The Role of Toeholds and Capital Gains Taxation for Corporate Acquisition Strategies*

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Abstract

Ownership takeovers often follow complex strategies where the control of the target firm is acquired through a sequence of independent contracts. Based on this observation, we develop a novel theoretical model where the acquiring firm decides on the number of steps towards the full ownership of the target (the acquisition structure) and on the combination of cash and stock used to finance the takeover (the method of payment). Within this framework, we analyse the effect of the capital gains tax on these two decision margins and test our theoretical prediction with the help of a bivariate probit model on a sample of acquisition contracts over the time period between 2002 and 2014, collected from Bureau van Dijk's Zephyr database.

Our estimates confirm the existence of the lock-in-effect and indicate that the discouraging effect of the capital gains tax (+10%-points increase) is larger in the one-shot full acquisition (-6.0%-points) vis-a-vis its sequential counterpart (-5.2%-points). Further, we provide evidence that an increase in the capital gains tax (+10%-points) rises the probability of choosing the one-shot full acquisition (+5.5%-points) instead of the sequential one.

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1 Introduction

Over the last decades, merger and acquisition (M&A) contracts have become increasingly sophisticated. A striking observation from historical firm level data is that only about half of all acquisitions listed between 2002 and 2014 correspond to instantaneous, one-shot, full ownership transactions (see Figure 3). For the remaining cases we largely observe complex acquisition structures, where the acquirer begins with purchasing an initial minority share of the target, a so-called "toehold",[1] and then proceeds with gradual increments of its participation into the target. Complete ownership is eventually achieved through a sequence of independent transactions.

Based on this prominent empirical relevance of sequential contracts in the market for corporate control, we develop a novel theoretical model where the acquiring firm decides on the number of steps towards the full ownership of the target (the acquisition structure) and on the combination of cash and stock used to finance the takeover (the method of payment). Within this framework, we analyse the role of the capital gains tax on these two decision margins and test our theoretical prediction with the help of a bivariate probit model on a sample of acquisition contracts collected from Bureau van Dijk's Zephyr database.

In the theoretical model we considers risk averse acquiring shareholders who have alternative means to insure against the possibility of an unprofitable merger. Referring to the literature on risk containing strategies of sequential acquisitions (see Canil and Rosser 2004),[2] we emphasise the role of the toehold as a screening device which allows to pre-assess whether the merger creates sufficient value to justify a further engagement in the target. Anecdotal evidence for the information-conveying role of the toehold is, for instance, provided by the América Móvil and KPN case.[3] Alternatively, acquiring shareholders can rely on stock payment to let target shareholders participate in the risk of a low post-acquisition performance of the merged firm. Both risk containing strategies, the toehold and the stock payment, are, however, costly. On the one hand, the purchase of a (significantly sized) toehold may call the awareness of rival bidders and thereby strengthen the target's outside option and boost the purchase premium substantially.

[1] Throughout the paper, we refer to the toehold not in the strict sense of a minority acquisition of below 5% which avoids the trigger of mandatory discloser requirements. We rather assume that the toehold could be as large as 20% (see Betton et al., 2007), ensuring its capacity to convey relevant information on the profitability of a potential merger. Further, we do explicitly model an auction between rival bidders and thus do not account for the role of the toehold in the bidding process (see, for instance, Grossman and Hart, 1980, Shleifer and Vishny, 1986, Hirshleifer and Titman, 1990, or Bulow, Huang, and Klemperer, 1999). Nevertheless, we account for the fact that the existence of the toehold has an effect on the takeover premium, to what we refer later on as the strategic effect of the toehold.

[2] Canil and Rosser (2004) argue that bidders purchase small shares of the target to collect information on its value (or market). The information obtained is crucial for the decision whether to stipulate a second contract and to acquire full control over the target.

[3] In May 2012, América Móvil, a Mexican telecommunications corporation, purchased 28% of the Dutch telecommunications company KPN N.V. and stayed thus just below the 30% threshold that imposes, by Dutch law, the mandatory takeover. América Móvil officially announced its interests were limited to acquiring a minority share, despite the latter gained them access to KPN's board. In August 2013, the América Móvil unexpectedly withdrew a previously advanced take-over offer. Later, information was released that América Móvil had approached the KPN board with proposals of corporate restructuring which had been refused by KPN, unless the offer price for the takeover was substantially raised. Clearly, América Móvil had the stance that the takeover would be unprofitable at the initial offer price, unless a full reorganization of KPN had taken place.

On the other hand, risk sharing with target shareholders via stock payment dilutes the acquirer's voting rights and may thus weaken or even threaten the acquirer's corporate control.[4] The importance of the corporate control motives for the payment method choice are empirically well validated (see Faccio and Masulis, 2005), and were also of central importance in the failed takeover of Volkswagen (VW) by Porsche.[5]

As it states, our model provides a long missing theoretical framework which incorporates all behavioural margins which are empirically deemed as relevant for the choice of payment method in corporate takeovers (see Betton et. al. 2008).[6] Besides this contribution, the model further allows us to analyse the interplay of these different margins which have so far only been analysed separately in the empirical literature. Furthermore, this paper is, to our knowledge, the first attempt to explicitly formalize sequential M&A transactions and to analyse the effect of capital gains taxation on the acquisition structure pursued. The theoretical insights gained highlight that the distinction between the two different types of acquisition strategies plays a key role for isolating the effect of the capital gains tax on the choice of the payment method. In fact, in the sequential acquisition, the use of stock payment is solely motivated by the tax saving incentive, whereas, in the one-shot full ownership transaction, the stock payment additionally serves as an insurance device, as it engages target shareholders to participate in the uncertainty about the profitability of the merger. This double incentive inherent to stock payment in the one-shot full acquisition introduces a bias when estimating the effect of the capital gains tax on the payment method. An important insight which has so far not been accounted for in the existing empirical literature.

Against this background, we depart in the econometric analysis form the well-known result that the capital gains tax generates a *lock-in* effect.[7] That is, the capital gains tax creates a disincentive to use cash (cash-to-stock transaction) vis-a-vis stock (stock-to-stock transaction), as target shareholders demand compensation for the tax penalty associated with the realization of capital gains upon the disposition of their stock in case of the cash payment. In line with the lock-in effect, our estimates confirm that the taxation of capital gains discourages the use of cash in both the sequential and the one-shot full acquisition contracts. Moreover, we provide

[4]Other prospective tax costs associated with stock payment are referred to as the *capitalization effect* in the literature. See, e.g., Guenther and Willenborg (1999), Lang and Shackelford (2000), or Huizinga et. al. (2012).

[5]Starting from September 200, Porsche, a German sports car manufacturer, continuously increased its participation in the 15 times larger German car manufacturer Volkswagen. By the end of 2008, Porsche was controlling almost 75% of the Volkswagen stocks, but at a cost of an indebtedness of more than 11 bn Euro, that is more than 140% of Porsche's yearly sales. With the onset of the financial crisis, Porsche was not able to prolong its credit lines and had to abandon the takeover. A completion of the merger via stock payments was also not an option, as the remaining 25% share of Volkswagen was worth almost 4 times the value of Porsche. Besides the insufficient purchase power, a stock payment would also have reverted the control rights and was thus impossible. Finally, the failed takeover attempt ended with Porsche being integrated in the Volkswagen conglomerate.

[6]In addition to the direct tax consideration, Betton et. al. 2008 discuss the role of information asymmetries and corporate control motives for the choice of the payment method. Even though, we consider uncertainty about the profitability of the merger instead of information asymmetries, both approaches are similar in economic terms. That is, the unavailing of information results in ex-post adjustments of stock prices which serve as a compensation mechanism between acquirer and target shareholders.

[7]See Huang and Walking (1987), Klein (1999, 2001 and 2004), Ayers, Lefanowicz, and Robinson (2003), Jin (2006), or Dai, Maydew, Shackelford, and Zhang (2008), for instance.

novel evidence that the discouraging effect of the capital gains tax is larger in the one-shot full acquisition vis-a-vis its sequential counterpart. An increase in the capital gains tax by 10%-points reduces the probability of using cash by -1.8%-points given the one-shot full acquisition and by -1.6%-points in case of a sequential acquisition. This difference becomes by far more pronounced for targets that are majority owned by individuals (persons or families). In the latter case, a 10%-points increase in the capital gains tax reduces the probability of cash finance by 6%-points in the one-shot full ownership transaction, but by only 5.2%-points in the sequential acquisition. These estimates mirror the theoretical insights that the lock-in-effect is clouded by the incentive to use stock as an insurance device in case of the one-shot full ownership transaction. In addition to that, the paper provides a second novel insight associated with the significance of the lock-in effect. Our estimates provide evidence that the lock-in effect is non-existent or only weak is the ownership of the target is dispersed, but increase to more than three-times its magnitude when the ownership of the target is concentrated among individual shareholders (persons or families). This inside adds to the finding by Ayers, Lefanowicz, and Robinson (2003), and highlights that not only individuals as shareholders per se matter, but the concentration of individual shareholding. That is, the existence of a single individual controlling a majority share in the target which is thus most likely endowed with substantial bargaining power.

Finally, the paper also ventures into uncharted waters by identifying the impact of the capital gains tax on the acquisition contract structure. In a situation where cash is the optimal method of payment, independent of the contract structure, and the toehold results in a significant boost of the purchase premium, an increase in the capital gains tax discourages the acquirer to choose a sequential acquisition. The rationale for this finding refers to the fact that the increase in the takeover premium and the tax penalty in case of the cash-financed sequential acquisition are so large that they outweigh the benefit associated with the low-acquisition price and the tax saving on the initial toehold investment. Our respective model estimates predict that sequential acquisitions are more frequently financed by cash than by stock, and that the probability of choosing a stock-financed, one-shot full acquisition increases by 1.5%-points following a 10%-point increase in the capital gains tax in the target's country. In case of a target controlled by an individual (person or family) holding the majority share, the probability to opt for a stock-financed, one-shot full acquisition increase by even more than 5.5%-points after a 10%-point increase in the capital gains tax.

The paper proceeds as follows: Section 2 presents the theoretical model while Section 3 illustrates the empirical analysis. The latter covers our empirical methodology, a description of the data applied and a discussion of the regression results. Section 4 concludes.

2 Theoretical Model

Firm A, the "acquirer", is interested in purchasing firm B, the "target", for industrial purposes, e.g., to enter a new market, to increase its production capacity or to exploit economies of scale.

The stand-alone value of the acquirer (target) is denoted by V_A (V_B). Once completed, the acquisition creates a stochastic value, i.e., a synergy, denoted θ which is a priori unknown to both firms and distributed as follows

$$\theta = \begin{cases} \theta^H & p, \\ \theta^L & 1-p, \end{cases} \tag{1}$$

with $p \in (0,1)$ and $\theta^H > 0 > \theta^L$. The realization of θ depends on the compatibility between the acquirer and the target. A negative θ may be due to a lack of interoperability between firms, a poor integration of the target into the acquirer's conglomerate, or simply due to a negative industry shock. These factors cannot be anticipated with certainty at the time of the acquisition but there is no asymmetric information between A and B.[8] The distribution of θ is common knowledge.

The value of the merged firm is $V_M(\theta) = V_A + V_B + \theta$. In the event that θ^H (θ^L) is realized, the merger generates profits (losses) and $V_M(\theta)$ is larger (smaller) than the sum of the two stand-alone firm values. The uncertainty about the profitability of the merger impacts the utility of both the acquirer and the target shareholders, as their preferences are represented by a two-moment, mean-variance utility function, $g\left[E(\pi_j), \sigma^2(\pi_j)\right]$, with $j \in \{A, B\}$ (see Tobin 1958, Markowitz 1970).[9] That is, the shareholders' utility increases in the expected pay-off, $E(\pi_j)$, but decreases with the variance of the latter, $\sigma^2(\pi_j)$.

$$g\left[E(\pi_j), \sigma^2(\pi_j)\right] = E(\pi_j) - \frac{1}{2}\gamma_j \sigma^2(\pi_j), \quad \text{with} \quad j \in \{A, B\}. \tag{2}$$

The variable $\gamma_j \geq 0$ captures the strength of the shareholders' aversion to risk. The expected pay-off arising from the synergies realized through the merger is $E(\theta) = p\theta^H + (1-p)\,\theta^L$ and the variance of the synergies is $\sigma^2(\theta) = p\,(1-p)\left(\theta^H - \theta^L\right)^2$.

2.1 Structure of the Acquisition Contract & Method of Payment

The acquisition contract stipulates either a sequential or a one-shot takeover of the target. The sequential acquisition is a two-stage process. In the first stage, the acquirer purchases a minority share δ of the target at a price δV_B. The size δ of the toehold is exogenous.[10] In the second stage,

[8] Most likely, acquisitions involve a search and matching process. We ignore this fact for simplicity, as our focus is on the part of the acquisition process that comes after matching, that is, the definition of the contractual features of the merger. We assume all acquirer-target pairings to generate strictly positive ex ante expected pay-off for the acquirer, as implied by the formal condition below.

[9] The mean-variance approach resembles a perfect substitute for and coincides with the expected utility (EU) framework approach, if the location-scale condition is met. The latter requires that all random variables in the choice set are linearly related to one another (see, e.g., Sinn, 1990, or Eichner and Wagener, 2004).

[10] 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). Another justification refers to the fact that 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 size of the toehold.

the acquirer decides whether to purchase the remaining $(1-\delta)$ fraction of the target, or whether to abandon the merger. By definition, the one-shot acquisition consists of a single transaction through which the target is fully acquired.

The benefit associated with a sequential acquisition is the *informational* content of the toehold. That is, the acquirer receives a perfectly informative signal on the value of θ at an interim stage. This signal allows the acquirer to abandon the merger in case θ^L is observed and hence to avoid an unproductive sunk investment. Disclosing uncertainty about the profitability of the merger has, in addition, a positive impact on the acquiring shareholders' utility since the variance of the expected income is eliminated through the toehold.

