguably, this becomes more likely if the toehold is relatively large (high  $\delta$ ) which in turn also implies a stronger strategic effect (with  $V_B^T - V_B$  becoming more negative).

## A High Level of Acquirer's Risk Aversion

The second scenario we consider illustrates the case where the capital gains tax is still low relative to the aggregate transaction costs, but additionally the acquirer's risk aversion is high, i.e.

$$\tau^G < z \quad \text{and} \quad \tau^G + (1 - \tau^G)\gamma_A \frac{2(1 - s^T)\sigma^2(\theta)}{E[V_M(\theta)]} > z.$$

In this scenario, cash finance is optimal in case of the sequential acquisition, while equity finance is preferred for the instantaneous one-shot ownership acquisitions. The conditional indicating when the toehold should be purchased states  $\hat{\pi}_A^T|_{s^T=0} \geq g_A|_{x=0}$  and implies

$$\frac{z}{1-z}V_B - \frac{\tau^G}{1-\tau^G}p(1-\delta)V_B^T + \delta(V_B^T - V_B) \geq (1-p)\theta^L - \gamma_A(1-s)^2\sigma^2(\theta). \quad (17)$$

If the risk aversion of the acquirer is high while the capital gains tax is relatively low compared to the transaction costs, an increase of the capital gains tax reduces the likelihood of the sequential acquisition. The result is driven by the difference in the method of financing used for each of the two alternative contract types. The increase of the capital gains tax rate generates a lock-in effect in case of the sequential acquisition, but leaves the cost of the instantaneous full ownership transaction unaltered. The likelihood of pursuing the latter type of acquisition is, instead, decreasing in transaction costs,  $z$ . If target shareholders have a strong preference for cash, equity payments become costly and cash financed sequential acquisition are optimal.

## High Capital Gains Tax and Low Transaction Costs

Finally we analyse the case where the capital gains tax is high relative to the aggregate transaction costs,

$$\tau^G \geq \alpha c + (1 - \alpha)\tau^*.$$

In this setting, equity finance is always optimal irrespectively of the type of acquisition contract. The decision to choose a sequential vis-a-vis a instantaneous, one-shot full ownership transaction depends on  $\hat{\pi}_A^T|_{x^T=0} \geq g_A|_{x=0}$ . Therefore we have

$$[V_B - p(1-\delta)V_B^T] \frac{z}{1-z} + \delta(V_B^T - V_B) \geq (1-p)\theta^L - \gamma_A(1-s)^2\sigma^2(\theta). \quad (18)$$

Apparently, the capital gains tax is irrelevant in this scenario. The decision on the type of acquisition contract chosen is now determined by transaction costs  $z$ . In fact, the sequential transaction takes only place with probability  $p$  and involves always a share of  $\delta$  which is financed by cash payments. Thus, all else equal, a higher  $z$  increases the burden of both types of acquisition but it matters less in the case of the sequential deal. This implies the likelihood of the instantaneous full ownership acquisition is decreasing in  $z$ .

To summarize, sequential contracts (toeholds) are more likely to appear if the degree

of uncertainty on the value created by the merger is large ( $p$  is relatively small) and if there is a significant downside risk involved with the acquisition ( $\theta^L$  is relatively large and negative). The latter effect is additionally magnified the stronger the acquirer's risk aversion.

**Testable Implication III:** If cash is the preferred method of payment an increase of the capital gains tax increases the likelihood of a sequential acquisition been chosen.

**Testable Implication IV:** Instead, if equity is the preferred method of payment the capital gains tax has no effect on the choice of the contract structure.

### 3 Empirical Methodology

The theoretical model presents a world where a risk-averse acquirer has identified a potential target and then decides on the structure of the acquisition contract. At this stage, the future gains, possibly negative ones, arising from the merger are still uncertain. The acquirer can mitigate the uncertainty either by financing the deal with a stock-to-stock transaction and thus transfer part of the risk to the target shareholders. Alternatively, the deal can be structured in two (or more) sequential acquisitions (toehold) in order to gradually learn about the potentials arising from the merge. There are costs associated with either strategy. Risk sharing with target shareholders through a stock-to-stock payment incurs transaction cost which become more severe the larger the target shareholders' preference for cash and the higher the prospective tax burden for target shareholders originating from the equity payment. The purchase of the toehold may affect competition and thus have an adverse impact on the target's premium (i.e. the purchase price).

Capital gain taxes play a crucial role for the choice between the two strategies, because they create an incentive to use tax-free stock-to-stock transactions also in sequential acquisitions. This outcome represents the well-known lock-in effect which implies that target shareholders demand compensation for the capital gains tax burden associated with the realization of capital gains under cash finance (cash-to-stock transactions). But, in addition, the model complements the existing literature by highlighting how the acquirer's choice of the optimal method of finance depends on the underlying contract structure. This mechanism paves the way to formulate a novel identification strategy: In case of the instantaneous full ownership acquisition, the identification of the tax effect is overlain by the double incentive, i.e. the insurance and the tax saving effect, associated with stock-to-stock transactions. On the contrary, in the event of the sequential acquisition (toehold), the choice of the equity payment is exclusively motivated by the desire of reducing the capital gains tax liability, given that the uncertainty over the profitability of the merger has disappeared once the toehold is purchased.



Finally, the model explains how the choice between full and sequential acquisition is driven by two different types of forces: the characteristics of the acquisitions and of the economy, that defines the level of uncertainty, and the influence that the purchase of a toehold has on the acquirer potential rival bidders. Specifically, purchasing the toehold becomes more and more attractive if the probability of generating a profitable merger is low (small  $p$ ) or if the potential loss arising from an unprofitable merger is very high (large  $\sigma_\theta$ ). At the same time, purchasing a toehold becomes increasingly costly, if the strategic effect associated with the toehold is very strong.<sup>15</sup>

