Corporate life cycle and M&A activity

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ABSTRACT

We investigate the impact of corporate life cycle on takeover activity from the perspective of acquiring firms. Using the earned/contributed capital mix as the proxy for firm life cycle, we find a highly significant and positive relation between firm life cycle and the likelihood of becoming a bidder. This finding is, however, driven by the mature rather than the old acquirers in the sample. Further we find that, whilst firm life cycle has a positive effect on the probability that a deal will be negotiated, it is negatively related to tender offers. In addition, the likelihood of making both cash and mixed deals are positively related to the corporate life cycle. Finally, we find that life cycle has a negative impact on the abnormal returns generated on the announcement of a deal although it is unable to distinguish between the returns received by firms at different stages in their life cycle.

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1. Introduction

There has been a substantial amount of research and continuing interest in the area of corporate takeovers. A number of prior studies have investigated mergers and acquisitions from a wealth perspective (e.g., Jensen and Ruback, 1983; Healy et al., 1992; Moeller et al., 2004; Masulis et al., 2007) whilst others have developed models incorporating both firm and industry related variables to explain the likelihood of such a transaction occurring (e.g., Palepu, 1986; Ambrose and Megginson, 1992; Espahbodi and Espahbodi, 2003; Hagendorff et al., 2008). Whilst prior studies overwhelmingly agree that the shareholders of acquired firms gain in acquisitions, there is no consensus as to what characteristics define acquiring firms or whether the deals benefit their shareholders.

In this paper, we make an important contribution to the takeover debate by examining the impact of corporate life cycle on mergers and acquisitions.[1] Specifically, we examine the effect of corporate life cycle on the likelihood of a merger, the bid strategy,

method of payment and wealth effects from the perspective of acquiring firms.[2] Organizational theorists such as Greiner (1972), Adizes (1979), and Miller and Friesen (1984) have shown that firms experience changes throughout their life and that the characteristics of firms differ at each stage. For example, Ritter and Welch (2002) and Rydqvist and Hogholm (1995) have indicated a connection between life cycle and the acquisition process which we examine in detail.

Jensen (1986) argues that managers have the incentive to grow their firms beyond the optimal size because growth increases managers' power and benefits, leading to inefficient expenditures. As firms generate large free cash flows, corporate managers will not choose to pay out the excess cash to shareholders but, instead, will elect to spend it on perquisites, inefficient diversification and acquisition activities and this is particularly the case when the firm has few other growth opportunities. The implication of these findings is that very young firms are unable to attempt acquisitions whilst mature and old firms are more likely to become bidders. However, Davis and Stout (1992) argue that, in general, old firms are prone to suffer from 'organizational inertia' making them

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[1] The terms takeover(s) and mergers and acquisitions are used interchangeably in this paper.

[2] We acknowledge that the decision to become a bidder is not independent of the characteristics of the target firm (see, for example, Palepu, 1986; Ambrose and Megginson, 1992; Powell, 1997; Espahbodi and Espahbodi, 2003)). The choice to become a bidder is dependent on identifying a target that matches the characteristics that the bidder is seeking relative to the characteristics of the bidder itself. However, in this paper we focus only on the bidding firms.

increasingly rigid and incapable of adapting to changing conditions which we contend makes them less likely to become acquirers.

Despite this body of literature, the connection between corporate life cycle and takeover activity is largely unexplored to date, an oversight which we rectify in this paper. Our proxies for corporate life cycle are the proportion of retained earnings to equity (RE/TE) and to total assets (RE/TA). These proxies have been used by DeAngelo et al. (2006) who apply life cycle theory to explain the behavior of dividend paying firms. DeAngelo et al. (2006) and Grabowski and Mueller (1975) argue that "the earned/contributed capital mix is a logical proxy for the life cycle stage at which a firm currently finds itself because it measures the extent to which the firm is self financing or reliant on external capital". Firms that have accumulated a large amount of RE/TE tend to be either mature or old with declining investment opportunities whilst those with low RE/TE tend to be young and growing firms.

Using a large sample of US firms that were involved in acquisitions as bidders over the period 1991–2005, we find a strong relation between the likelihood of becoming a bidder and the life cycle as represented by the ratio of earned to contributed capital. In addition, when we partition the sample into three distinct life cycle stages, we find that our results are driven by the mature firms which are both willing and able to participate actively in mergers and acquisitions. Our results are also consistent with our hypothesis that many young firms are incapable of attempting acquisitions whilst old firms suffer from inertia which prevents many of them from playing an active role in the market for corporate control. In addition, we find that firm life cycle is positively related to the probability of a deal being negotiated but negatively related to tender offers. These results suggest that mature and old firms are more likely to negotiate with a target firm whilst young firms prefer tender offers. Next, we find that the probability of making either a cash or mixed deal is positively related to the life cycle stage of the bidder and, finally, we find that the wealth effects for bidding firms are negatively related to firm life cycle.