One potential drawback arising from the sequential acquisition is related to the *strategic* effect of the toehold. The purchase of a (significant) toehold by A most likely rises the awareness of rival bidders about the target's potential and will thus affect the target's valuation in the continuation game. We denote the change in the value of the target due to the toehold investment by V_B^T and refer to the difference, $(V_B - V_B^T)$, as the *strategic* effect of the toehold. In principle, this effect can be both positive or negative. On the one hand, rival bidders may be less willing to acquire B as they anticipate that they have to negotiate with A in addition to establish a full takeover of the target (see Eckbo and Thorburn, 2009, for instance).[11] In this case, one expects $(V_B - V_B^T) \geq 0$. On the other hand, the news that A has acquired a (significant) toehold in B might attract the attention of other potential bidders, that would otherwise be idle.[12] The presence of additional competing bidders improves the target shareholders' outside option when negotiating with A and hence $(V_B - V_B^T) < 0$ is likely to hold in the latter case. The initial stand-alone values of both firms V_A and V_B are independent of the acquisition structure pursued.

In the event of a positive signal, θ^H, the acquirer makes a take-it-or-leave-it offer to the target shareholders. This offer, (x, s), specifies an amount of cash, $x \geq 0$, in exchange for the target's stocks (a cash-to-stock payment) and an equity pay, s, with $\overline{s} > s \geq 0$, in the form of a stock-to-stock transfer.[13,14] As it becomes clear below, the method of payment has substantial corporate control, risk bearing, and tax implications for both the acquiring and the target shareholders.

Keeping in mind that the toehold discloses the uncertainty about the gains of the merger and that the merger is consummated only with probability p, the acquiring and the target

[11] 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.

[12] If acquiring information about a potential target is costly, rival bidders to A may be rationally ignorant of B and free-ride on the search made by A; the toehold would be a credible signal of B's value as a potential target.

[13] $\overline{s}$ denotes the maximum share of equity finance which ensures that the acquiring shareholders remain the controlling shareholders in the merged firm.

[14] In case the acquirer is short of cash or liquid assets, cash finance generally requires debt financing. Except for simplicity, we suppress debt finance and subsume it under cash finance.

shareholders' utilities coincide with their respective expected pay-offs, $g_j^T = E(\pi_j^T)$, $j \in \{A, B\}$,[15]

$$\begin{aligned} (a) \quad & g_A^T = p\left[\left(1-s^T\right)V_M(\theta^H) - x^T - \delta V_B - s^T\phi V_M(\theta^H)\right] + (1-p)\left[V_A - \delta\left(V_B - V_B^T\right)\right], \\ (b) \quad & g_B^T = p\left[s^T V_M(\theta^H) + (1-\tau)x^T + \delta V_B\right] + (1-p)\left[V_B^T + \delta\left(V_B - V_B^T\right)\right]. \end{aligned} \tag{3}$$

Superscript T indicates the event of the sequential acquisition. The pay-off to acquiring shareholders, (3a), consists of the share $(1-s^T)$ in the merged firm, $V_M(\theta^H)$, minus the cash payment to target shareholders, x^T, and the acquisition price of the toehold, δV_B. The use of equity finance additionally incurs costs associated with the loss of corporate control of size $s^T\phi V_M(\theta^H)$. The latter reflect monetary and organizational costs originating from the dilution of the acquiring shareholders' voting power and the threat of weakening or loosing corporate control through a stock-to-stock transaction.[16] Thus, corporate control concerns are likely to provide incentives for using cash rather than equity finance in an acquisition. In case the merger is abandoned, acquiring shareholders are left with firm value V_A and eventually with a loss or gain on the toehold, depending on $\delta\left(V_B - V_B^T\right) \gtreqless 0$.

The pay-out to target shareholders, (3b), includes an ownership share in the merged firm, $s^T V_M(\theta^H)$, the net of tax cash payment, $(1-\tau)x^T$, with τ denoting the capital gains tax, and the sales proceeds from the toehold, δV_B. The cash payment made by the acquirer entails additional tax costs of τx^T, since the target shareholders demand compensation for the tax burden faced while being forced to liquidate the target shares and thereby to realize all capital gains accrued prior to the merger. Hence, under cash finance, the taxation of realized capital gains generates an increase of the sale price which is referred to as the "lock-in" effect of capital gains taxation (see, among others, Feldstein et al. 1980, Landsman and Shackelford 1995, Reese 1998, Poterba and Weisbenner 2001, or Klein 2001). Consistent with this literature, we assume that the target shareholders accept a cash-to-stock transaction only if they are compensated for the incurred capital gains tax burden by the acquirer. As a consequence, cash finance becomes increasingly expensive the higher the capital gains tax. Contrary to that, in the case of equity pay, (i.e. a stock-to-stock transaction), stocks are not sold but exchanged. Target shareholders receive a fraction s of the merged firm in return for their stocks and hence the taxation of accrued capital gains can indefinitely be deferred. In the event the merger is abandoned, the pay-out to target shareholders consists of firm value V_B^T and a potential gain or loss on the sales proceeds from the toehold, depending on $\delta\left(V_B - V_B^T\right) \gtreqless 0$.

If the acquisition is structured as a one-shot event, the uncertainty about the profitability of the merger vanishes only once the takeover is completed. Accounting for the variance of the

[15] Due to the informational content of the toehold, uncertainty about the profitability of the merger is eliminated and thus, pay-offs are of zero variance in the sequential acquisition.

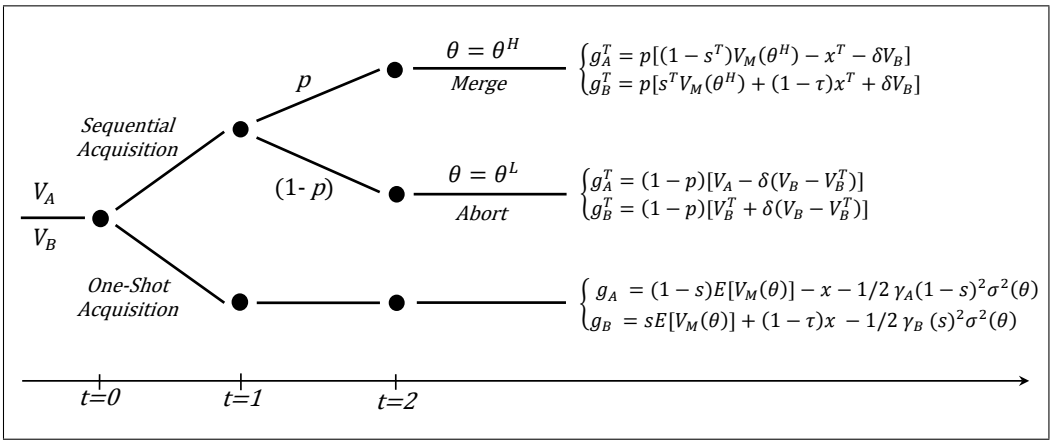
[16] Faccio and Masulis (2005) show that the loss of control is strongest, and acquiring shareholders are most vulnerable, if they exert only an intermediate level of voting power ranging from 20 to 60 percent, while the ownership of the target is concentrated. Contrary to that, if acquiring shareholders hold a super-majority of voting rights and the target ownership is rather diffuse, equity pay (a stock-to-stock transaction) is unlikely to threaten the continuation of corporate control. See also Amihud et al (1990) or Harris and Raviv (1988), and Stulz (1988), for a discussion on ownership positions and the risk of loosing control through stock issuance.

expected pay-offs, the utilities of the acquiring and target shareholders are given by

$$\begin{aligned} (a) \quad g_A &= (1-s)\,E\left[V_M(\theta)\right] - x - s\phi E\left[V_M(\theta)\right] - \tfrac{1}{2}\gamma_A(1-s)^2\sigma^2(\theta), \\ (b) \quad g_B &= sE\left[V_M(\theta)\right] + (1-\tau)x - \tfrac{1}{2}\gamma_B s^2\sigma^2(\theta). \end{aligned} \tag{4}$$

From the point of view of the risk-averse acquirer, in the one-shot acquisition, equity finance carries the additional advantage of sharing the uncertainty about the profitability of the merger with the target shareholders. Through the stock-to-stock transaction, target shareholders become minority owners in the merged firm and are no longer able to side-step the risk of an unprofitable merger. Risk-averse target shareholders, however, require compensation for the increased volatility of their expected pay-off in the case of equity finance (last term in (4b)). For simplicity we assume that this compensation payment is always made in cash.

Figure 1: Structure of the Game



The timing of events is summarized in Figure 1. At stage 1, A decides whether to acquire a toehold in B or to opt for the one-shot acquisition. If the toehold is acquired, both A and B receive a perfectly informative signal on the value of θ. At stage 2, A decides whether to proceed with the merger and, if so, she makes a take-it-or-leave-it offer to the target shareholders. At stage 3, θ is realized and all parties receive their state-dependent pay-off. We solve the model by backward induction.

2.2 Optimal Financing Behaviour & Decision to Merge

If $\theta = \theta^H$ is observed in the sequential acquisition, the acquirer formulates a contract which ensures that the merger is completed at Stage 2. That is, the contract has to satisfy the participation constraint of the target shareholders which states

$$s^T V_M(\theta^H) + (1-\tau)x^T + \delta V_B \geqq V_B^T + \delta\left(V_B - V_B^T\right) \;\Rightarrow\; x^T \geqq max\left[0; \frac{(1-\delta)V_B^T - s^T V_M(\theta^H)}{1-\tau}\right]. \tag{5}$$

Combining (5) and (3a), the acquirer's problem reduces to the following first order condition

$$\frac{\partial g_A^T}{\partial s} = \frac{\partial E(\pi_A^T)}{\partial s}: \quad p\left[-V_M\left(\theta^H\right) + \frac{V_M\left(\theta^H\right)}{1-\tau} - \phi V_M\left(\theta^H\right)\right] \lesseqgtr 0, \tag{6}$$

$$\text{if } \tau \geq \frac{\phi}{1+\phi} \Rightarrow x^T = 0, s^T = \frac{(1-\delta)V_B^T}{V_M\left(\theta^H\right)}; \quad \text{if } \tau < \frac{\phi}{1+\phi} \Rightarrow s^T = 0, x^T = \frac{(1-\delta)V_B^T}{(1-\tau)}.$$

Each dollar financed by equity (stock-to-stock transaction) bears the marginal cost of not participating in the merger gains and a marginal loss of control (first and third term in (6)), but grants also a marginal benefit in the form of tax savings (second term in (6)). As long as the costs associated to the loss of control are relatively low compared to the tax costs, it is optimal for the acquirer to offer no cash and rely entirely on equity finance. Instead, if the loss of control costs are sufficiently high, pure cash finance is the optimal method of payment.

In the sequential acquisition, the completion of the merger depends entirely on the realization of θ. Specifically, the merger is abandoned if $\theta = \theta^L$. Even for $\theta = \theta^H$, the acquirer has the option of abandoning the merger. For simplicity, we assume that the gains from the merger are sufficiently large and hence, completing the takeover is always profitable upon observing θ^H.[17]

Contrary to the above analysis, in case of the one-shot acquisition, the uncertainty about the gains created by the merger dissolves only at Stage 3 after the merger has been consummated. Using the definitions of $V_M(\theta)$ and $\sigma^2(\theta)$ provided above, target shareholders accept the acquirer's offer only if[18]

$$sE\left[V_M(\theta)\right] + (1-\tau)x - \frac{\gamma_B s^2 \sigma^2(\theta)}{2} \geqq V_B \Rightarrow x \geqq max\left[\frac{\gamma_B s^2 \sigma^2(\theta)}{2}; \frac{V_B - sE\left[V_M(\theta)\right]}{1-\tau} + \frac{\gamma_B s^2 \sigma^2(\theta)}{2}\right]. \tag{7}$$

Similar to (5), the capital gains tax generates a lock-in effect in the case of cash finance. The size of the lock-in effect varies, however, with the underlying acquisition structure. In the sequential acquisition, the lock-in effect occurs only with probability p and falls only on the remaining $(1-\delta)$ fraction of the target firm. Depending on the direction and size of the strategic effect, the latter may, however, additionally diminish (or enhance) the lock-in effect, depending on $V_B < (>) V_B^T$. Anticipating that (7) is binding in equilibrium and accounting for (4a), the acquirer's optimal share of equity finance s in the one-shot acquisition follows from

$$\frac{\partial g_A}{\partial s}: -E\left[V_M(\theta)\right] + \frac{E\left[V_M(\theta)\right]}{1-\tau} - \phi E\left[V_M(\theta)\right] + \left[\gamma_A(1-s) - \gamma_B s\right]\sigma^2(\theta) \lesseqgtr 0. \tag{8}$$

The interpretation of the first three terms in (8) is identical to those in (6). The additional last

[17] The respective formal condition states $\theta^H > \left[\frac{1}{1-\tau} - 1\right](1-\delta)V_B^T$ if $s^T = 0$ and $\theta^H > s\phi V_M(\theta)$ if $x^T = 0$. That is, the synergies emerging from the merger need to be large enough to cover at least the capital gains tax costs in case of cash finance, or the loss of control costs in case of equity finance.