The contract structure and the method of finance are correlated and jointly determined choices. We do not observe the expected profit arising from a merger with a previously acquired toehold under a capital gain tax regime ( $g(\pi_A^T|_{s=s_T})$ ). Nor, we observe the exact share of the proceeds financed by equity ( $s$ ). However, we are able to collect information on whether a toehold was purchased ( $D_{1,\ell} = 1$ ) and a cash payment was made in order to finance the transaction ( $D_{2,\ell} = 1$ ). To estimate the effect of the capital gain tax on these distinct but related choices, we adopt a two equation specification which takes the form of a Seemingly Unrelated Regressions (SUR) model. The bivariate probit model is specified as follows

$$\begin{cases} g(\pi_A^T|_{s=s_T})_\ell = \mathbf{w}'_{1,\ell}\beta_1 + \epsilon_{1,\ell} & \text{with } D_{1,\ell} = 1 \text{ if } g(\pi_A^T|_{s=s_T})_\ell > g(\pi_A|_{s=s})_\ell \\ x_\ell = \mathbf{w}'_{2,\ell}\beta_2 + \epsilon_{2,\ell} & \text{with } D_{2,\ell} = 1 \text{ if } x_\ell > 0 \end{cases} \quad (19)$$

where  $\ell$  indicates an acquisition contract between the acquirer  $A$  and the target  $B$ ,  $\mathbf{w}_{1,\ell}$  and  $\mathbf{w}_{2,\ell}$  are vectors of exogenous variables,  $\beta_1$  and  $\beta_2$  are vectors of parameters, and  $F(\epsilon_{1,\ell}, \epsilon_{2,\ell}) = N_2[(0, 0), (1, 1), \rho]$  with  $-1 < \rho < 1$ . The joint probability of the two binary variables is  $Prob(D_1 = d_{1,\ell}, D_2 = d_{2,\ell} | \mathbf{w}_{1,\ell}, \mathbf{w}_{2,\ell}) = \Phi_2[\mathbf{w}'_{1,\ell}\beta_1, \mathbf{w}'_{2,\ell}\beta_2, \rho]$ . We test the implications derived from the model by differentiating the conditional mean functions with respect to the capital gains tax.

$$E[D_{1,\ell} | D_{2,\ell} = d_{2,\ell}, \mathbf{w}_{1,\ell}, \mathbf{w}_{2,\ell}] \quad \text{and} \quad E[D_{2,\ell} | D_{1,\ell} = d_{1,\ell}, \mathbf{w}_{1,\ell}, \mathbf{w}_{2,\ell}].$$

Following Greene (1996, 2008), we generalize the model and allow for the first choice variable,  $D_{1,\ell}$ , to be endogenous to the second equation. This approach accounts for the fact that, following our theoretical model, the financing choice is always taken conditionally on having chosen a specific contract structure. The bivariate probit illustrated above takes

---

<sup>15</sup>The strategic effect refers to the competition effects associated with the toehold investment. Either, the toehold might increase the rival bidders awareness who might thus get interested in the acquisition of the same target as well which most likely increase the target's premium. Or, to the contrary, a significant toehold investment might deter rival bidders, which implies a loss in value of the toehold investment in case the merger is abandoned.

the following recursive form

$$\begin{cases} E(\pi_A^{T,\tau^G})_\ell = \mathbf{w}'_{1,\ell}\beta_1 + \epsilon_{1,\ell} & \text{with } D_{1,\ell} = 1 \text{ if } E(\pi_A^{T,\tau^G})_\ell > E(\pi_A^{\tau^G})_\ell, \\ x_\ell = \mathbf{w}'_{2,\ell}\beta_1 + \gamma'D_{1,\ell} + \epsilon_{2,\ell} & \text{with } D_{2,\ell} = 1 \text{ if } x_\ell > 0. \end{cases} \quad (20)$$

It can be consistently estimated by Full-Information Maximum Likelihood (FIML) methods.<sup>16</sup>

The theoretical model provides the testable implications regarding both the choice of the method of finance and the contract structure. Regarding the decision on the method of finance, the first implication states that the likelihood of using cash-to-stock transactions is decreasing in the target's capital gain tax rate. The second implication stipulates that the behavioural response in the method of finance with regard to the capital gains tax is larger in case of the sequential than the instantaneous full ownership acquisition. This implies for the Average Partial Effects from the bivariate probit that

$$\frac{\partial \hat{P}r[D_2 = 1|D_1 = 1]}{\partial \tau} < \frac{\partial \hat{P}r[D_2 = 1|D_1 = 0]}{\partial \tau} < 0. \quad (21)$$

The underlying rational hinges on the fact that in the sequential acquisition all uncertainties concerning the profitability of the merge are dissolved with the purchase of the toehold. hence, the sole advantage of choosing a stock-to-stock (equity) transaction lays in the avoidance of the capital gain tax liability. Regarding the choice of the contract structure, the effect of the capital gains tax differs according to the various scenarios. When the capital gains tax is relatively low compared to the transaction cost arising from the target shareholders' preference for liquidity and the prospective tax cost associated with a stock-to-stock transaction, cash finance (i.e. a cash-to-stock transactions) is the preferred method of payment. In this case, an increase in the capital gains tax encourages the acquirer to choose the sequential contract. This result provides us with the third testable implication which is

$$\frac{\partial \hat{P}r[D_1 = 1|D_2 = 1]}{\partial \tau} > 0. \quad (22)$$

When the tax costs are relatively high compared to the transaction cost accompanying the equity payments, the choice of a stock-to-stock transaction is always preferable for the acquirer and hence, any change in the capital gains tax has no affect on the decision

---

<sup>16</sup>The intuition behind this model's identification is the decomposition of the four probability terms entering the likelihood function into the product between the conditional and the marginal distribution of the endogenous variable. In the specifics of our application, this would be  $Prob(D_1 = d_1, D_2 = d_2) = Prob(D_1 = 1|D_2 = 1)Prob(D_2 = 1)$ .

to make the toehold. This finding constitutes our last testable implication.

$$\frac{\partial \hat{P}r[D_1 = 1|D_2 = 0]}{\partial \tau} = 0. \quad (23)$$

## 4 Acquisition Data

We collect our data from the Thomson Financial SDC database. We use information about all deals completed between 1st of January 1996 and 1st of January 2010, including details on the contract structure, on the companies involved, and on their financial accounts. The unit of observation is a contract  $\ell$  between an acquirer  $i$  and a target  $j$  completed at time  $t$ . We consider only completed contracts between two firms. The initial cross-section includes about 220,000 contracts of acquisitions made toward targets residing in 38 different countries. By comparing the share transferred through the transaction to the share owned after the acquisition, we are able to identify eight different types of contracts which we classify as *full*, *initial*, *intermediate* and *final* transactions (see Table 1).<sup>17</sup> Initial acquisitions are all those ones where the acquirer has no participation into the target prior to the acquisition; intermediate acquisitions are characterized by a partial transfer of ownership from the target to the acquirer where the acquirer already owns a stake in the target firm but does not acquire full ownership of the target by that acquisition contract; lastly, final acquisitions are those contracts which grant the acquirer to control the entire ownership of the target upon contract completion. To estimate the bivariate models in (19) and (20), we define toehold indicator variables which equal 1 in case of intermediate and final contracts preceded by the purchase of a toehold, but equal 0 in case of an instantaneous full ownership acquisition contract.<sup>18</sup> We apply three definitions of toeholds based on different assumptions regarding the objective of the acquirer. The variable “Toehold 1” equals 1 only for final contracts where the acquirer is a minority shareholder obtaining full control of the target. The variable “Toehold 2” adds to this sample by including also the contracts where the acquirer is a majority shareholder purchasing the remaining shares of the target. Finally, the variable “Toehold 3” considers