The rest of this paper proceeds as follows. Section 2 sets out the theoretical background. Section 3 describes the sample construction procedure. Section 4 reports the empirical results and Section 5 concludes the paper.

2. Corporate life cycle theory

Corporate life cycle models have been applied in the business strategy literature since the 1960s. A theoretical life cycle model is deterministic and proposes that firms will inevitably evolve and transit from one stage of development to another. The theory posits that firms will follow a predictable pattern characterized by different stages of development which cannot be easily reversed. Furthermore, firms in different life cycle stages will have different sets of organizational structures, strategies and activities (Miller and Friesen, 1984).

There are various multi-stage life cycle models which differ in terms of the characteristics of each stage and the actual number of stages involved. For example, Greiner (1972) proposes a growth phase model, which predicts that firms will go through five stages; growth through creativity, direction, delegation, coordination and, finally, monitoring and collaboration. Greiner's model describes organizational development as the alternation of quiet periods of growth and moments of crisis that indicate the transition to a new stage. A firm reaches a crisis point at the end of each phase and its reaction to that crisis determines the future growth of the business. Adizes (1979) proposes a more comprehensive corporate life cycle model theorizing that firms evolve along ten stages ranging from courtship, where the organization exists only as an idea, to death. Miller and Friesen (1984) summarize the earlier works on life cycle models and classify firm development into five key stages; birth, growth, maturity, revival and decline. Using this model, Miller and Friesen (1984) perform a longitudinal study of the corporate life cycle by classifying a sample of 161 observations from 36 firms into five stages. They find significant differences between one phase and another, with firms in each stage having distinct characteristics in terms of structure, strategies and decision-making.

Firm life cycle can also be related to financing and investment decisions and this can be observed from the amount of retained earnings in the firm's capital structure. In the initial stages of growth, all investments are typically financed by outside equity (Grabowski and Mueller, 1975). Firms in this stage will have little by way of retained earnings as they invest all their profits and also raise external funds. Over time, as firms continue to innovate and become mature, they begin to accumulate profits and have higher retained earnings in their capital mix. In this paper, we follow DeAngelo et al. (2006) and use the proportion of retained earnings in a firm's capital mix as a proxy for firm life cycle and apply it to the analysis of merger and acquisition activity.[3]

Drawing on corporate life cycle models as discussed in the preceding paragraphs, we hypothesize that firms with low amounts of retained earnings in their capital structure are young and, owing to resource constraints, are less likely to be involved in a large number of acquisitions. We also hypothesize that firms with a high proportion of retained earnings in their capital structure are mature and are more likely to become bidders, as they possess the necessary resources to launch takeover attacks. In contrast, old firms, despite the fact that they have more retained earnings, are less likely to make many acquisitions owing to organizational inertia (Davis and Stout, 1992; Shimizu and Hitt, 2005).

3. Sample construction

The paper is based on the population of US firms over the period 1989–2005. To be included in the sample the firm should have information on retained earnings, total common equity and total assets stored on the *Compustat* files. Following DeAngelo et al. (2006) we remove financial (SIC codes 6000–6999) and utility (SIC codes 4900–4999) firms from the sample and firms with negative total common equity for the analysis that incorporates this variable.[4] We also collect additional accounting data from the *University of Chicago's Center for Research in Security prices CRSP/Compustat* merged database. Following DeAngelo et al. (2006) we estimate a firm's stage in its life cycle using the ratio of retained earnings to equity (RE/TE), and to total assets (RE/TA) measured at the fiscal year end prior to the acquisition announcement. We identified all acquiring firms during the 1991–2005 period and excluded all those cases in which the companies involved did not have the requisite data available on the merged CRSP/Compustat file. We compile the list

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[3] RE/TE (DeAngelo et al., 2006) represents the retained earnings scaled by the return on equity which is a measure of the available internal funds that could be used for investment. Due to the nature of accrual accounting, retained earnings do not necessarily imply cash. Thus, this measure is distinct from free cash flow (Jensen, 1986) which represents aggregate cash flows in excess of that which is needed for investment in positive NPV projects.

[4] According to DeAngelo et al. (2006) repurchased stocks held in the treasury can reduce total equity (TE) and total assets (TA) and overstate RE/TE and RE/TA. The accounting treatment of stock repurchases (when repurchased shares are held in the treasury) can cause negative TE which in turn introduces measurement bias to the financial life cycle variables. In this study, 4.2% of the sample reported negative TE and following DeAngelo et al. (2006) we exclude them from the models that use RE/TE.