[18] Without loss of generality, we assume in (7) that the payment to compensate target shareholders for the larger volatility in their expected pay-off in case of the equity-financed one-shot acquisition is always made in cash (even if pure equity finance is optimal) and that this payment is not affected by the capital gains tax.

term captures the risk insurance effect associated with equity finance in the one-shot acquisition. Letting target shareholders participate in the uncertain proceeds of the merger serves as a beneficial insurance device as it reduces the variance of the acquiring shareholders' pay-off. For the simple case of an identical aversion to risk of acquiring and target shareholders (i.e. $\gamma_A = \gamma_B$) and given the natural threshold of $s < \overline{s} = 0.5$ (which ensures that the acquirer remains the controlling shareholder), the insurance effect is strictly positive and thus provides, in addition to the tax incentive, a rationale for the use of equity finance. So, even if the capital gains tax is zero, the insurance effect may suffice on its own that equity is the optimal method of payment in case of the one-shot acquisition. The optimal financing of the one-shot acquisition follows from[19]

$$\text{if} \quad \tau \geq \frac{\tilde{\phi}(s)}{1+\tilde{\phi}(s)} \quad \Rightarrow \quad x = \tfrac{\gamma_B s^2 \sigma^2(\theta)}{2} \qquad \text{and} \quad s = \frac{V_B}{E[V_M(\theta)]},$$

$$\text{if} \quad \tau < \frac{\tilde{\phi}(s)}{1+\tilde{\phi}(s)} \quad \Rightarrow \quad s = 0 \qquad \text{and} \quad x = \frac{V_B}{1-\tau} + \frac{\gamma_B s^2 \sigma^2(\theta)}{2},$$

with $\tilde{\phi}(s) \equiv \phi - [\gamma_A(1-s) - \gamma_B s] \frac{\sigma^2(\theta)}{E[V_M(\theta)]}$. A cash-financed one-shot acquisition is optimal, only if the expected gains from the merger are sufficiently large to cover the tax costs and the disutility arising from the increased variance of the expected income, i.e., if $E[\theta] \geq \left[\frac{1}{1-\tau} - 1\right] V_B + \frac{1}{2}\gamma_A \sigma^2(\theta)$. An equity financed one-shot acquisition is rather preferred, if the expected gains from the merger cover the costs associated with the loss of control and the disutility arising from the uncertainty, i.e. $E[\theta] \geq s\phi[V_M(\theta)] + \frac{1}{2}\left[\gamma_A(1-s)^2 + \gamma_B s^2\right]\sigma^2(\theta)$.

To summarize, equity finance carries the benefit of saving on the tax costs associated with the realization of capital gains under cash finance. At the same time, equity finance may weaken or even threaten corporate control. In the one-shot acquisition, equity finance has the additional feature of providing a partial insurance against an unprofitable merger by shifting part of the uncertain proceeds from the acquiring to the target shareholders. This insurance incentive prevails even if capital gains are untaxed. If the uncertainty about the profitability of the merger is, however, revealed through the toehold, the insurance motive of equity finance vanishes and cash becomes the optimal source of finance if capital gains are untaxed.

Proposition I: All else equal, cash finance is more likely in case of a sequential vis-a-vis an one-shot acquisition, as the toehold eliminates the downside risk of the merger. Hence, equity finance becomes superfluous as a mean of risk sharing in the sequential acquisition.

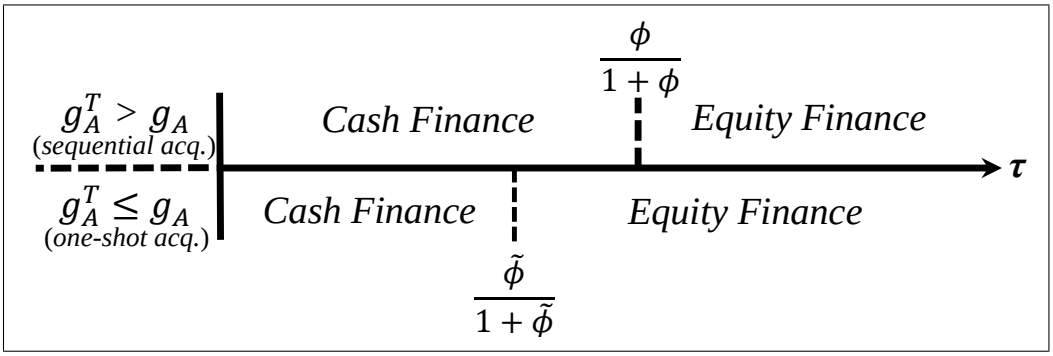
Proposition II: Irrespective of the contract structure, an increase in the capital gains tax discourages the use of cash finance. This effect is stronger in the one-shot vis-a-vis the sequential acquisition and it is additionally magnified due to the insurance motive inherent to equity finance.

[19] Even if equity finance is the optimal payment method, the compensation for the increased variance of the target shareholders' expected income is, per assumption, made in cash.

2.3 Equilibrium Choice of Acquisition Structure

At Stage 1, the acquirer decides on the structure of the acquisition contract anticipating the optimal method of finance. Figure 2 shows the relative importance of the tax costs, τ, vis-a-vis the loss of control costs, ϕ (and $\tilde{\phi}(s)$, respectively), for the optimal method of finance.[20] In light of the results of the previous section, three different scenarios need to be considered.

Figure 2: Optimal Method of Finance



Low Capital Gains Tax

If the capital gains tax is relatively low compared to the loss of control costs, that is, $\tau < \frac{\tilde{\phi}(s)}{1+\tilde{\phi}(s)}$, cash finance is the optimal method of payment irrespective of the acquisition structure. The acquirer opts for the sequential acquisition if the gains (costs) arising from this type of acquisition are larger (lower) than the one emerging from the one-shot acquisition, $g_A^T|_{s^T=0} \geq g_A|_{s^F=0}$, or

$$-\delta(V_B - V_B^T) - p\left[\frac{1}{1-\tau} - 1\right](1-\delta)V_B^T \geq (1-p)\theta^L - \left[\frac{1}{1-\tau} - 1\right]V_B - \frac{1}{2}\gamma_A\sigma^2(\theta)\,. \qquad (9)$$

The costs of a cash-financed sequential acquisition (left hand side of (9)) comprise the potential loss in the value of the toehold, $\delta(V_B - V_B^T)$, and the tax costs associated with the purchase of the remaining $(1-\delta)$ fraction of the target firm. In the sequential acquisition, these costs materialize only with probability p, namely if the merger is actually consummated. The costs of a cash-financed one-shot acquisition (right hand side of (9)) include the expected loss from an unprofitable merger, $(1-p)\theta^L$, the tax costs associated with the purchase of the (whole) target firm, and, additionally, the costs originating from risk bearing (last term in (9)). To ease interpretation, (9) is re-arranged to highlight under which conditions a sequential acquisition becomes beneficial,

$$-(1-p)\theta^L + \frac{1}{2}\gamma_A\sigma^2(\theta) + \left[\frac{1}{1-\tau} - 1\right]\left[V_B - p(1-\delta)V_B^T\right] \geq \delta(V_B - V_B^T). \qquad (9')$$

The advantage of the sequential acquisition rests on the informational content attained through

[20] In the case of the one-shot acquisition, the loss of control costs are adjusted by the positive effect arising from the insurance effect, that is, the benefit arising from sharing the uncertainty about the profitability of the merger with target shareholders.

the toehold (first two terms in (9')) and the reduced tax costs (third term in (9')). Specifically, the informational benefit comprises the expected gain from, first, avoiding the unprofitable merger if $\theta = \theta^L$ realizes and, second, from unavailing the realization of θ at an interim stage and hence removing the downside risk of the merger. The tax benefit of the sequential vis-a-vis the one-shot acquisition originates from the fact that the lock-in effect burdens only the remaining $(1-\delta)$ fraction of the target firm and occurs only with probability p in case of the sequential acquisition. If the toehold brings about a substantial increase in the target's firm value, i.e. $V_B^T > \frac{V_B}{p(1-\delta)}$, the tax effect, however, may also turn into a disadvantage. The right hand side of (9') denotes the costs of the sequential acquisition and captures the potential loss in the value of the toehold which depends on the direction and the strength of the strategic effect.

To summarize, under cash finance, the effect of a marginal increase in the capital gains tax on the acquisition structure is undetermined, as it depends on the direction and the strength of the strategic effect. If the strategic effect is strong and rises the target shareholders' outside option, it also inflates the compensation payment required by the target shareholders and with it the magnitude of the lock-in effect. In this case, a marginal increase in the capital gains tax raises the relative profitability of the one-shot vis-a-vis the sequential acquisition. Otherwise, a marginal increase in the capital gains tax enhances the relative profitability of the sequential acquisition, as it boosts the tax advantage linked to the sequential acquisition.

Intermediate Capital Gains Tax

If the capital gains tax is of intermediate size, that is, $\frac{\phi}{1+\phi} \geq \tau \geq \frac{\tilde{\phi}(s)}{1+\tilde{\phi}(s)}$,[21] cash is still the optimal method of finance in the sequential acquisition whereas the use of equity is optimal in the one-shot acquisition. The condition indicating when the sequential acquisition should be undertaken states $g_A^T|_{s^T=0} \geq g_A|_{x=0}$ and implies

$$-\delta(V_B - V_B^T) - p\left[\frac{1}{1-\tau} - 1\right](1-\delta)V_B^T \geq (1-p)\theta^L - s\phi E\left[V_M(\theta)\right] - \frac{1}{2}\left[\gamma_A(1-s)^2 - \gamma_B s^2\right]\sigma^2(\theta). \tag{10}$$

The interpretation of the left hand side of (10) is identical to the one in (9). That is, the sequential acquisition is the preferred strategy, if the potential loss in the value of the toehold and the eventual tax costs linked to the purchase of the remaining $(1-\delta)$ fraction of the target are smaller than the costs emerging in case of a equity financed one-shot acquisition. The latter costs include the expected loss from an unprofitable merger, $(1-p)\theta^L$, the costs associated with the loss of control under equity finance $s\phi E\left[V_M(\theta)\right]$, and the costs originating from risk bearing, $\frac{1}{2}\left[\gamma_A(1-s)^2 - \gamma_B s^2\right]\sigma^2(\theta)$.[22]

Obviously, a marginal increase of the capital gains tax reduces the likelihood of the sequential

[21] The inequality is fulfilled for $s < \frac{\gamma_A}{\gamma_A+\gamma_b}$, and for the case of an identical risk aversion of the acquireer and the target shareholders, the condition simplifies to $s < 0.5$. The measure of dispersion, $\frac{\sigma^2(\theta)}{E[V_M(\theta)]}$, is positive given that the preassigned minimum value for $E\left[V_M(\theta)\right]$.

[22] The disadvantage from risk bearing depicted in (10) is smaller than one emerging under cash finance (see (9)), since each unit of equity pay transfers some of the uncertainty to target shareholders and thus reduces the variance of the expected income of the acquiring shareholders.

acquisition been chosen. The explanation refers to the fact that the marginal tax increase strengthens the lock-in effect and with it the tax costs of the sequential acquisition, while the costs of the equity financed one-shot acquisition are unaltered by the marginal tax increase.

High Capital Gains Tax

Finally, in the case where the capital gains tax is high relative to the loss of control costs, that is, $\tau \geq \frac{\phi}{1+\phi}$, equity is the optimal source of finance irrespectively of the acquisition structure. The decision to choose a sequential vis-a-vis a one-shot contract depends on $g_A^T|_{x^T=0} \geq g_A|_{x=0}$, and implies

$$-\delta(V_B - V_B^T) - ps^T\phi V_M(\theta^H) \geq (1-p)\theta^L - s\phi E\left[V_M(\theta)\right] - \frac{1}{2}\left[\gamma_A(1-s)^2 - \gamma_B s^2\right]\sigma^2(\theta)\,. \quad (11)$$

The sequential acquisition is beneficial, if the eventual loss in the value of the toehold and the expected loss of control costs, $s^T\phi V_M(\theta^H)$, are smaller than the costs of the equity financed one-shot acquisition, already discussed in (10). Evidently, under equity finance, the choice of acquisition structure is insulated from the capital gains tax. Besides that, the sequential acquisition is more likely to appear, if the degree of uncertainty about the value created by the merger is large (p is relatively small) and if there is a significant downside risk involved with the acquisition (θ^L is relatively large and negative). The latter effect is additionally magnified by the acquirer's aversion to risk (large γ_A).

Proposition III: Independent of the contract structure, if cash is the optimal method of finance and the strategic effect substantially strengthens the target shareholders' outside option, a marginal increase in the capital gains tax reduces the likelihood of the sequential contract been chosen. The same is also true for an intermediate level of the capital gains tax, when it is optimal to finance the sequential acquisition by cash and the one-shot acquisition by equity.

Proposition IV: If equity is the preferred method of payment in both the sequential and the one-shot acquisition, a marginal increase in the capital gains tax has no effect on the choice of the contract structure.

3 Empirical Analysis

3.1 Econometric Approach

The theoretical framework presents a set-up in which acquisitions are motivated by the realization of economic synergies and where the method of payment and the contract structure are chosen strategically. That is, cash finance, on the one hand, incurs additional tax costs associated with the realization of capital gains upon the handover of the target shares by means of a cash-to-stock transaction. Equity finance, on the other hand, saves on these tax costs and facilitates the benefit of sharing the risk of an unprofitable merger with the target shareholders, but it incurs

the potential costs of weakening the acquirer's corporate control in the newly merged firm. With regard to the contract structure, the sequential acquisition, that is the toehold investment, serves as a device to unveil the potential of the merger, but it may trigger adverse competition effects by calling rival bidders into action who inflate the purchase price of the target firm.