---

<sup>17</sup>Besides the full ownership acquisitions, “0 – 100”, the class of initial acquisition includes those acquisitions where the acquirer’s ownership share is increased from initially zero to either a minority or a majority shareholding, i.e. “0 – *min*” and “0 – *maj*”. Within the class of intermediate acquisitions three different types are distinguished: starting and ending with a minority shareholding, “*min* – *min*”, starting from a minority and ending with a majority shareholding, “*min* – *maj*”, and finally the case where the acquirer starts and ends the acquisition with a majority stake in the target “*maj* – *maj*”. Lastly, the class of final acquisition include the two types of either minority or majority to full ownership transaction, “*min* – 100” and “*maj* – 100”.

<sup>18</sup>Following the theoretical model, where toeholds are treated as marginal acquisitions, we exclude the initial contracts from the empirical analysis.

the case where the acquirer aims at controlling the target without necessarily purchasing its full ownership, and includes as toehold also the intermediate contracts where the acquirer obtains a majority share of the target. We then excluded the contracts where the identity of the firms involved or any other key information<sup>19</sup> is missing, as well as the contracts where more than two methods of finance were used. Note that the literature on acquisition financing (see Officer et al. (2009), for instance) discusses how available databases provide information that are generally insufficient to identify the method of finance used in single transactions, especially in the case of “mixed” or “other” payments. To tackle this problem, we closely follow the structure of the model, and simply distinguish transactions that use “cash only” from those that use equity, debt or a combination of these with cash. This process leaves us with a sample of just over 116,000 contracts.

Table 1 describes the initial sample composition, by type of contract and method of payment. We have just above 65 thousands full acquisitions, 33 thousand initial acquisitions (the actual toeholds), and 17 thousand between intermediate and final acquisitions. The figures confirm that in only about 57% of cases we observe acquirers to purchase at once the full ownership over the target. As established in the existing literature, “Cash only” is the largely preferred method of finance, as it is chosen in the 87% of cases, irrespective of the contract type. However, looking at column [a] we infer that, whereas 82% of full and 96% of intermediate and initial acquisitions are financed by cash, only 76% of final acquisitions (i.e. contracts where the acquirer owned a share of the target prior the observed transaction) are financed by cash. This may seem in contrast with the setup of the model, where equity finance and sequential contract structure are presented as alternative strategies used by the acquirer to mitigate uncertainty on the acquisitions gains. For this reason, we present in column [b] the number and share of contracts financed by cash only, conditional on the target being located in countries with zero capital gain taxes. Within this smaller sample, we observe that the share of full acquisitions financed by cash remains virtually unchanged, whereas the share of final acquisitions financed by cash increases by almost twenty percentage points. To achieve a better understanding of these statistics, we report in Table 3 the average long term capital gains tax rates conditional on both the method of finance and the contract structure. The conditional means reported are consistent with the implications derived from the theoretical model. In fact, we find that the average tax rates on acquisitions financed by equity are always higher than those on acquisitions financed by cash, irrespective of the contract structure. However, the difference in average tax rates between equity and cash financed contracts is much larger in case of sequential acquisitions compare to the case of full acquisitions.

As explained in the theoretical section, our main hypothesis is that equity finance and sequential acquisitions are alternative “insurance” strategies against the uncertainty over the future gains generated by the transaction. To control for the level of uncertainty, we

---

<sup>19</sup>Completion Date, Method of Finance, Stakes involved, etc.

construct a set of control variables that account for structural differences across targets and acquirers. Namely, we identify horizontal mergers with a dichotomous variable that equals 1 for contracts between firms belonging to the same industry, and with a second variable that equals 1 for contracts between firms that belong to the same (6-digits SIC code) sector. Finally, we distinguish between domestic and cross-border acquisitions, through a dichotomous variable that equals 1 for contracts between firms located in the same or different countries, respectively. Table 4 reports statistics on the percentage of acquisitions using the sequential contract structure, conditional on these firm characteristics. Unsurprisingly, we notice that sequential contracts are preferred in the case of firms located in different countries. To further account for alternative sources of uncertainty specific to the economic environment where the contract takes place rather than to the firms involved, we use the Worldwide Governance Indicators which provide country-year-specific measures of accountability, political stability, government effectiveness, regulatory quality, rule of law and corruption control.

One essential feature of our analysis is the assessment of the effect of the capital gains tax base on the decision of both the acquisition’s method of finance and the contract structure. The existing literature (see Lang and Shackelford (2000), for example) has used stock price movements around the acquisition announcement date as a measure for firm performance and capital gains. In our set-up, however, introducing any measure of the target’s financial performance at the time of the acquisition is inappropriate, because, by construction, this measure would be endogenous to the toehold decision. Thus, we choose an alternative approach and match each target firm with the price to book value ratio of the top 60% firms in the respective industry-country-year pair, collected by Datastream. This measure provides us with a performance indicator which is assumed to proxy the upper bound of capital gains the acquirer can reasonably expect from a market analysis and before choosing the contract structure or method of payment.

## 5 Results

In this section we present the results from the estimation of the models in (19) and (20). Table 5 reports the estimates based on different baseline specifications, using the sample defined by the variable “Toehold 1”. Column [M1] only controls for the structural difference across the acquirer and the target firm, in addition to the target’s capital gain tax rate. Column [M2] augments the previous specification by also controlling for the financial characteristics of the acquiring firm. Column [M3] interacts the capital gain tax rate with a dummy variable which equals 1 if the price to book value ratio of the top 60% performing firms in the same sector and country of the target, as reported in the year when the acquisition is completed, is larger than one. This third specification allows to

additionally control for target country dummies. Finally, Column [M4] augments the previous specification by further controlling for the (target country-year specific) Governance Indicators.

The estimated coefficients reported in Table 4 indicate that the capital gain tax rate has a positive and significant coefficient on the toehold decision and a negative and significant coefficient on the decision to use cash finance. As expected, the tax rate interacted with the expected capital gains dummy causes the absolute value of the coefficient to decrease. For a direct interpretation of these results, we proceed with presenting the average partial effects from the estimated models in Table 6. The comparison of the estimated effects of a change in the tax rate on the probability of using cash finance constitute a test of the hypothesis advanced in (21). From an inspection of this table we immediately notice that the conditional predicted probability of choosing cash finance is higher in the case of a Full than in the case of Sequential contracts, as 86 against 63% of contracts, respectively, choose this against equity or debt finance. This is in line with our theoretical model, and follows the intuition that cash finance is least preferred in contracts where the target has a high value ( $\theta_H$ ), and where high capital gains are potentially realized upon its sale. Finally, a comparison of the average partial effects of a change in capital gain tax rates on the two conditional predicted probabilities constitute the test of the implications of the theoretical model. Column [M4], our preferred specification, suggests that an increase of 10 percentage points in the capital gain tax rate would induce a reduction of 2 percentage points in the probability of cash financing full acquisitions contracts, and instead a reduction of 3.2 percentage points in the probability of cash financing sequential acquisition contracts. Our identification strategy suggests that the latter is an unbiased estimate of the correlation between capital gain tax rate and the method of finance choice.

The lower half of Table 6 allows us to test the hypothesis advanced in (22) and (23). As predicted by the theoretical model, when the characteristic of the market and of the firms are as such that the acquirer prefers cash financing, then a 10 percentage point rise in the tax rate increase the likelihood of choosing a sequential acquisition by 0.6 percentage points. If, however, a cash payment is not the optimal mode of financing the acquisition, the probability of choosing a toehold rather than an immediate full ownership acquisition is insignificantly affected by a change in the capital gains tax rate.

To test the robustness of our results, we proceed with testing alternative specifications of the model presented in table 7 and 8. Table 7 shows results from the specification [M3] and [M4] re-estimated on samples using the different definition of “Toehold”. Columns denoted with “a” use the sample defined by “Toehold 2”, those denoted with “b” use instead the sample defined by “Toehold 3”. Using these extended samples corresponds to adopting a loose definition of Toehold. We see however, that our results are not affected. Finally, Table 8 uses a specification that attempts to more closely replicate the time-structure assumed in the theoretical model. We estimate a recursive bivariate probit where the

Toehold decision directly enters the equation for the method of finance, as in (19). The columns of Table 8 replicates the specifications proposed in Table 7, with the addition of the extra regressor for the second equation of the model. The results, once more, confirm what discussed earlier, with the new specification only affective the magnitude of the effect of the tax rate on the method of finance choice.

## References

Ayers B. C. & Craig E. Lefanowicz & John R. Robinson, 2003. "Shareholder Taxes in Acquisition Premiums: The Effect of Capital Gains Taxation," *Journal of Finance*, American Finance Association, vol. 58(6), pages 2783-2801, December.

Betton, Sandra & Eckbo, B. Espen & Thorburn, Karin S., 2009. "Merger negotiations and the toehold puzzle," *Journal of Financial Economics*, Elsevier, vol. 91(2), pages 158-178, February.

Bulow, J. & Ming Huang & Paul Klemperer, 1999. "Toeholds and Takeovers," *Journal of Political Economy*, University of Chicago Press, vol. 107(3), pages 427-454, June.

Canil J. M. & Bruce A. Rosser, 2004. "Toehold," *The African Finance Journal*, Africa-growth Institute, vol. 6(1), pages 37-55.

Carroll, Carolyn & Griffith, John M., 2010. "Toeholds, rejected offers, and bidder gains: Do rebuffed bidders put targets in play to profit from their toeholds?," *The Quarterly Review of Economics and Finance*, Elsevier, vol. 50(2), pages 214-221, May.

Dai Z. & Edward Maydew & Douglas A. Shackelford & Harold H. Zhang, 2008. "Capital Gains Taxes and Asset Prices: Capitalization or Lock-in?," *Journal of Finance*, American Finance Association, vol. 63(2), pages 709-742, 04.

Huizinga, Harry & Voget, Johannes & Wagner, Wolf, 2012. "Capital Gains Taxation and the Cost of Capital: Evidence from Unanticipated Cross-Border Transfers of Tax Bases," *CEPR Discussion Papers 9151*, C.E.P.R. Discussion Papers.

Klein, Peter, 1999. "The capital gain lock-in effect and equilibrium returns," *Journal of Public Economics*, Elsevier, vol. 71(3), pages 355-378, March.

Klein, Peter, 2001. "The capital gain lock-in effect and long-horizon return reversal," *Journal of Financial Economics*, Elsevier, vol. 59(1), pages 33-62, January.

Klein, Peter, 2004. "The capital gain lock-in effect and perfect substitutes," *Journal of Public Economics*, Elsevier, vol. 88(12), pages 2765-2783, December.

Li Jin, 2006. "Capital Gains Tax Overhang and Price Pressure," *Journal of Finance*, American Finance Association, vol. 61(3), pages 1399-1431, 06.

Mantecon, Tomas, 2009. "Mitigating risks in cross-border acquisitions," *Journal of Banking & Finance*, Elsevier, vol. 33(4), pages 640-651, April.



Figure 1: Acquisition Contracts over time.

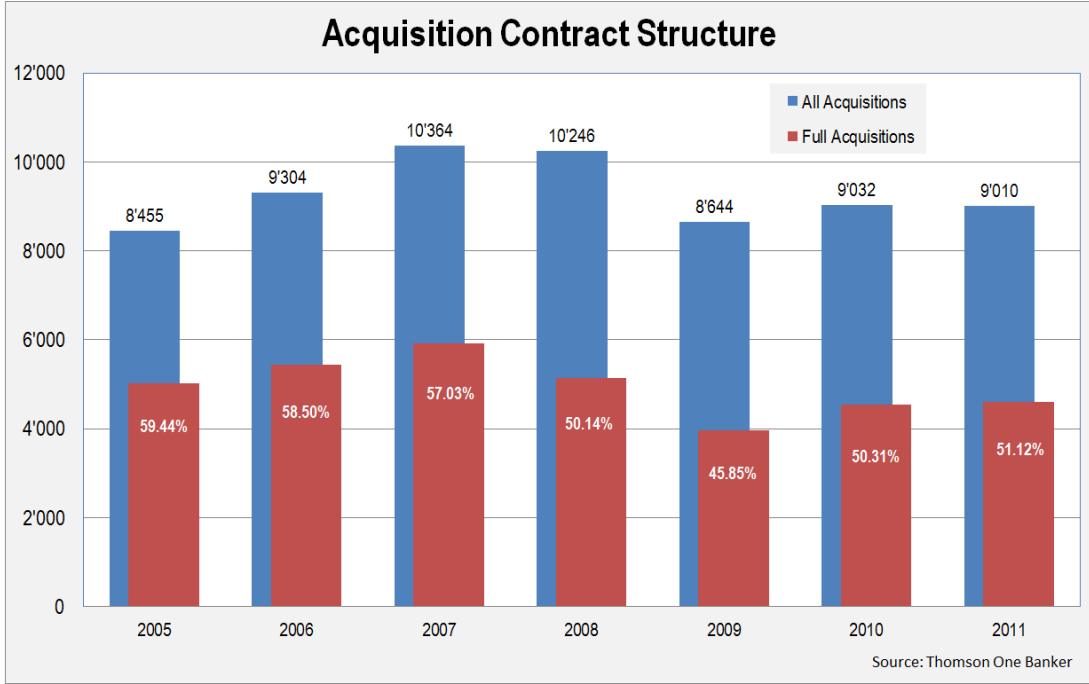


Figure 2: Structure of the Game.