The theoretical model involves four propositions which highlight the effect of the capital gains tax on the method of finance and the contract structure. Aim of the empirical analysis is to test the validity of these propositions. To estimate the effect of the capital gains taxation on the method of finance and the contract structure, we adopt a two-equation model in the fashion of a seemingly unrelated regression, where the two discrete choices are correlated and jointly determined. Our unit of observation is contract i_{AB} (for simplicity denoted as i) between acquirer A and target B, completed in year t and leading to the majority control of B by A. We do not observe the acquirer's expected pay-off from a sequential acquisition ($g(\pi_{\mathrm{A}}^{\mathrm{T}})$), or the exact volume of cash used for the transaction (x), but we are able to collect information on whether the acquirer already controlled a share of the target ($D^{\mathrm{T}} = 1$) prior to the execution of the contract and whether a cash payment was made to finance the transaction ($D^{\mathrm{C}} = 1$). Each contract is observed once, but contracts are completed in different years. So, we adopt the notation proposed by Moffit (1993) in the context of pseudo-panels, and index the i^{th} contract completed at time t as $i_{(t)}$. This indicates that the i^{th} contract is not the same from one period to the next, and that the number of observations, $N(t)$, varies across periods. We specify the following bivariate probit model

$$\begin{cases} g_{i_{(t)}cst}(\pi_{\mathrm{A}}^{\mathrm{T}}) = \mathbf{w}'_{1,i_{(t)}cst}\boldsymbol{\beta}_1 + \gamma_1\tau_{\mathrm{B},c_{(t)}t} + \delta_{1,t} + \mu_{1,c} + \nu_{1,s} + \epsilon_{1,i_{(t)}cst}, \\ \qquad\qquad D^{\mathrm{T}}_{i_{(t)}cst} = 1[g_{i_{(t)}cst}(\pi_{\mathrm{A}}^{\mathrm{T}}) > g_{i_{(t)}cst}(\pi_{\mathrm{A}})] \\ x_{i_{(t)}cst} = \mathbf{w}'_{2,i_{(t)}cst}\boldsymbol{\beta}_2 + \gamma_2\tau_{\mathrm{B},c_{(t)}t} + \delta_{2,t} + \mu_{2,c} + \nu_{2,s} + \epsilon_{2,i_{(t)}cst}, \\ \qquad\qquad D^{\mathrm{C}}_{i_{(t)}cst} = 1[x_{i_{(t)}cst} > 0] \end{cases} \tag{12}$$

where c denotes the country where the target B is located, s denotes the industrial sector in which it operates, $\mathbf{w}_{ics} = (\mathbf{w}_{1,ics}, \mathbf{w}_{2,ics})$ are vectors of exogenous variables, $\tau_{\mathrm{B},c}$ is the capital gains tax rate of the country the target firm is located in, δ_t, μ_c and ν_s are, respectively, time-invariant, target-country specific and sector-specific fixed effects. The error term is assumed to follow a bivariate normal distribution $(\epsilon_{1,ics}, \epsilon_{2,ics}|\mathbf{w}_{ics}, \tau_{\mathrm{B}}) \sim N_2(0, \boldsymbol{\Omega})$, where $\boldsymbol{\Omega}$ has off-diagonal element $\rho = Corr(\epsilon_{1,ics}, \epsilon_{2,ics})$, such that the joint probability entering the likelihood function is $Prob(D^{\mathrm{T}}_{i_{(t)}cst} = d^{\mathrm{T}}_{i_{(t)}cst}, D^{\mathrm{C}}_{i_{(t)}cst} = d^{\mathrm{C}}_{i_{(t)}cst}|\mathbf{w}_{i_{(t)}cst}, \tau_{\mathrm{B},c_{(t)}t}) = \Phi_2[\mathbf{w}'_{ics}\boldsymbol{\beta}, \gamma_1\tau_{\mathrm{B}}, \gamma_2\tau_{\mathrm{B}}, \rho]$. Under the hypothesis that ρ equals zero, the model would reduce to two independent probit equations. One advantage associated with the bivariate probit specification is that it enables us to estimate the joint conditional mean functions for the probability of our outcome variables, and to compute the relevant partial effects of interest.

Hypothesis I

Following Proposition I, we expect our estimates to predict that cash finance is more likely chosen in the sequential vis-a-vis the one-shot acquisition,

$$\widehat{Pr}\big[D^{\mathrm{C}}_{i_{(t)}cst}=1\big|(D^{\mathrm{T}}_{i_{(t)}cst}=1),\mathbf{w}_{i_{(t)}cst},\tau_{\mathrm{B},c_{(t)}t}\big]>\widehat{Pr}\big[D^{\mathrm{C}}_{i_{(t)}cst}=1\big|(D^{\mathrm{T}}_{i_{(t)}cst}=0),\mathbf{w}_{i_{(t)}cst},\tau_{\mathrm{B},c_{(t)}t}\big]. \tag{13}$$

The explanation for Proposition I is based on the insight that the toehold discloses the uncertainty about the profitability of the merger, and hence, equity finance is no longer needed to insure against an unprofitable merger. This is, however, not true for the one-shot acquisition, where the uncertainty about the gains of the merger unveil only after the full takeover is completed.

Hypothesis II

With regard to the method of finance, we are interested in estimating the size of the lock-in-effect, that is, to which extent the likelihood of using a cash-to-stock transaction decreases as the capital gains tax in the target's country increases. The taxation of capital gains generally encourages the use of equity finance to avoid the tax burden associated with realization of capital gains under cash finance. According to Proposition II, we conjecture that this tax effect on the financing decision is stronger (more negative) in case of the one-shot vis-a-vis the sequential acquisitions,

$$\frac{\partial\widehat{Pr}\big[D^{\mathrm{C}}_{i_{(t)}cst}=1\big|D^{\mathrm{T}}_{i_{(t)}cst}=0,\mathbf{w}_{i_{(t)}cst},\tau_{\mathrm{B},c_{(t)}t}\big]}{\partial\tau_{\mathrm{B},c_{(t)}t}}<\frac{\partial\widehat{Pr}\big[D^{\mathrm{C}}_{i_{(t)}cst}=1\big|D^{\mathrm{T}}_{i_{(t)}cst}=1,\mathbf{w}_{i_{(t)}cst},\tau_{\mathrm{B},c_{(t)}t}\big]}{\partial\tau_{\mathrm{B},c_{(t)}t}}<0. \tag{14}$$

The rational for Hypothesis II rests on the finding, that the lock-in effect in case of the sequential acquisition, first, occurs only with probability p, that is, if the merger is actually consummated, and second, it falls only the remaining fraction $(1-\delta)$ of the target. This indicates a smaller lock-in effect in case of the sequential vis-a-vis the one-shot full acquisition.[23] In addition, the insurance effect inherent to equity finance in case of the one-shot full acquisition provides an extra incentive for the use of equity, which increases further the sensitivity of the financial choice under the one-shot full acquisition.

This mechanism also paves our way to formulate a novel strategy to identify the pure effect of the capital gains tax on the financing method in merger and acquisitions. That is, only in case of sequential acquisitions, the tax effect on the financial decision can be isolated, while in case of the one-shot full ownership acquisition, the identification of the tax effect on the financial decision is overlain by a double incentive, namely the tax saving and the insurance effect.

[23] If the strategic effect is, however, very strong and negative, the increase in the purchase price of the remaining $(1-\delta)$ fraction of the target could magnify the size of the lock-in effect substantially in case of the sequential acquisition. Thus, depending on the success probability p and the strength of a negative strategic effect, the lock-in effect may actually be larger in case of the sequential vis-a-vis the one-shot full acquisition.

Hypothesis III

The effect of the capital gains tax on the choice of the contract structure varies across different scenarios. If the costs associated to the loss of control are high relative to the capital gains tax costs, and if the toehold triggers rival bidders to enter the bidding competition and inflating the purchase price of the target, an increase of the capital gains tax rate reduces the likelihood of choosing a sequential acquisition, as outlined in Proposition III. The result leaves us with the testable hypothesis that the partial effect of an increase in the capital gains tax on the joint probability of choosing a sequential acquisition financed by cash is negative,

$$\frac{\partial \widehat{Pr}\left[D^{\mathrm{C}}_{i_{(t)}cst}=1, D^{\mathrm{T}}_{i_{(t)}cst}=1 \middle| \mathbf{w}_{i_{(t)}cst}, \tau_{\mathrm{B}}\right]}{\partial \tau_{\mathrm{B}}} < 0. \tag{15}$$

Hypothesis IV

Alternatively, if the loss of control costs are sufficiently small to induce an unconditional preference for equity finance, the choice of the contract structure is independent of the capital gains tax. To verify the validity of Proposition IV, we test whether the partial effect of the capital gains tax on the joint probability of choosing a sequential acquisition financed by equity is non-significantly different from zero,

$$\frac{\partial \widehat{Pr}\left[D^{\mathrm{C}}_{i_{(t)}cst}=0, D^{\mathrm{T}}_{i_{(t)}cst}=1 \middle| \mathbf{w}_{i_{(t)}cst}, \tau_{\mathrm{B}}\right]}{\partial \tau_{\mathrm{B}}} = 0. \tag{16}$$

A practical implication of the bivariate probit model is that we can expand our specification and generalize the model by allowing for the choice of the contract structure, D^{T}_{i}, to be endogenous to the second equation (see Greene 1996, 2008).[24] This approach accounts for the fact that, following the theoretical model, the financing method is conditional on having already chosen the acquisition contract structure. The bivariate probit takes the following recursive form

$$\begin{cases} g_{i_{(t)}cst}(\pi^{\mathrm{T}}_{\mathrm{A}}) &= \mathbf{w}'_{1,i_{(t)}cst}\boldsymbol{\beta}_1 + \gamma_1 \tau_{\mathrm{B},c_{(t)}t} + \delta_{1,t} + \mu_{1,c} + \nu_{1,s} + \epsilon_{1,i_{(t)}cst}, \\ & \qquad D^{\mathrm{T}}_{i_{(t)}cst} = 1[g_{i_{(t)}cst}(\pi^{\mathrm{T}}_{\mathrm{A}}) > g_{i_{(t)}cst}(\pi_{\mathrm{A}})] \\ x_{i_{(t)}cst} &= \lambda D^{\mathrm{T}}_{i_{(t)}cst} + \mathbf{w}'_{2,i_{(t)}cst}\boldsymbol{\beta}_2 + \gamma_2 \tau_{\mathrm{B},c_{(t)}t} + \delta_{2,t} + \mu_{2,c} + \nu_{2,s} + \epsilon_{2,i_{(t)}cst}, \\ & \qquad D^{\mathrm{C}}_{i_{(t)}cst} = 1[x_{i_{(t)}cst} > 0]. \end{cases} \tag{17}$$

[24] The idea behind this identification strategy is the decomposition of the four probability terms entering the likelihood function into the product of the conditional and the marginal distribution of the endogenous variable. In the specifics of our application, the argument is that the endogeneity of the contract structure with regard to the method of finance decision can be ignored when formulating the log-likelihood, because $Prob(D^{\mathrm{T}}=d^{\mathrm{T}}, D^{\mathrm{C}}=d^{\mathrm{C}}) = Prob(D^{\mathrm{C}}=1|D^{\mathrm{T}}=1)Prob(D^{\mathrm{T}}=1)$.

3.2 Acquisition Data

We collect a dataset of acquisition contracts completed and executed between the 1st of January 2002 and the 31st of December 2014. Our source is the commercial database Zephyr, distributed by Bureau van Dijk. For each contract, we observe the identity of the acquirer and the target firm, the size of the stakes involved in the deal, the method of payment, and the characteristics of the shareholders who had control over the target before the acquisition. This sample is merged with information on the financial accounts and on the historical ownership of the acquirer and the target, collected from Orbis, a second database distributed by Bureau van Dijk. The initial raw sample contains 260,500 completed acquisition contracts.[25]

Zephyr classifies acquisitions as being financed by "cash", "equity shares", "debt" or "other". Among contracts with a known financing method, the large majority (approximately 85%) is financed by a single type of payment. In all remaining cases, we identify the financing method that accounts for the largest portion of the deal value. We discard observations where the fraction of the deal value covered by each payment type is missing. For a small number of contracts, we have multiple acquirers and multiple targets, with no indication of which firm used what method of payment listed in the data.[26] These cases are also excluded from the analysis, leaving us with a sample of 104,433 acquisitions. The baseline analysis is restricted to the decision of financing the acquisition by cash rather than equity. We, additionally, conduct robustness checks including debt financed acquisitions as an alternative to cash finance, to control that our results are unaffected by the inclusion of financially constrained acquirers.

To identify the contract structure chosen for a given deal (i.e. sequential vis-a-vis one-shot full acquisitions), we combine information on the type of deal with information on the size of the stakes involved in the respective transaction. In particular, Zephyr provides details on the share in the target controlled by the acquirer before stipulating the contract, the share acquired by the transaction and the share in the target finally owned by the acquirer after executing the contract. This information allows us to classify four types of deals: one-shot *full* acquisitions, where an acquirer purchases the full control of the target at once; *initial* acquisitions, where an acquirer purchases a first (minority) share of the target; *intermediate* acquisitions, where an acquirer with a pre-existing hold in the target increases its holdings; and *final* acquisitions, where an acquirer with a pre-existing hold in the target purchases all remaining shares and becomes the ultimate owner of the target. Due to missing observations, the identification of the contract structure reduces the sample size further to approximately 62,300 contracts. Table 1 reports the descriptive statistics on the distribution of the four contract types: on average over the sample period, 38% of the observed contracts are full acquisitions, 21% are initial minority acquisitions and 25% are minority share acquisitions.

Our aim is to distinguish deals that involve an acquirer with prior ownership of the target from deals where the acquirer purchases the full control of the target at once. We construct

[25] Only 1.97% of all acquisition contracts listed in the database were completed prior to our observational period.

[26] These cases account for 20% of the contracts with known acquirer and just above 1% of the contracts with known targets.

three indicator variables for the choice of completing a sequential vis-a-vis a full acquisition. The variable D^{T1} simply distinguishes between full and final acquisitions, and constitutes our strict definition of the toehold. To account for the possibility that the acquirer's objective is to obtain control of the target, without purchasing its full ownership, we construct a second indicator variable, D^{T2}, which also considers majority initial acquisitions and intermediate acquisitions. Finally, to have a broader definition of sequential acquisitions, we define a third indicator variable, D^{T3}, where majority acquisitions are also included as toeholds. We exclude from the analysis all initial minority transactions, which correspond to the toehold purchases as defined in the theoretical section. This is done for two reasons. First, Zephyr rarely allows to track the full sequence of acquisitions involving a specific acquirer-target pair, what makes it difficult to distinguish initial stages of a sequential deal from simple minority acquisitions.[27] Second, if a full sequence of contracts is observed, the inclusion of the initial transaction would introduce serial correlation with the final stage of the acquisition process. Table 2 summarizes the definition of the three indicator variables which define the contract structure, D^{Tj} for $j = 1, 2, 3$. The baseline analysis is conducted on the sample defined by D^{T3}, which includes a total of 34,066 contracts (31,234 when only cash or equity finance are considered), completed by 19,722 acquirers. The samples defined by the other two indicator variables, D^{T1} and D^{T2}, are used to conduct robustness checks. As discussed in Betton et al. (2009), the share of acquisitions using toeholds is non-negligible and, in our case, amounts to approximately 22% of the overall sample (15 and 17% when D^{T1} and D^{T2} are used). Further, cash finance turns out to be the well preferred method of payment with over 70% of contracts being financed by cash-to-stock transactions. In line with the theoretical framework (Proposition I), the descriptive statistics displayed in Table 2 also show that cash finance is more extensively used in sequential contracts than in one-shot full acquisitions.