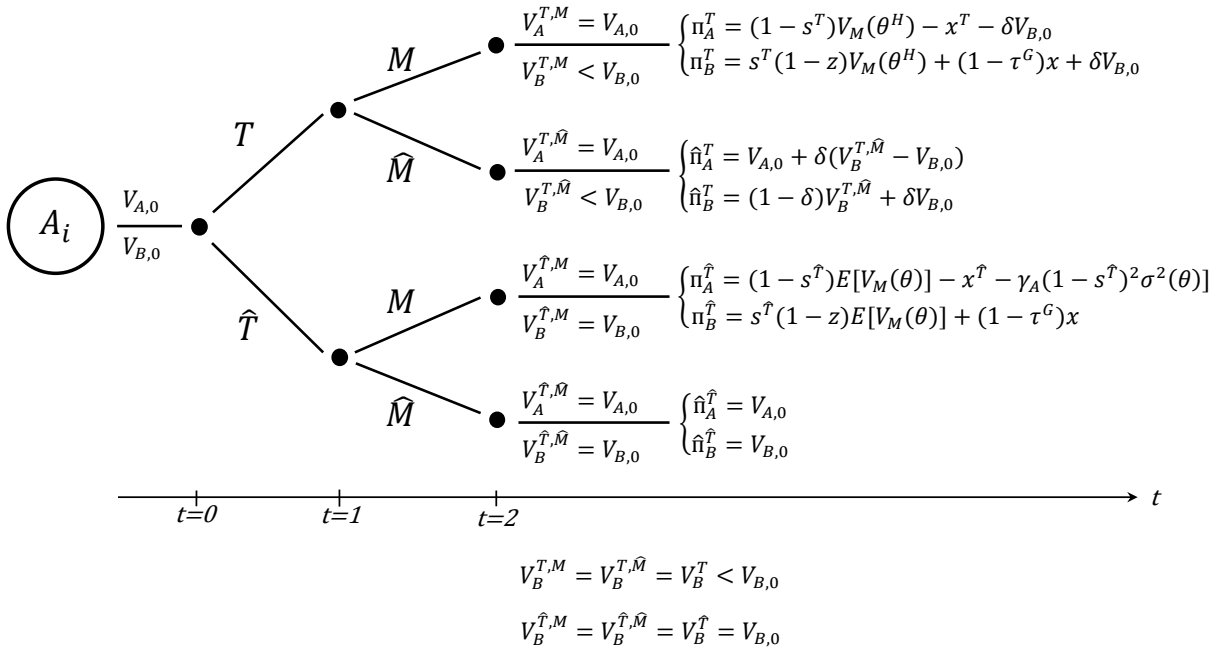


Table 1: Sample composition: types of Acquisition Contracts

	All Contracts		Cash Financed Contracts	
	N	Perc.	[a]	[b]
<b>Full Acquisition</b>	65'766	56.75%	53'988 82.09%	2'581 85.35%
<b>Initial Acquisition</b>				
0-min	24'272	20.95%	23'683 97.57%	2'447 96.19%
0-maj	9'262	7.99%	8'595 92.80%	1'279 92.68%
<b>Intermediate Acquisition</b>				
min-min	4'804	4.15%	4'718 98.21%	460 97.25%
min-maj	2'541	2.19%	2'421 95.28%	329 94.00%
maj-maj	2'391	2.06%	2'289 95.73%	395 97.29%
<b>Final Acquisition</b>				
min-100	2'797	2.41%	2'120 75.80%	245 93.16%
maj-100	4'051	3.50%	3'061 75.56%	573 92.57%
<b>Total</b>	115'884	100.00%	100'875 87.05%	8'309 91.72%

*Note: the contract type was identified on the base of informations on the share ownership of the target possessed by the acquirer before and after an acquisition transaction. Initial acquisitions are all those where the acquirer had no participation into the target prior the acquisition; intermediate acquisition are those where the acquirer had partial ownership before the acquisition and does not achieve full ownership through the new contract; final acquisitions are those that lead the acquirer to control the entire ownership of the target, upon contract completion. Column [a] reports number and share of contract of each type conditional on the method of finance being "cash only". Column [b] also conditions on the capital gain tax rate levied in the target country being equal to zero.*