We collect further information such as the location of the target and the acquirer firms, their respective industry code which, along with other characteristics allow us to partially control for the informational role of the toehold in the sequential acquisitions. Table 5 reports the distribution of the contracts of our baseline sample over the 42 different countries where target firms are incorporated. Additionally, statistics on the relative frequency of sequential acquisitions, cash finance, domestic takeovers and same-industry contracts are included. Table 6 repeats the same statistics for all 54 countries in which at least ten different acquirers are located.[28] To further explore the hypothesis that structural differences across acquirer and target firms are at the root of the contract structure decision, we also collect unconsolidated balance sheet information averaged over the two years preceding the announcement of an acquisition. Table 7 allows us to compare the median of several key balance sheet variables across acquirers and

[27] To include these initial minority transactions we would have to assume that missing final contracts indicate that the acquisition attempt has failed, due to a lack of compatibility among the firms involved in the deal. In other words, we would have to assume that a θ^L realized for every minority initial transaction not followed by an observed final acquisition.

[28] Our sample includes a total of 20,100 acquirers, located in 59 countries. The large marjority of the acquirers (72%) are involved in only one acquisition.

targets involved in the different types of contracts. The numbers show that targets involved in sequential acquisitions are usually substantially larger (in terms of financials) than those purchased in one-shot contracts. Moreover, they are more profitable, own a higher volume of assets and have larger earnings per share. These differences become, however, less sharp, if expressed in relative terms to the acquiring firm characteristics. Additionally, in the sequential acquisition, targets are mostly controlled by more than one shareholder, and, in turn, control numerous lower level subsidiaries.

Finally, we collect information on the level of concentration of ownership of the target firms. Our conjecture is that the loss of control associated with equity finance is more severe in those case in which targets are controlled by only one or two large shareholders. In this case, all equities handed over for purchasing the target go to the few (powerful) target shareholders, who might then be able to preserve some decisional power over the management of the newly merged firm. When classifying targets according to their historical ownership structure, we proceed in two steps. First, we identify the shareholder who owns the largest individual share among all shareholders listed prior to the takeover (exclusive of the acquirer in the case of the sequential acquisition) and define her as the "main" (pre-acquisition) shareholder. Further, we aggregate all shareholders by type (i.e., individual, industrial company or financial company) and define the "predominant" shareholder as that type which controls the largest aggregated share. In the second step, the information on the main and the predominant shareholders is combined with information on the level of "independence" of the target, provided by Bureau van Dijk. That is, a target is classified as independent, if it is not directly or indirectly controlled by any other corporation. Further, firms with concentrated ownership are defined as those with the main or predominant shareholder being an individual (or family) and which fulfil the criteria for independence. In the econometric analysis, we allow the tax effect on the contract structure to vary according to the type of the main (or predominant) shareholder, as well as on the level of target pre-deal ownership concentration.

3.3 Capital Gains Tax Data

The tax disadvantage associated with cash-to-stock transactions in M&As originates from the fact that target shareholders demand compensation for the tax burden arising when being forced to sell their shares which implies the realization of all capital gains accrued to their stock hitherto. This additional premium requested could, in fact, increase to the point of dissuading the acquirer from making the acquisition at all. In the context of the theoretical model, the tax rate relevant for the method of payment and the contract structure in the M&A is the long term individual capital gains tax rate of the country where the target firm is located. We depart from the World Personal Tax Guides (yearly published by Ernst & Young) and collect data on the top tax rate that applies on "capital gains accrued from the individual sale of shares, assets, stocks and bond that had been held for a long period" (which is in most countries equivalent to five years). As shown in Table 8, countries follow different regimes in the treatment of capital gains.

Most European countries treat capital gains derived from the sale of corporate shares as separate income and apply a specific tax rate. A second group of countries treat capital gains as ordinary income and apply the regular personal income tax rate to it. For these countries we use the top personal income tax rate as the relevant tax measure. Finally, Bermuda, Cayman Islands, Hong Kong, Switzerland, Taiwan and Turkey, treat capital gains as separate income, but exempt it from any form of taxation.

In the existing literature there has been different attempts to account for firm characteristics that may affect the sensibility of M&A transactions to capital gains taxes. Ayers et al. (2003) find evidence of a significant difference in the magnitude of the lock-in-effect on takeover premiums for privately versus institutionally owned firms. Day et al. (2008) estimate both the capitalization and the lock-in-effect induced by the Taxpayer Relief Act of 1997 and show that trading volumes were larger for stocks with a high percentage of mutual fund ownership. Blouin et al. (2010) use firm-level shareholder composition and exploit the 2003 US reduction in the dividend and capital gains tax to show that individual investors are the only ones affected by changes in shareholder taxes.

To account for the varying exposure to capital gains taxes, we proceed by collecting information on the legal structure of the target and on the characteristics of the shareholders in control of the target prior the announcement of the acquisition. As to the legal form of the target, we consider any Public Authority, Governmental Institution, Mutual & Pension Fund, Trust, Foundation and Research Institute as exempted from capital gains taxation. Targets with different legal forms, such as private limited companies for instance, are classified according to the identity of their controlling shareholder, as defined in the previous section. We expect the lock-in-effect to be weaker for non-individual shareholders, as the capital gains tax is levied on the personal level and industrial and commercial companies are mostly excluded form this kind of taxation in order to avoid multiple taxation. We further control for the nationality of the shareholders, by identifying cases where the target is controlled by foreign corporations. This is relevant because some countries apply different tax rates for capital gains accrued by foreign shareholders. In a robustness check, we account for these particular rules.

Table 4 reports the average capital gains tax rate conditional on the contract structure, the method of payment and the type of shareholders controlling the target before the announcement of the acquisition. These unconditional means show that, first, on average over the sample period, sequential acquisitions financed by stock-to-stock transactions face a higher capital gains tax than sequential acquisitions financed by cash-to-stock transactions; and, second, acquisitions financed by cash-to-stock transactions face, on average, a lower capital gains tax in the case of sequential vis-a-vis one-shot, full acquisitions. This evidence suggests that the sensitivity of capital gains taxes is higher in the case of sequential acquisitions, where equity finance does not exhibit the additional role of insuring against a bad merger outcome. Moreover, the difference between the average capital gains tax in the case of cash-to-stock sequential versus one-shot, full acquisition is insignificant for the case of target firms are controlled by corporate shareholders. This finding is in line with Blouin et al. (2010) who show that individual shareholders have a

higher sensitivity to changes in the capital gains tax.

3.4 Empirical Results

The results of the bivariate probit model (eq. 12) are presented in Table 9. In the analysis we resort to the dichotomus variable D^{T3} to estimate the joint probability of choosing a sequential acquisition and financing the transaction by cash. We observe 31,234 contracts executed by 19,722 acquirers over the twelve years between 2002 and 2014.[29] The unconditional joint probability between these two variables suggests that cash-financed sequential acquisitions are 6% less frequent than equity-financed one-shot ones, and 14% more frequent than equity-financed sequential acquisitions. Cash-financed one-shot acquisitions represent the most frequent form of contracts, with an unconditional probability of being chosen of 0.52. The tetrachoric correlation between the two binary choice variables of interest is estimated as 0.237, with a standard error of 0.010.

As to the different specifications of Table 9, in column [a] we control only for the statutory long term individual capital gains tax rate of the target country. In column [b], we also account for alternative capital gains tax regimes, that is, we distinguish whether capital gains are treated as separate income, ordinary personal income, or whether capital gains are exempted from taxation in the target country. In column [c], the baseline specification is repeated, but contracts with targets located in countries where capital gains are part of the ordinary personal income, are excluded. In column [d], the model is augmented with acquirer country and industry specific fixed effects. In column [e], the errors are clustered at the acquirer level, and finally, in column [f] we add additional controls. Each specification also includes target country and industry fixed effects, as well as year dummies. As controls we include indicators for the complexity of the target ownership structure, accounting for the number of subsidiaries directly controlled by the target prior the acquisition (with 0 being the default), a dummy indicating whether the target has concentrated ownership and two dummies controlling for acquirers that were insolvent or unprofitable over the two years preceding the acquisition.

We initially find that sequential and cash-financed acquisition are more likely in the case of targets located in countries that exempt capital gains from any form of taxation. This result might be due to the fact that in our sample the countries exempting capital gains are mostly tax heavens (namely Bermuda, Cayman Islands, Hong Kong, Singapore, Switzerland, Taiwan and Turkey), and the estimated coefficient captures the effect of profit shifting incentives associated with the purchase of firms located in these countries, but it proves not robust to the introduction of acquirer country fixed effects.

The estimates reported in each column of Table 9 suggest that the capital gains tax has a negative impact on the probability of both structuring the acquisition with a sequential contract

[29] Our baseline specification excludes the contracts were the method of finance is identified as "debt" or "other".

and financing it by cash, as predicted by our theoretical model. However, we find that the significance of the tax coefficient for the contract structure choice fades away as we add additional fixed effects and control variables. When we distinguish, in column [b], between different fiscal regimes, we find that treating capital gains as ordinary personal income does not significantly affect the tax coefficient. Nevertheless, we decide to exclude the contracts involving targets located under this type of regime (column [c]), because shareholders whose capital gains are aggregated to ordinary personal income might have alternative ways to alter their tax burden, compared to shareholders for whom capital gains are taxed as separate income. Regarding the control variables (column [f]), we find that acquirers purchasing targets located in the same country are more likely to use a sequential contract, but less likely to finance the purchase by cash, whereas acquirers purchasing targets operating in their same industry (specifically, same 2 digit NACE sector) are less likely to use sequential contracts and cash finance. These results can be explained by the higher uncertainty associated with the acquisition of targets that operate in different (geographical or industrial) markets. In fact, we also find that acquirers favour sequential acquisitions in case the target firm has a complex organizational structure (i.e., numerous subsidiaries). This finding confirms the argument that the toehold serves an informational role, that is, a sequential acquisition allows the acquirer to gain insight on its "compatibility" with the target firm, preventing a potentially unprofitable merger. Also in line with our theoretical model, we find that acquirers prefer sequential contracts and cash finance, if the target features a concentrated (pre-deal) ownership structure. That is, the cash-financed sequential contract is preferred when the loss of corporate control associated with the equity-financed one-shot acquisition is substantial. Finally, the results show that insolvent or unprofitable acquirers are less likely to choose cash finance. This variable also serves as a control for the fact that cash-constrained acquirers may be limited in the choice of financing method.

In Table 10 we introduce a series of categorical variables that identify different types of target (pre-deal) shareholders and allow the tax coefficient to vary across contracts according to these different types of target shareholders. Using information on shareholder identity reduces our sample to approximately one third of the original size, leaving us with 11,044 contracts completed by 8,307 acquirers. In column [a] we simply repeat the specification of column [f] of Table 9, in column [b] ([c]) we distinguish between target firms whose main (predominant) shareholder prior the acquisition was a company. For the choice of contract structure we now find that the capital gains tax has a negative significant coefficient for contracts involving target firms whose main (or predominant) shareholder is a person or a family. The overall coefficient, however, drops to zero (-1.325 +1.327) in case target firms are controlled by companies. This findings is in line with the general tax practice of capital gains being subject to taxation at the personal level while companies are mostly exempted to avoid multiple taxation.

With regard to the decision of using cash finance, the results are surprising and show that the capital gains tax has no effect on this margin, if the pre-acquisition majority owners of the target are individuals. However, for the case of companies being the pre-acquisition majority owners

of targets, the capital gains tax turns out to have a negative significant effect on the decision to use cash finance. To reconcile this rather surprising result with the existing empirical literature and our theoretical model, we investigate the heterogeneity of this tax effect further.

First, in [d] and [e] of Table 10, we differentiate between industrial or commercial companies and financial companies, as the main or the predominant pre-acquisition target shareholders. The classification of different company types reveals that the tax coefficient is insignificant for targets controlled by industrial companies, as much as it is insignificant for targets controlled by individuals. Hence, the significance of the capital gains tax on the decision of using cash finance in the previous specifications (column [b] and [c]) is solely due to the target firms controlled by financial companies. One explanation for this outcome is the fact that financial companies such as hedge funds and financial service companies as part of commercial banks, represent the interest of individual clients whose investment funds are managed with the intent of minimizing the clients' tax liability.

Second, the lack of significance of the tax coefficient on the financial decision in case of targets controlled by individuals and families seems to contradict the existing literature as well as our theoretical insights. One explanation for the finding could refer to the fact that, beside the majoritarian or predominant ownership of the target by individuals, the ownership is dispersed and therefore the bargaining power of the individual shareholders might not have a significant impact on the terms of the acquisition agreement. To test this hypothesis, we allow in column [f] the tax coefficient to also vary according to whether the ownership of the target is dispersed, or whether one single individual (person or family) is holding a stake larger than 30% in the target, but has no direct or indirect link to other companies of the conglomerate. For this specification, we find that the coefficient of the tax for the decision on the sequential acquisition is not different from the one in case the pre-acquisition ownership of the target is dispersed among several individuals or families. Instead, the coefficient of the tax for the decision of using cash finance is large, negative and significant for targets controlled by individual shareholders with concentrated ownership. This result is in line with the theoretical framework and the descriptive statistics presented in Table 4. The latter shows that the difference in the average tax rate between cash-financed sequential and one-shot full contracts is larger in the case of targets controlled by individuals (0.116) compared to targets controlled by companies (0.052).

In Table 11 we present diagnostics for both the baseline specification of column [f] in Table 9 and for the specification of column [f] in Table 10. For each possible joint and marginal outcome of the contract structure and financing choice, we estimate the predicted probabilities and report the percentage of correctly projected positive and negative outcomes and the overall rate of correct classifications. We use 0.5 as the threshold for all joint and marginal outcomes reported in the table columns, and compute these statistics on the estimation sample of the respective specifications. The two alternative strategies discussed in the theoretical model, the sequential cash-financed contract and the one-shot full equity financed contract, have an overall prediction rate of 78% and 82% (85% and 77% in the baseline specification), respectively. Note

that the classification is sensitive to the relative sizes of each component group, and always favours classification into the larger group. In fact, we find that, on average among all possible outcomes, over 90% of the normal weight group is correctly classified (specificity) versus the 25% of the low weight group (sensitivity).