Table 2: Long Term Statutory Capital Gain Tax rates

Target Nation	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2009	2010
Argentina	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330
Australia	0.360	0.360	0.360	0.360	0.360	0.340	0.300	0.300	0.300	0.300	0.300	0.300	0.300
Austria	0.340	0.340	0.340	0.340	0.340	0.340	0.340	0.340	0.340	0.250	0.250	0.250	0.250
Belgium	0.402	0.402	0.402	0.402	0.402	0.402	0.402	0.340	0.340	0.340	0.340	0.340	0.340
Brazil	0.250	0.330	0.330	0.330	0.330	0.330	0.330	0.340	0.340	0.340	0.340	0.340	0.340
Canada	0.218	0.218	0.218	0.218	0.218	0.194	0.131	0.121	0.111	0.111	0.111	0.095	0.090
China	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.250	0.250
Czech Republic	0.390	0.390	0.350	0.350	0.310	0.310	0.310	0.310	0.280	0.260	0.240	0.200	0.190
Denmark	0.340	0.340	0.340	0.340	0.320	0.320	0.300	0.300	0.300	0.300	0.280	0.250	0.250
Finland	0.250	0.280	0.280	0.280	0.290	0.290	0.290	0.290	0.290	0.260	0.260	0.260	0.260
France	0.333	0.333	0.417	0.400	0.378	0.364	0.354	0.354	0.354	0.349	0.344	0.344	0.344
Germany	0.480	0.480	0.484	0.475	0.422	0.264	0.264	0.280	0.264	0.264	0.264	0.158	0.158
Greece	0.400	0.400	0.400	0.400	0.400	0.400	0.350	0.350	0.350	0.350	0.290	0.250	0.240
Hong Kong	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hungary	0.000	0.000	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.160	0.160	0.160	0.190
India	0.300	0.200	0.200	0.200	0.200	0.200	0.200	0.210	0.201	0.209	0.224	0.227	0.227
Indonesia	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.280	0.250
Ireland	0.400	0.400	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.220	0.250
Italy	0.370	0.370	0.370	0.370	0.370	0.360	0.360	0.340	0.340	0.330	0.330	0.275	0.275
Japan	0.510	0.510	0.510	0.480	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
Korea, Rep.	0.323	0.308	0.308	0.308	0.308	0.308	0.297	0.297	0.297	0.275	0.275	0.275	0.242
Malaysia	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mexico	0.340	0.340	0.340	0.340	0.350	0.350	0.350	0.340	0.330	0.300	0.290	0.280	0.300
Netherlands	0.350	0.350	0.350	0.350	0.350	0.350	0.345	0.345	0.345	0.315	0.296	0.255	0.255
New Zealand	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Norway	0.280	0.280	0.280	0.280	0.280	0.280	0.280	0.280	0.280	0.280	0.280	0.280	0.280
Philippines	0.350	0.350	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
Poland	0.400	0.400	0.360	0.340	0.300	0.280	0.280	0.270	0.190	0.190	0.190	0.190	0.190
Portugal	0.360	0.360	0.340	0.340	0.340	0.320	0.300	0.300	0.300	0.250	0.250	0.250	0.250
Russia	0.430	0.430	0.350	0.350	0.350	0.350	0.240	0.240	0.240	0.240	0.240	0.200	0.200
Singapore	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
South Africa	0.000	0.000	0.000	0.000	0.000	0.150	0.150	0.150	0.150	0.150	0.145	0.140	0.140
Spain	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.300	0.300
Sweden	0.280	0.280	0.280	0.280	0.280	0.280	0.280	0.280	0.280	0.280	0.280	0.263	0.263
Switzerland	0.320	0.320	0.320	0.320	0.320	0.300	0.300	0.300	0.300	0.300	0.300	0.250	0.250
Thailand	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300
United Kingdom	0.330	0.330	0.310	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.280	0.280
United States	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350

Table 3: Capital Gain Tax rate, Contract Structure and Method of Payment

	Toehold 1		Toehold 2		Toehold 3	
	<b>Full Acq.</b>	<b>Seq. Acq.</b>	<b>Full Acq.</b>	<b>Seq. Acq.</b>	<b>Full Acq.</b>	<b>Seq. Acq.</b>
<b>Equity</b>	0.3084	0.3493	0.3084	0.3523	0.3061	0.3459
<b>Cash</b>	0.3052	0.2764	0.3052	0.2649	0.30085	0.2686

*Note: the Table reports the average long term Capital Gain Tax rates conditional on specific method of payments (Equity vs Cash Only) and contract structure (Full vs Sequential Acquisition). These averages are reported for the three samples using different definitions of Toeholds. "Toehold 1" only considers full acquisitions versus min-100 acquisitions. "Toehold 2" also includes, as sequential acquisitions, contracts maj-100. Finally, "Toehold 3" includes also min-maj.*

Table 4: Contract Structure and difference between Acquirer and Target firms

	Toehold 1		Toehold 2		Toehold 3	
	<b>Full Acq.</b>	<b>Seq. Acq.</b>	<b>Full Acq.</b>	<b>Seq. Acq.</b>	<b>Full Acq.</b>	<b>Seq. Acq.</b>
<b>Same Industry</b>	90.95%	9.05%	89.16%	10.84%	86.55%	13.45%
<b>Different Industry</b>	90.72%	9.28%	89.04%	10.96%	86.74%	13.26%
<b>Same Sector</b>	90.72%	9.28%	88.94%	11.06%	86.49%	13.51%
<b>Different Sector</b>	91.02%	8.98%	89.42%	10.58%	87.06%	12.94%
<b>Domestic Deal</b>	96.90%	3.10%	96.60%	3.40%	96.29%	3.71%
<b>Cross-Border Deal</b>	86.98%	13.02%	85.08%	14.92%	81.71%	18.29%

*Note: the Table reports the percentage of acquisition using a particular contract structure, conditional on structural differences between the Acquirer and Target firm. The samples included in the three sections of the table follow the Toehold definition of Table 3.*

Table 5: Bivariate Probit model for the choices of contract structure and financing method

	Baseline Model	[M1] & Acq. Fin.	[M2] & Interaction	[M3] & Risk Controls
	[M1]	[M2]	[M3]	[M4]
<b>Acquirer's Choice: Toehold Contract</b>				
CGT Rate	.92915*** (.1253)	.55268*** (.1374)		
CGT Rate*(CG>0)			.60081*** (.2082)	.57276*** (.2083)
CB Deal	.94618*** (.0369)	.85604*** (.0382)	1.21539*** (.0931)	1.25722*** (.411)
Financial Acquirer	-0.0533 (.0686)	-0.03639 (.07)	0.00679 (.0734)	0.02036 (.0735)
Same Sector	.05745* (.031)	.09573*** (.0316)	.10639*** (.033)	.11068*** (.0331)
Bargaining Power	.68148*** (.0739)	.64474*** (.0753)	.60909*** (.0775)	.57889*** (.0778)
Ln (Acq. Book Value)		-.07675*** (.0095)	-.05065*** (.0109)	-.05187*** (.0109)
Ln (Acq. EBT)		-.11025*** (.0153)	-.06294*** (.0163)	-.05834*** (.0164)
Ln (Acq. Sales)		.23694*** (.0164)	.19244*** (.0173)	.19064*** (.0173)
Accountability				-0.00528 (.0034)
Political Stability				.00482** (.0023)
Governance Effectiveness				.01727** (.0088)
Regulatory Quality				-0.00362 (.0051)
Rule of Law				-.01520** (.0075)
Control of Corruption				0.01062 (.0068)
<b>Acquirer's Choice: Cash Finance</b>				
CGT Rate	-2.28653*** (.1344)	-2.37865*** (.1427)		
CGT Rate*(CG>0)			-1.68351*** (.1151)	-1.03751*** (.1345)