Partial Tax Effect on the Contract Structure and the Method of Payment

For the interpretation of the model estimation and to provide a direct test of the four propositions stipulated in the theoretical section, we compute the average partial effects of a change in the capital gains tax on the joint and marginal probabilities of interest (equations (13) to (16)), as derived from our preferred empirical specification (column [f] of table 10). All average partial effects, as displayed in Table 12, are computed on the sample of 11,044 contracts used for the model estimation. Standard errors are obtained using the delta method. The first column reports the overall partial effect common to all different pre-deal target shareholder types. In the second to fifth column, instead, we display the average partial effects computed for the contracts with specific types of pre-deal target shareholders.

We start from the effect of the capital gains tax on the marginal probabilities, showing that a 10%-point increase in the capital gains tax rate of the target country reduces the probability of choosing a sequential contract by 0.2%-point and the probability of using cash finance by 1.8%-point. The magnitude of the effect on the contract structure, a novel result in the literature, is as high as 1.7%-points in case of targets controlled by individuals. This is of considerable size, given that only 20% of acquisitions are expected to be completed through sequential contracts. Moreover, the magnitude of the tax effect on the decision of using cash finance becomes larger for case of target firms controlled by individuals (6% versus 1.8% points). This evidence, again, shows the higher sensitivity of individual versus corporate shareholders with respect to the capital gains tax.

In line with Proposition I, the model predicts that it is more likely to observe cash finance conditional on having chosen a sequential, instead of a one-shot full acquisition. The predicted probability of the former outcome is 0.766 and the one of the latter is 0.689. The effect of a change in the capital gains tax on these two conditional probabilities serves as a test of Proposition II. We find, in line with the theoretical prediction, that a raise in the capital gains tax has a negative significant effect on both conditional probabilities. The estimate is also sightly larger in size in case of the one-shot full acquisition, confirming our conjecture that insurance effect inherent to equity finance introduces an upward bias on the estimated coefficient. This result states an important evidence for the identification of the lock-in-effect, given the argument that only in sequential contracts the disincentives of using cash finance is purely tax-motivated.

To test Propositions III and IV, we estimate the joint probabilities of choosing a cash-financed sequential and an equity-financed sequential contract. As reported in Table 11, the predicted joint probabilities for these two alternative outcomes are such that, on average, cash-financed sequential contracts are three times more likely than the equity-financed counterparts. We also find that a change in the capital gains tax affects the likelihood of the former contract type,

but not that of the latter one. In particular, a rise in the capital gains tax by ten percentage points reduces the likelihood of choosing a cash-financed sequential contract by 1.3%-points, in case targets are controlled by individual shareholders. Moreover, we find that an increase in the capital gains tax does not affect the decision of acquiring a target sequentially using equity finance, whereas the tax increases the probability of using a one-shot full acquisition financed by equity.

Sensitivity Analysis

Table 13 present a set of robustness checks for our preferred specification, which is the one of column [f] of Table 10. In column [b], we expand the sample and re-including all contracts involving those targets which are located in countries where capital gains are taxed as ordinary personal income. The results presented in column [c] are the outcome of estimating a recursive version of our model, in which we allow the contract structure to directly affect the decision on the method of finance. The numbers show, that the direct effect is indeed strong and significant. Thus, the recursive version of the model confirms our previous finding that cash is the preferred method of finance conditional on choosing a sequential acquisition. This shows, in line with the basic mechanism outlined in the theoretical model, that the purchase of the toehold, i.e. opting for a sequential contract, constitutes an alternative form of "insurance" for those acquirers who do not wish (for what ever reason) to rely on a stock-to-stock transaction to gain control over the target.

In column [d] and [e] we test the sensitivity of our results to the definition of the binary variable for the contract structure, i.e. the definition of the toehold. In the specification of column [d], we exclude all cases of majority share accruals (D^{T2}), where the acquisition process is partitioned in more than two stages. In column [e], we further restrict the baseline sample and refer to a stricter definition of sequential acquisition, that is we only include contracts where the complete ownership of the target is achieved (D^{T1}). The estimated coefficients on these two alternative samples are qualitatively similar to those of the baseline estimation. We, however, find, as expected, that the tax coefficient is larger in size for the more extensive sample used in our baseline specification.

One possible motive for choosing a sequential acquisition or an acquisition by parts, is that the acquirer may be financially constrained and cannot afford purchasing the whole control of the target at once. To test the sensitivity of our results to the presence of financially constrained acquirers, we estimate a version of the model in which the method of finance is a binary variable taking the value of 1 if cash is chosen and 0 in case of either equity or debt.[30] This approach allows us to interpret the dependent variable for the choice of financing as a dichotomous measure which distinguishes between acquirers that are liquid and those that are cash-constrained. The coefficient resulting from this specifications are reported in column [f] of Table 13. The tax is in this case found to have a non-significant effect on the choice of finance.

[30]It is worth noting that debt finance is chosen in only a very small fraction of cases, equal to roughly 3% of the observed contract.

4 Conclusion

Recent data on M&A transactions consummated during the last decade indicate that in particular sequential acquisitions have become a frequent phenomena. One rationale explaining this observation relates to the informational content about the potential gains from a merger conveyed by the initial investment, the so-called toehold. This informational benefit associated with the sequential vis-a-vis the one-shot full ownership transaction serves in this study as our measure to isolate the impact of the capital gains tax on the choice of the payment method, that is, the lock-in effect, in M&A transactions. In the one-shot full ownership transaction, stock finance serves as a tax saving and an insurance device, while in the sequential acquisition only the tax saving argument justifies the use of stock finance. Thus, neglecting the double incentive inherent to stock finance in the one-shot full ownership transaction most arguably results in biased estimates for the lock-in effect. Our estimates confirm this hypothesis and show a larger estimate of the lock-in effect in case of the one-shot full ownership transaction vis-a-vis the sequential acquisition. Specifically, a 10%-points increase in the capital gains tax reduces the probability of cash finance by 6%-points in the one-shot full acquisition, but by only 5.2%-points in the sequential one.

Furthermore, the capital gains tax also directly impacts the choice of the acquisition structure. Depending on the sign and magnitude of the strategic effect associated with the toehold, the capital gains tax may either enhance or diminish the probability of choosing a sequential acquisition. Our estimates suggest a negative effect and thus point at an additional downside of the capital gains taxes on welfare: if a tax system strengthens incentives to opt for the one-shot full ownership transaction instead of the sequential acquisition, the acquirer is deprived of the flexibility to abort the merger at an interim stage and thus to abandon an unprofitable sunk investment. Of course, the choice of the optimal acquisition structure may also be influenced by various other factors not considered in this study – an important aspect we leave for further research.

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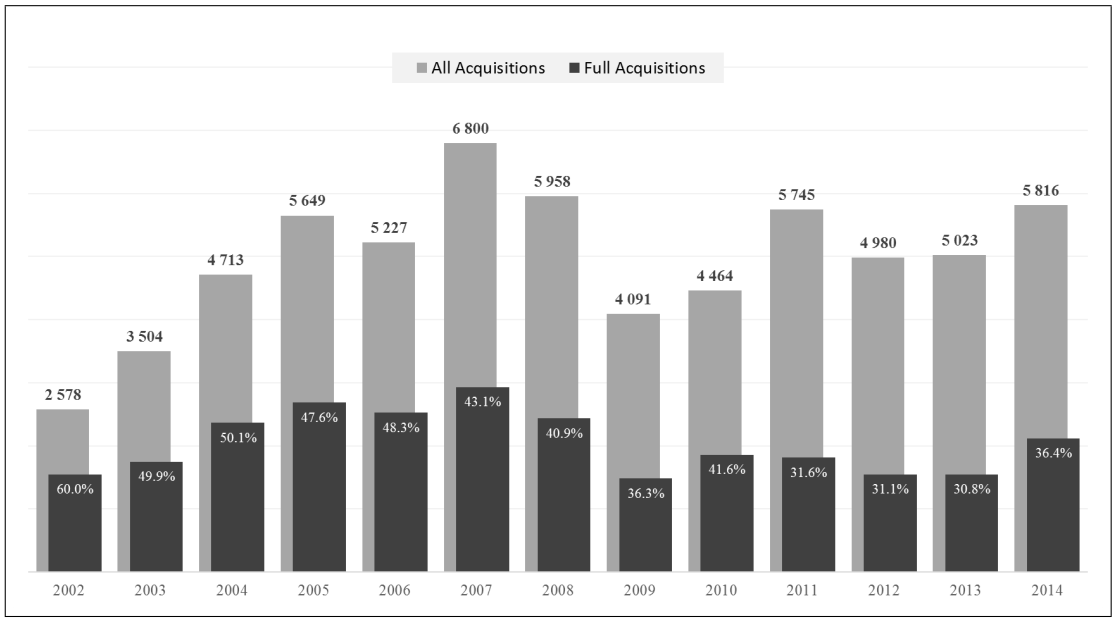
Figure 3: Distribution of Full Acquisition Contracts over Time



Note: the total sample includes the 64,548 contracts observed over the observational period, while the subset of "full acquisitions" includes whole one-shot acquisitions (0-100) and majority initial one-shot acquisitions (0-majority), which together account for 23,542 and 3,060 contracts, respectively.

Table 1: Types of Acquisition Contracts

	Sample Composition		Average Size of Stake Involved		
	Frequency	Percentage	Initial %	Acquired %	Final %
Full Deal					
0 to 100	23,544	37.68	0.00	100.00	100.00
Initial Deal					
0 to minority	13,396	21.44	0.00	11.79	11.79
0 to majority	2,989	4.78	0.00	69.56	69.56
Intermediate Deal					
minority to minority	15,020	24.04	9.84	2.74	12.57
minority to majority	1,028	1.65	32.34	35.41	67.74
majority to majority	2,252	3.60	68.36	11.06	79.42
Final Deal					
minority to 100	1,175	1.88	28.04	71.94	100.00
majority to 100	3,078	4.93	72.09	27.91	100.00
Total	62,482	100			

Note: The table reports the distribution of the types of acquisitions observed in our sample and classified according to the different "phase" of contract completion. The classification is based on information on the share of target ownership controlled by the acquirer before and after completion of the contract.

Table 2: Type of Acquisition Contracts and Method of Payment

Type of Acquisition	Cash	Debt	Other	Stock	Total
Full Deal	14,022	1,193	1,117	7,212	23,544
	59.56%	5.07%	4.74%	30.63%	
Initial Deal	15,010	577	85	713	16,385
	91.61%	3.52%	0.52%	4.35%	
Intermediate Deal	17,843	140	23	294	18,300
	97.50%	0.77%	0.13%	1.61%	
Final Deal	2,857	93	42	1,261	4,253
	67.18%	2.19%	0.99%	29.65%	
All Deals	49,732	2,003	1,267	9,480	62,482
	79.59%	3.21%	2.03%	15.17%	

Note: The table reports details of the distribution of the different modes of finance, conditional on the contract structure. Any given contract is classified by the specific method of finance, if this is either the unique one or the predominant one reported in Orbis. We exclude contracts using a mix of finance methods for which we do not observe the relative weight w.r.t. the final total payment.

Table 3: Indicator Variables for the Contract Structure

	Number of Contracts	Percentage of Cash Finance	Type of Deals Included
Basic Toehold Definition	27,797		
$D^{T1} = 1$	4,253 (15.30%)	67.18%	min-100, maj-100
$D^{T1} = 0$	23,544 (84.70%)	59.56%	0-100
D^{T1} and Majority Control	31,814		
$D^{T2} = 1$	5,281 (16.60%)	70.74%	min-100, maj-100, min-maj
$D^{T2} = 0$	26,533 (83.40%)	61.57 %	0-100, 0-maj
D^{T2} and Multi-stage Acquisitions	34,066		
$D^{T3} = 1$	7,533 (22.11%)	77.29%	min-100, maj-100, min-maj, maj-maj
$D^{T3} = 0$	26,533 (77.89%)	61.57%	0-100, 0-maj

Note: The table reports details of the definition of the indicator variables for the sequential vs. the one-shot full acquisition. The classification is based on information on the share of target ownership controlled by the acquirer before and after completion of the contract, as described in Table 1. Initial contracts, formally coinciding with the Toehold acquisitions, are always excluded from the sample. Minority and majority are simply defined with respect to the threshold of 50%.

Table 4: Average Capital Gains Tax Rates for Alternative Contract Structures

	All Acquisitions		Acquisition of target with Individual Shareholders		Acquisition of target with Corporate Shareholders	
	Full	Sequential	Full	Sequential	Full	Sequential
Cash	0.203	0.171	0.282	0.166	0.229	0.177
Stock	0.198	0.197	0.241	0.226	0.217	0.204

Not: The table reports the average target country's capital gains tax rate, conditional on the contract structure and the method of payment, as measured at the time of contract completion. This is done for the overall sample (column 2 and 3) and then repeated for the subsample of acquisition of targets previously controlled by individuals (or families), and of targets previously controlled by corporations.