Continued on next page

Table 5 – continued from previous page

	[M1]	[M2]	[M3]	[M4]
CB Deal	-.09545*** (.0264)	-.07305** (.0289)	-.08343*** (.0291)	.46924*** (.0368)
Financial Acquirer	0.00656 (.0597)	-0.00738 (.0606)	0.00313 (.06)	-0.07174 (.0618)
Same Sector	-.13803*** (.026)	-.14083*** (.0263)	-.13262*** (.0263)	-.15056*** (.0272)
Bargaining Power	-1.20041*** (.053)	-1.26857*** (.0539)	-1.26592*** (.0535)	-1.21586*** (.0553)
Ln (Acq. Book Value)		.02244** (.0088)	0.01382 (.0087)	0.01389 (.0089)
Ln (Acq. EBT)		.12810*** (.0142)	.14327*** (.014)	.11079*** (.0146)
Ln (Acq. Sales)		-0.02047 (.014)	-.03162** (.0137)	-0.00661 (.0142)
Accountability				.00377** (.0018)
Political Stability				-.02070*** (.0011)
Governance Effectiveness				-0.00063 (.0064)
Regulatory Quality				.04328*** (.0032)
Rule of Law				-0.00561 (.004)
Control of Corruption				-.00855** (.0043)
RHO(Toehold, Cash)	-.35988*** (.0202)	-.37667*** (.0207)	-.28632*** (.0233)	-.28570*** (.0233)
Log-Likelihood	-11754.97	-11466.08	-11250.13	-10866.50
N	15848	15848	15848	15848
AIC/N	1.488	1.452	1.429	1.383

Note: the table reports coefficient estimates from a bivariate probit using the sample including Full versus “Toehold 1” acquisition contracts. All models include acquiror and target sector dummies, as well as year dummies. Models [M3] and [M4] also include target country dummies, and substitute the capital gain tax rate with the interaction of the latter and an indicator for whether the top firms in the target’s sector had positive capital gains in the year and country where the acquisition took place. The tetrachoric correlation between toehold and cash is estimated as -0.32, with SE being 0.023. Standard Errors in Parenthesis. \*\*\*, \*\* and \* are the standard significance level of 1%, 5%, and 10%, respectively

Table 6: Average Partial Effects from baseline Bivariate Probit (Table 5)

	[M1]	[M2]	[M3]	[M4]
$\hat{Pr}(CASH Toehold = 1)$ APE w.r.t CGT rate	0.633844 -0.79986*** (.0531)	0.622092 -0.89250*** (.0575)	0.677818 -0.57195*** (.0465)	0.698615 -0.32495*** (.0514)
$\hat{Pr}(CASH Toehold = 0)$ APE w.r.t CGT rate	0.854751 -0.50849*** (.0327)	0.85771 -0.53336*** (.0338)	0.850529 -0.38489*** (.028)	0.863302 -0.21959*** (.0304)
$\hat{Pr}(Toehold CASH = 1)$ APE w.r.t CGT rate	0.066719 0.07361*** (.0176)	0.060076 0.01702 (.0175)	0.061418 0.04799* (.0256)	0.062053 0.05567** (.0259)
$\hat{Pr}(Toehold CASH = 0)$ APE w.r.t CGT rate	0.195508 0.08380** (.038)	0.18966 -0.04188 (.0418)	0.150375 0.05415 (.0503)	0.152718 0.08270 (.0511)

Note: All derivatives are averaged over the observed sample. Columns [M1] to [M4] are derived from the model's estimate that follows the specifications used in Table 5. Standard Errors in Parenthesis. \*\*\*, \*\* and \* are the standard significance level of 1%, 5%, and 10%, respectively

Table 7: Robustness Check: alternative measures of Toehold

	Baseline Model with Interaction			Interaction & Risk variables		
	[M3a] Toehold 1	[M3b] Toehold 2	[M3c] Toehold 3	[M4a] Toehold 1	[M4b] Toehold 2	[M4c] Toehold 3
<b>Acquirer's Choice: Toehold Contract</b>						
CGT Rate*(CG>0)	.60081*** (.2082)	.67249** (.2858)	.33863** (.1691)	.57276*** (.2083)	.67322** (.2858)	.27487 (.1698)
CB Deal	1.21539*** (.0931)	.81056*** (.1365)	1.08783*** (.0726)	1.25722*** (.411)	0.53925 (.5722)	1.01343*** (.3018)
Financial Acquirer	0.00679 (.0734)	-.06289 (.0993)	0.00395 (.066)	0.02036 (.0735)	-0.05431 (.0996)	0.01299 (.0661)
Same Sector	.10639*** (.033)	.00578 (.0447)	.10753*** (.0295)	.11068*** (.0331)	0.00901 (.0449)	.11192*** (.0295)
Bargaining Power	.60909*** (.0775)	.49262*** (.0999)	.55314*** (.0744)	.57889*** (.0778)	.47720*** (.1001)	.52989*** (.0745)
Ln (Acq. Book Value)	-.05065*** (.0109)	-.03355** (.0152)	-.04114*** (.0092)	-.05187*** (.0109)	-.03553** (.0153)	-.04110*** (.0093)
Ln (Acq. EBT)	-.06294*** (.0163)	-.02680 (.0217)	-.04502*** (.0143)	-.05834*** (.0164)	-0.0244 (.0218)	-.04176*** (.0143)
Ln (Acq. Sales)	.19244*** (.0173)	.13002*** (.0226)	.17443*** (.0152)	.19064*** (.0173)	.12942*** (.0228)	.17349*** (.0152)
Accountability				-0.00528 (.0034)	0.00151 (.0048)	-0.00407 (.0028)
Political Stability				.00482** (.0023)	0.00124 (.0031)	0.00291 (.002)
Governance Effectiveness				.01727** (.0088)	0.00865 (.0128)	.01279* (.0069)
Regulatory Quality				-0.00362 (.0051)	-0.00389 (.007)	-0.0004 (.0041)
Rule of Law				-.01520** (.0075)	-0.01411 (.0103)	-0.00682 (.006)
Control of Corruption				0.01062 (.0068)	0.0026 (.01)	0.0005 (.0055)
<b>Acquirer's Choice: Cash Finance</b>						
CGT Rate*(CG>0)	-1.68351*** (.1151)	-1.09437*** (.1361)	-1.35536*** (.1069)	-1.03751*** (.1345)	-.59292*** (.1574)	-.75150*** (.1246)
CB Deal	-.08343*** (.0291)	.09629*** (.0313)	0.0127 (.028)	.46924*** (.0368)	.56597*** (.0396)	.49308*** (.0352)
Financial Acquirer	0.00313 (.06)	-0.02614 (.0639)	0.00916 (.0577)	-0.07174 (.0618)	-.09458 (.0659)	-0.06173 (.0589)

Continued on next page



Table 7 – continued from previous page

	[M3a]	[M3b]	[M3c]	[M4a]	[M4b]	[M4c]
Same Sector	-.13262*** (.0263)	-.17225*** (.0279)	-.13431*** (.0254)	-.15056*** (.0272)	-.18645*** (.0287)	-.15206*** (.0261)
Bargaining Power	-1.26592*** (.0263)	-1.38883*** (.0541)	-1.23691*** (.0523)	-1.21586*** (.0553)	-1.33592*** (.0557)	-1.18358*** (.0538)
Ln (Acq. Book Value)	0.01382 (.0087)	0.01394 (.0095)	0.00686 0.00818	0.01389 (.0089)	.01410 (.0097)	0.01289 (.0085)
Ln (Acq. EBT)	.14327*** (.014)	.11600*** (.0152)	.12989*** (.0133)	.11079*** (.0146)	.09191*** (.0156)	.10090*** (.0137)
Ln (Acq. Sales)	-.03162** (.0137)	0.01884 (.0148)	-.02216* (.0132)	-0.00661 (.0142)	.03491** (.0151)	-0.00137 (.0136)
Accountability				.00377** (.0018)	.00198 (.002)	.00059 (.0016)
Political Stability				-.02070*** (.0011)	-.01991*** (.0011)	-.01863*** (.001)
Governance Effectiveness				-0.00063 (.0064)	-.00364 (.0073)	-0.00737 (.0057)
Regulatory Quality				.04328*** (.0032)	.03404*** (.0036)	.03665*** (.0029)
Rule of Law				-0.00561 (.004)	-.00281 (.0046)	0.00103 (.0036)
Control of Corruption				-.00855** (.0043)	.00106 (.0049)	-.00866** (.0038)
RHO(Toehold, Cash)	-.28632*** (.0233)	-.24405*** (.031)	-.22746*** (.0214)	-.28570*** (.0233)	-.24207*** .03118	-.22531*** .02142
Tet.Corr.(Toehold, Cash)	-.32091*** (.01659)	-.22409*** (.02334)	-.23750*** (.01606)	-.32091*** (.01659)	-.22409*** (.02334)	-.23750*** (.01606)
Log-Likelihood	-11250.13	-8383.21	-13013.75	-11250.13	-8114.75	-12710.57
N	15,848	14,713	17,844	15,848	14,713	17,844
AIC/N	1.429	1.150	1.467	1.383	1.115	1.434

Note: the table reports coefficient estimates from a bivariate probit using the sample including Full versus “Toehold 1” acquisition contracts. All models include acquiror and target sector dummies, as well as year dummies. Models [M3] and [M4] also include target country dummies, and substitute the capital gain tax rate with the interaction of the latter and an indicator for whether the top firms in the target’s sector had positive capital gains in the year and country where the acquisition took place. Standard Errors in Parenthesis. \*\*\*, \*\* and \* are the standard significance level of 1%, 5%, and 10%, respectively

Table 8: Robustness Check: Recursive Bivariate Probit

	Baseline Model	[M1] & Acq. Fin.	[M2] & Interaction	[M3] & Risk Controls
	[M1]	[M2]	[M3]	[M4]
<b>Acquirer's Choice: Toehold Contract</b>				
CGT Rate	1.45055*** (.1171)	1.06359*** (.1292)		
CGT Rate*(CG>0)			-0.23132 (.1879)	0.0301 (.1956)
CB Deal	1.04135*** (.0368)	.95377*** (.0383)	.84287*** (.1112)	1.05281** (.4155)
Financial Acquirer	-0.07419 (.0658)	-0.06347 (.0667)	0.03324 (.0656)	0.01849 (.0677)
Same Sector	0.0159 (.0305)	0.05069 (.0313)	.09450*** (.0323)	.10216*** (.0327)
Bargaining Power	.26733*** (.0902)	.24240*** (.0929)	0.11108 (.101)	.22220** (.0963)
Ln (Acq Book Value)		-.07059*** (.0095)	-.06858*** (.0107)	-.06621*** (.0109)
Ln (Acq. EBT)		-.11032*** (.0155)	-0.01051 (.0159)	-0.02021 (.0161)
Ln (Acq. Sales)		.24232*** (.0163)	.14343*** (.0166)	.15586*** (.0169)
Accountability				-0.00554 (.0037)
Political Stability				-0.000008 (.0023)
Governance Effectiveness				.01705** (.0084)
Regulatory Quality				.01171** (.005)
Rule of Law				-.01565** (.0074)
Control of Corruption				0.00291 (.0066)
<b>Acquirer's Choice: Cash Finance</b>				
Toehold	-2.05516*** (.0656)	-2.07535*** (.0665)	-2.16874*** (.0482)	-1.99742*** (.0586)
CGT Rate	-1.42939*** (.1406)	-1.68090*** (.1452)		

Continued on next page

Table 8 – continued from previous page

	[M1]	[M2]	[M3]	[M4]
CGT Rate*(CG>0)			-.95411*** (.1164)	-.40983*** (.134)
CB Deal	.26968*** (.0294)	.24434*** (.0305)	.29674*** (.03)	.63702*** (.036)
Financial Acquirer	-0.01868 (.0572)	-0.0352 (.0585)	-0.05213 (.0577)	-0.08642 (.0599)
Same Sector	-.11183*** (.0247)	-.11049*** (.0251)	-.11419*** (.025)	-.13001*** (.0259)
Bargaining Power	-1.02387*** (.044)	-1.11800*** (.0448)	-1.09533*** (.0436)	-1.07274*** (.046)
Ln (Acq Book Value)		-0.00328 (.0084)	-0.01199 (.0083)	0.00127 (.0088)
Ln (Acq. EBT)		.06784*** (.0135)	.06477*** (.0133)	.05511*** (.0138)
Ln (Acq. Sales)		.06491*** (.0135)	.06992*** (.0133)	.07159*** (.0137)
Accountability				-.00478*** (.0016)
Political Stability				-.01569*** (.0011)
Governance Effectiveness				-0.000008 (.0057)
Regulatory Quality				.02699*** (.0031)
Rule of Law				-.00713* (.0037)
Control of Corruption				0.00288 (.0041)
RHO(1,2)	.77970*** (.0298)	.76663*** (.0305)	.86295*** (.0173)	.78720*** (.0238)
Log-Likelihood	-11691.91358	-11375.44892	-10854.57857	-10667.92255
N	15848	15848	15848	15848
AIC/N	1.48	1.441	1.38	1.358