Table 5: Characteristics of Acquisitions by Target Location

	Number of Contracts	Sequential	Cash Financed	Cross-Border	Same Industry		Number of Contracts	Sequential	Cash Financed	Cross-Border	Same Industry
United Kingdom	4 622	10.8%	78.9%	79.2%	31.2%	Belgium	256	36.7%	84.8%	47.3%	28.9%
Canada	2 166	11.1%	45.3%	80.1%	37.0%	Switzerland	227	33.0%	74.0%	42.7%	25.6%
Australia	1 805	20.9%	60.5%	79.8%	32.6%	Finland	224	23.2%	54.0%	70.1%	34.8%
Malaysia	1 479	28.5%	77.9%	91.9%	25.9%	Romania	214	58.9%	97.2%	67.3%	23.8%
Japan	1 192	52.3%	42.1%	94.8%	32.6%	Bermuda	194	68.6%	92.3%	11.9%	16.5%
China	1 082	43.8%	84.1%	73.0%	35.7%	Taiwan	179	33.0%	50.3%	86.0%	41.9%
France	1 020	41.3%	86.2%	62.1%	29.6%	Cayman Islands	173	57.2%	85.5%	9.8%	23.7%
Germany	971	39.3%	83.8%	46.1%	32.2%	Denmark	172	22.7%	62.2%	50.6%	36.6%
Italy	638	45.3%	79.6%	75.4%	36.8%	Thailand	172	58.1%	90.7%	69.2%	39.5%
Singapore	630	45.9%	85.2%	70.8%	24.4%	Ireland	165	13.3%	75.8%	40.0%	35.2%
India	588	51.0%	68.2%	69.9%	36.1%	Greece	145	68.3%	62.8%	77.2%	33.1%
Spain	552	29.0%	60.9%	76.8%	41.1%	Indonesia	144	50.7%	91.7%	44.4%	39.6%
Korea	501	31.9%	61.9%	90.0%	26.5%	New Zealand	130	30.0%	83.8%	60.0%	23.8%
Sweden	490	19.6%	60.6%	65.3%	30.4%	Bulgaria	128	50.8%	88.3%	75.8%	29.7%
Poland	453	40.2%	64.9%	72.0%	36.2%	Portugal	112	50.0%	90.2%	55.4%	36.6%
Netherlands	415	27.0%	84.1%	39.8%	29.9%	Austria	95	49.5%	78.9%	51.6%	26.3%
Norway	368	39.7%	70.1%	64.1%	29.1%	Chile	89	39.3%	89.9%	60.7%	36.0%
Serbia	346	82.7%	99.4%	76.0%	17.9%	Hungary	88	46.6%	87.5%	51.1%	27.3%
South Africa	294	44.2%	63.9%	72.4%	23.5%	Israel	88	35.2%	80.7%	54.5%	29.5%
Virgin Islands	289	11.8%	50.9%	28.0%	26.3%	Turkey	76	39.5%	92.1%	75.0%	19.7%
Hong Kong	283	27.9%	72.8%	19.4%	26.1%	Russia	27	59.3%	88.9%	88.9%	33.3%

Note: The table reports the distribution of different types of acquisitions observed in our baseline sample over the 44 countries where targets are located. "Sequential" contracts refer to contracts where the indicator variable $D^{\mathrm{T2}} = 1$, "Cash Financed" contracts are those where the unique or the principal method of payment was identified as being Cash, "Cross-border" contracts are those where the location of the target differs from that of the parent, and "Same Industry' contracts are those where the main sector of the target (measured by the 2 digit NACE code) corresponds to that of the acquirer.

Table 6: Characteristics of Acquisitions by Acquirer Location

	Number of Contracts	Sequential	Cash Financed	Cross-Border	Same Industry		Number of Contracts	Sequential	Cash Financed	Cross-Border	Same Industry
United States	9077	5.8%	69.8%	81.2%	35.7%	Cayman Islands	192	22.4%	59.7%	9.4%	26.6%
United Kingdom	5579	10.5%	79.5%	76.6%	31.3%	Taiwan	185	34.1%	50.3%	84.3%	44.9%
Canada	2548	10.7%	43.7%	74.6%	35.7%	Denmark	167	31.1%	63.2%	58.1%	41.9%
Australia	1786	19.0%	58.5%	85.3%	32.3%	Bermuda	163	36.2%	68.6%	16.0%	26.4%
Malaysia	1558	27.6%	79.3%	89.9%	25.6%	Greece	157	59.9%	65.5%	75.8%	35.0%
Japan	1302	51.0%	45.7%	88.9%	33.3%	Romania	157	58.6%	97.3%	97.5%	16.6%
France	992	39.9%	84.2%	66.3%	28.9%	New Zealand	148	33.8%	83.3%	56.1%	25.0%
China	895	45.5%	87.4%	92.2%	37.0%	Bulgaria	147	35.4%	84.0%	97.3%	18.4%
Singapore	778	47.2%	85.7%	59.5%	25.7%	Thailand	138	54.3%	87.8%	89.1%	37.0%
Germany	752	46.1%	80.3%	64.2%	33.6%	Israel	136	30.9%	81.5%	40.4%	21.3%
Italy	682	46.3%	81.1%	77.3%	36.5%	Austria	124	62.1%	86.7%	39.5%	24.2%
Spain	615	30.7%	62.2%	75.0%	40.8%	Indonesia	87	48.3%	88.3%	85.1%	35.6%
Sweden	588	18.2%	63.7%	59.0%	31.5%	Luxembourg	87	43.7%	88.0%	0.0%	40.2%
Netherlands	533	34.3%	89.9%	35.3%	33.2%	Portugal	79	44.3%	87.5%	81.0%	32.9%
India	530	37.7%	61.9%	79.6%	35.3%	Turkey	75	44.0%	97.2%	77.3%	28.0%
Korea	499	30.3%	62.0%	93.2%	25.9%	Russia	67	41.8%	95.3%	37.3%	34.3%
Virgin Islands	475	38.7%	84.5%	23.4%	22.7%	Chile	65	40.0%	87.7%	92.3%	32.3%
Poland	369	35.5%	54.5%	93.5%	34.4%	Hungary	56	41.1%	80.8%	85.7%	19.6%
Norway	368	39.7%	69.7%	69.0%	31.0%	Cyprus	40	62.5%	84.6%	0.0%	25.0%
Switzerland	271	41.0%	80.2%	36.2%	30.3%	Iceland	36	25.0%	87.5%	0.0%	50.0%
Serbia	266	88.0%	100.0%	100.0%	10.9%	Mexico	27	40.7%	100.0%	0.0%	22.2%
South Africa	266	39.1%	67.3%	83.8%	22.2%	U.A.E.	19	31.6%	100.0%	0.0%	15.8%
Finland	250	21.2%	58.3%	68.0%	34.4%	Bahamas	18	72.2%	100.0%	0.0%	5.6%
Hong Kong	243	42.0%	85.8%	23.5%	23.9%	Mauritius	18	61.1%	100.0%	0.0%	16.7%
Ireland	232	11.2%	82.8%	31.9%	40.9%	Slovenia	16	31.3%	92.9%	0.0%	56.3%
Belgium	227	40.1%	84.2%	53.7%	32.2%	Croatia	12	25.0%	100.0%	0.0%	33.3%
Brazil	226	31.9%	67.4%	90.7%	34.1%	Philippines	12	58.3%	100.0%	0.0%	16.7%

Note: The table reports the distribution of the different types of acquisitions observed in our baseline sample over the countries where acquirers are located. "Sequential" contracts refer to contracts where the indicator variable $D^{T2} = 1$, "Cash Financed" contracts are those where the unique or the principal method of payment was identified as being Cash, "Cross-border" contracts are those where the location of the target differs from that of the parent, and "Same Industry' contracts are those where the main sector of the target (measured by the 2 digit NACE code) corresponds to that of the acquirer.

Table 7: Acquirer and Target Firms Balance Sheet

	Full Acquisition				Sequential Acquisition					
	0-100		0-maj		min-maj		min-100		maj-100	
	Acquirer	Target	Acquirer	Target	Acquirer	Target	Acquirer	Target	Acquirer	Target
Total Assets	125.74	16.11	113.67	15.86	270.25	71.83	410.31	80.01	395.49	84.70
Operating Revenue	89.32	19.95	73.86	16.60	164.43	53.52	223.54	52.89	245.39	65.79
EBITDA	10.35	6.63	14.75	2.94	36.30	8.09	43.75	7.99	36.46	10.63
Market Capitalization	292.27	32 .38	185.68	32.10	408.99	73.74	654.32	237.09	494.28	17.60
Earnings per Share	0.431	0.213	0.180	0.069	0.331	0.118	0.319	0.129	0.278	0.120
Book Value per Share	2.604	0.594	1.239	0.383	3.383	0.792	2.987	1.014	2.825	0.238
Target pre-deal Shareholders	-	1.053	-	2.628	-	5.654	-	1.457	-	1.352
Target pre-deal Subsidiaries	-	1.844	-	3.023	-	8.948	-	4.091	-	5.096

Note: The table reports the median value of the balance sheet variables for the acquirer (target) firms involved in each type of acquisitions, and the average number of subsidiaries and shareholderls linked to the target firm before the announcement of the acquisition. Balance sheet variables refer to the unconsolidated accounts of each company, averaged over the two years prior the announcement of the acquisition and measured in mil EUR.

Table 8: Capital Gains Tax Treatment in the Target Country

	Average Tax rate	Type of Tax	Note
Australia	0.228	CGT	
Austria	0.442	PIT & CGT	Capital Gains treated as Separate Income since 2012
Belgium	0.261	CGT	Tax only applies on gains from the sale of companies with foreign Shareholders
Bermuda	0.000	CGT	Gains from the sale of company shares are exempted from taxation
Brazil	0.140	CGT	
Bulgaria	0.100	CGT	
Canada	0.233	CGT	
Cayman Islands	0.000	CGT	Gains from the sale of company shares are exempted from taxation
Chile	0.172	CGT	
China	0.200	CGT	
Denmark	0.429	CGT	
Finland	0.290	CGT	
France	0.293	CGT	Regularly Increased the Tax Rate
Germany	0.115	CGT	
Greece	0.208	CGT	
Hong Kong	0.000	CGT	Gains from the sale of company shares are exempted from taxation
Hungary	0.213	CGT	
India	0.011	CGT	Tax only applies on gains from the sale of companies with foreign Shareholders
Indonesia	0.331	PIT	
Ireland	0.239	CGT	
Israel	0.262	CGT	
Italy	0.258	CGT	
Japan	0.205	CGT	
Korea	0.200	CGT	
Malaysia	0.023	CGT	Exempted Capital Gains until 2011.
Netherlands	0.250	CGT	
New Zealand	0.368	PIT	
Norway	0.279	CGT	
Poland	0.183	CGT	
Portugal	0.019	CGT	Exempted Capital Gains until 2011.
Romania	0.148	CGT	
Russia	0.187	CGT & PIT	Tax only applies on gains from the sale of companies with foreign Shareholders Capital Gains treated as personal income after 2003.
Serbia	0.165	CGT	
Singapore	0.000	CGT	
South Africa	0.108	CGT	
Spain	0.205	CGT	
Sweden	0.300	CGT	
Switzerland	0.000	CGT	Gains from the sale of company shares are exempted from taxationn
Taiwan	0.000	CGT	Gains from the sale of company shares are exempted from taxation
Thailand	0.368	PIT	
Turkey	0.000	CGT	Gains from the sale of company shares are exempted from taxation
United Kingdom	0.312	CGT	
United States	0.162	CGT	
Virgin Islands	0.095	CGT	

Table 9: Bivariate Probit Results - Baseline Specification

	Baseline [a]		Treatment of CG [b]		No PIT [c]		Additional FE [d]		Clustered SE [e]		Additional Controls [f]	
	Teohold	Cash	Teohold	Cash	Teohold	Cash	Teohold	Cash	Teohold	Cash	Teohold	Cash
Target CGT	-0.353*	-0.555***	-0.308	-0.556***	-0.353*	-0.552***	-0.279	-0.602***	-0.279	-0.602***	-0.096	-0.618***
	(0.199)	(0.195)	(0.201)	(0.197)	(0.201)	(0.197)	(0.208)	(0.199)	(0.215)	(0.224)	(0.217)	(0.233)
CGT Regime: Personal Income	-	-	-0.618	0.014	-	-	-	-	-	-	-	-
			(0.394)	(0.410)								
CGT Regime: Exemption	-	-	0.427***	0.935***	0.414***	0.938***	-0.196	-0.306	-0.196	-0.306	0.020	-0.236
			(0.159)	(0.219)	(0.160)	(0.219)	(0.253)	(0.340)	(0.276)	(0.329)	(0.261)	(0.340)
TGT and ACQ located in same country	0.083***	-0.396***	0.082***	-0.396***	0.076***	-0.399***	0.058**	-0.416***	0.058**	-0.416***	0.090***	-0.397***
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.024)	(0.023)	(0.027)	(0.026)	(0.028)	(0.026)
TGT and ACQ operate in same industry	-0.072***	-0.075***	-0.072***	-0.075***	-0.076***	-0.072***	-0.048**	-0.069***	-0.048**	-0.069***	-0.051**	-0.073***
	(0.019)	(0.017)	(0.019)	(0.017)	(0.019)	(0.017)	(0.020)	(0.017)	(0.023)	(0.020)	(0.024)	(0.021)
Target controls 1 Subsidiary	-	-	-	-	-	-	-	-	-	-	0.278***	0.103***
											(0.027)	(0.024)
Target controls >2 Subsidiaries	-	-	-	-	-	-	-	-	-	-	0.626***	0.241***
											(0.026)	(0.026)
Target ownership concentrated	-	-	-	-	-	-	-	-	-	-	0.375***	0.026
											(0.029)	(0.028)
Acquirer has been insolvent	-	-	-	-	-	-	-	-	-	-	-0.330***	-0.515***
											(0.071)	(0.051)
Acquirer has been unprofitable	-	-	-	-	-	-	-	-	-	-	0.026	-0.584***
											(0.030)	(0.025)
Constant	-0.665***	0.925***	-0.675***	0.925***	-0.676***	0.923***	0.386	0.406	0.386	0.406	-0.012	0.145
	(0.111)	(0.119)	(0.112)	(0.119)	(0.116)	(0.122)	(0.774)	(0.797)	(0.848)	(0.318)	(0.724)	(0.361)
Observations	31,234		31,234		30,708		30,708		30,708		30,467	
Log. Likelihood	-30574		-30573		-30041		-29861		-29227		-27873	
Rho	0.187***		0.187***		0.183***		0.166***		0.166***		0.137***	
	(0.012)		(0.012)		(0.012)		(0.013)		(0.020)		(0.022)	
FE TGT country	Yes		Yes		Yes		Yes		Yes		Yes	
FE TGT industry	Yes		Yes		Yes		Yes		Yes		Yes	
FE ACQ country	No		No		No		Yes		Yes		Yes	
FE ACQ industry	No		No		No		Yes		Yes		Yes	
Acquirer Clustered SE	No		No		No		No		Yes		Yes	
Controls	No		No		No		No		No		Yes	

Note: The table reports the coefficient estimates from the bivariate probit specifications using the sample defined by the sequential acquisition indicator variable D^{T3}. We distinguish whether taxes on capital gains (CGT) are subject to a separate specific tax rate or part of ordinary personal income taxation. The sample size in columns [f] and [g] is affected by the availability of data on the target and acquirer pre-deal characteristics and financial statements. Acquirers are insolvent (unprofitable) if the average solvency ratio (profit margin) of the two years preceding the deal is negative. In columns [e] and [f], standard errors are clustered at the acquirer level. Rho reports the estimated correlation between the residuals of the two independent models. ***, ** and * are the standard significance level of 1%, 5%, and 10%, respectively.

Table 10: Bivariate Probit Results - Difference among Types of (pre-deal) Target Shareholders

	Baseline + Controls [a]		Main Shrld Individual [b]		Pred. Shrld Individual [c]		Main Shrld Type [d]		Pred. Shrld Type [e]		Conc. Onwership [f]	
	Teohold	Cash	Teohold	Cash	Teohold	Cash	Teohold	Cash	Teohold	Cash	Teohold	Cash
Target's CGT rate	-0.096	-0.618***	-1.325**	0.357	-1.295**	0.517	-1.299**	0.293	-1.273**	0.461	-1.612***	0.525
	(0.217)	(0.233)	(0.535)	(0.458)	(0.557)	(0.469)	(0.535)	(0.459)	(0.557)	(0.470)	(0.590)	(0.470)
CGT rate × TGT Shareholder Type:												
Individuals	-	-	-	-	-	-	-	-	-	-	1.054	-2.534**
											(1.090)	(1.206)
Company	-	-	1.327***	-0.986**	1.132**	-1.029**	-	-	-	-	-	-
			(0.502)	(0.440)	(0.536)	(0.466)						
Industrial Company	-	-	-	-	-	-	1.200**	-0.737	1.034*	-0.800*	1.537***	-0.999**
							(0.510)	(0.459)	(0.546)	(0.486)	(0.575)	(0.471)
Financial Company	-	-	-	-	-	-	1.612***	-1.603***	1.327**	-1.630***	2.074***	-1.880***
							(0.543)	(0.504)	(0.574)	(0.529)	(0.610)	(0.517)
Type of (pre-deal) TGT Shareholder:												
Individuals	-	-	-	-	-	-	-	-	-	-	-0.241	0.430
											(0.237)	(0.266)
Company	-	-	0.421***	0.238**	0.530***	0.270**	-	-	-	-	-	-
			(0.123)	(0.114)	(0.126)	(0.119)						
Industrial Company	-	-	-	-	-	-	0.476***	0.152	0.579***	0.192	0.397***	0.207
							(0.124)	(0.119)	(0.127)	(0.124)	(0.147)	(0.127)
Financial Company	-	-	-	-	-	-	0.272**	0.445***	0.390***	0.474***	0.170	0.493***
							(0.134)	(0.130)	(0.138)	(0.136)	(0.156)	(0.137)
CGT Regime: Exemption	0.020	-0.236	0.023	-0.239	0.114	-0.226	0.027	-0.265	0.110	-0.245	0.536*	0.214
	(0.261)	(0.340)	(0.414)	(0.405)	(0.403)	(0.412)	(0.410)	(0.389)	(0.398)	(0.397)	(0.315)	(0.309)
Same country	0.090***	-0.397***	0.125***	-0.447***	0.114***	-0.444***	0.124***	-0.447***	0.114***	-0.443***	0.170***	-0.393***
	(0.028)	(0.026)	(0.041)	(0.046)	(0.043)	(0.048)	(0.041)	(0.046)	(0.043)	(0.048)	(0.037)	(0.040)
Same industry	-0.051**	-0.073***	-0.070**	-0.084**	-0.086**	-0.092**	-0.066*	-0.089**	-0.081**	-0.097***	-0.069**	-0.088**
	(0.024)	(0.021)	(0.035)	(0.035)	(0.036)	(0.036)	(0.035)	(0.035)	(0.036)	(0.036)	(0.035)	(0.034)
Target controls 1 Subsidiary	0.278***	0.103***	0.222***	0.170***	0.210***	0.161***	0.223***	0.170***	0.210***	0.163***	0.231***	0.178***
	(0.027)	(0.024)	(0.040)	(0.041)	(0.042)	(0.042)	(0.040)	(0.041)	(0.042)	(0.043)	(0.040)	(0.040)
Target controls >2 Subsidiaries	0.626***	0.241***	0.522***	0.322***	0.541***	0.325***	0.527***	0.320***	0.544***	0.325***	0.539***	0.331***
	(0.026)	(0.026)	(0.037)	(0.041)	(0.038)	(0.043)	(0.037)	(0.041)	(0.038)	(0.043)	(0.037)	(0.041)
Target has concentrated ownership	0.375***	0.026	0.262***	0.019	0.282***	-0.003	0.268***	0.013	0.287***	-0.007	0.277***	0.014
	(0.029)	(0.028)	(0.039)	(0.040)	(0.040)	(0.041)	(0.039)	(0.040)	(0.040)	(0.041)	(0.039)	(0.040)
Acquirer has been insolvent	-0.330***	-0.515***	-0.399***	-0.178*	-0.399***	-0.169*	-0.399***	-0.178*	-0.400***	-0.169*	-0.403***	-0.179*
	(0.071)	(0.051)	(0.107)	(0.093)	(0.111)	(0.097)	(0.107)	(0.092)	(0.111)	(0.097)	(0.107)	(0.092)
Acquirer has been unprofitable	0.026	-0.584***	0.023	-0.594***	0.019	-0.595***	0.023	-0.593***	0.019	-0.595***	0.004	-0.589***
	(0.030)	(0.025)	(0.044)	(0.042)	(0.045)	(0.043)	(0.044)	(0.042)	(0.045)	(0.043)	(0.043)	(0.042)
Constant	-0.012	0.145	-1.030***	0.810***	-0.926***	0.974***	-1.066***	0.857***	-0.956***	1.011***	-0.956***	0.769**
	(0.724)	(0.361)	(0.267)	(0.312)	(0.280)	(0.356)	(0.268)	(0.313)	(0.280)	(0.357)	(0.267)	(0.307)
Observations	30,467		11,044		10,403		11,044		10,403		11,044	
Log. Likelihood	-27873		-10488		-9826		-10475		-9814		-10739	
Rho	0.137***		0.121***		0.130***		0.124***		0.132***		0.131***	
	(0.022)		(0.031)		(0.032)		(0.031)		(0.032)		(0.030)	

Note: The table reports the coefficient estimates from the bivariate probit specifications using the sample defined by the sequential acquisition indicator variable D^{T3}. The sample size is affected by the availability of data on the target shareholders, as well as on the target and acquirer pre-deal characteristics and financial statements. Variables are defined as in the previous table. The types of target shareholders are defined according to the ownership status reported in the year preceding the final acquisition, and, in the case of sequential contracts, exclude the acquirer. The category "Individuals" refers to the case of target companies where the ownership is concentrated, that is a single person (or family) owns a stake of at least 30% in the target. All specifications include target country and industry FE, acquirer country and industry FE, as well as year dummies. Standard errors are clustered at the acquirer level. Rho reports the estimated correlation between the residuals of the two independent models. ***, ** and * are the standard significance level of 1%, 5%, and 10%, respectively.

Table 11: Bivariate Probit Predictive Accuracy - Diagnostics

	Seq. & Cash	Seq. & Equity	Full & Cash	Full & Equity	Sequential	Cash
			Baseline Model, column [f] Table 9			
Estimated Prob.	0.179	0.051	0.526	0.244	0.229	0.706
	(0.186)	(0.071)	(0.203)	(0.170)	(0.216)	(0.193)
Positive Predicted Values	0.719	0.355	0.684	0.635	0.679	0.771
Negative Predicted Values	0.864	0.952	0.697	0.790	0.840	0.644
Correctly Classified	0.853	0.952	0.689	0.777	0.819	0.751
			Model with TGT Shareholder Types, column [f] Table 10			
Estimated Prob.	0.282	0.081	0.455	0.182	0.364	0.737
	(0.221)	(0.100)	(0.224)	(0.145)	(0.248)	(0.199)
Positive Predicted Values	0.709	0.409	0.698	0.608	0.679	0.803
Negative Predicted Values	0.801	0.923	0.732	0.831	0.776	0.653
Correctly Classified	0.786	0.921	0.717	0.823	0.746	0.781

Note: The table reports fractions of (positive, negative and overall) correctly predicted in-sample observations. The cut-off used is 0.50, for the probability of each (joint or marginal) outcome reported in the columns. The positive (negative) predicted values report the share of positive (negative) outcomes correctly predicted by the model. The exercise is repeated for the two specifications of column [f] in Table 9 and column [f] in Table 10. The estimated probabilities refer to the predicted ones.

Table 12: Bivariate Probit - Marginal Effects of Capital Gain Taxes

	Overall Effect: column [a] table 11	Individuals with Dispersed Ownership	Individuals with Concentrated Ownership	Industrial Companies	Financial Companies
Marginal Probabilities:					
Pr(Sequential Contract)	-0.022	-0.168***	-0.104	-0.024	0.147
	(0.049)	(0.060)	(0.183)	(0.093)	(0.118)
Pr(Cash Finance)	-0.179***	0.139	-0.595*	-0.124	-0.362***
	(0.067)	(0.125)	(0.353)	(0.090)	(0.114)
Joint Probabilities:					
Pr(Sequential Contract & Cash Finance)	-0.050	-0.127***	-0.146	-0.064	-0.019
	(0.039)	(0.047)	(0.150)	(0.076)	(0.100)
Pr(Full Contract & Equity Finance)	0.150***	-0.099	0.554*	0.084	0.196**
	(0.056)	(0.116)	(0.328)	(0.061)	(0.083)
Conditional Probabilities:					
Pr(Cash Finance | Sequential Contract)	-0.158***	0.153	-0.520*	-0.114	-0.346***
	(0.061)	(0.104)	(0.312)	(0.084)	(0.105)
Pr(Cash Finance | Full Contract)	-0.182***	0.151	-0.598*	-0.128	-0.387***
	(0.069)	(0.126)	(0.355)	(0.130)	(0.119)

Note: The table reports the average partial effects of a marginal change in the target country's capital gains tax rate on the marginal, joint and conditional probabilities of the contract structure and the method of finance. These partial effects are based on the estimates from the specification of column [f] in Table 10, a part from those reported in the first column, which refer to the baseline specification of column [f] in Table 9. The marginal effects reported in column 2 to 5 are computed on the basis of the subsample of contracts involving target firms whose main controlling shareholder is identified as being an individual (with or without dispersed ownership), an industrial company or a financial company. Standard errors are computed using the delta method. ***, ** and * are the standard significance level of 1%, 5%, and 10%, respectively.

Table 13: Difference among Types of (pre-deal) Target Shareholders

	Same as Tab. 10, Col. [f] [a]		PIT Countries incl. [b]		Recursive [c]		Toehold 2 [d]		Toehold 1 [e]		Debt [f]	
	Teohold	Cash	Teohold	Cash	Teohold	Cash	Teohold	Cash	Teohold	Cash	Teohold	Cash
Toehold Purchase	-	-	-	-	-	0.883***	-	-	-	-	-	
						(0.128)						
Target's CGT rate	-1.612***	0.525	-1.537***	0.538	-1.690***	0.621	-1.513**	0.429	-1.423*	0.591	-1.536***	0.153
	(0.590)	(0.470)	(0.583)	(0.469)	(0.583)	(0.473)	(0.667)	(0.484)	(0.742)	(0.503)	(0.549)	(0.392)
CGT rate × TGT Shareholder Type:												
Individuals	1.054	-2.534**	1.154	-2.529**	1.325	-2.592**	1.580	-2.290*	1.489	-2.528*	0.817	-0.917
	(1.090)	(1.206)	(1.072)	(1.194)	(1.083)	(1.133)	(1.202)	(1.231)	(1.391)	(1.352)	(1.056)	(1.032)
Industrial Company	1.537***	-0.999**	1.480***	-1.021**	1.661***	-1.065**	1.424**	-0.941*	1.291*	-1.201**	1.466***	-0.280
	(0.575)	(0.471)	(0.569)	(0.469)	(0.563)	(0.480)	(0.649)	(0.486)	(0.726)	(0.506)	(0.538)	(0.402)
Financial Company	2.074***	-1.880***	1.928***	-1.946***	2.229***	-2.092***	1.992***	-1.926***	1.947**	-2.106***	2.067***	-0.473
	(0.610)	(0.517)	(0.603)	(0.513)	(0.601)	(0.507)	(0.689)	(0.536)	(0.766)	(0.564)	(0.572)	(0.451)
Observations	11,044		11,254		11,044		9,818		8,522		12,080	
Log. Likelihood	-10739		-10934		-10723		-9591		-8120		-12592	
rho	0.131***		0.135***		-0.403***		0.056*		0.080**		0.227***	
	(0.030)		(0.030)		(0.073)		(0.030)		(0.033)		(0.026)	

Note: The table reports the coefficient estimates from the bivariate probits departing from the specification in column [f] of Table 10 (replicated in column [a]). Column [b] expands the sample by re-including the countries where capital gains are taxed as part of ordinary personal income; column [c] uses a recursive specification, where the choice w.r.t. the method of finance is directly affected by the contract structure; columns [d] and [e] substitute the sequential acquisition indicator variable D^{T3} with the alternative D^{T2} and D^{T1}, respectively; column [f] includes debt finance as an alternative to cash finance. All specifications include target country and industry FE, acquirer country and industry FE, as well as year dummies. All control variables are the same as in Table 10, but omitted here for simplicity. Standard errors are clustered at the acquirer level. Rho reports the estimated correlation between the residuals of the two independent models. ***, ** and * are the standard significance level of 1%, 5%, and 10%, respectively.