The impact of corporate life cycle on shareholder wealth: Evidence from mergers and acquisitions

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Abstract

This study investigates corporate life cycle on the influence of shareholder wealth in M&As. Specifically, the current study examines whether firms in different corporate life cycle stages are more likely to hire financial advisors in M&As and whether financial advisors can create higher value to firms within various corporate life cycle stages. Using 919 targets and 3,647 bidders during the period of 1995-2014, the results show that growth (stagnant) bidding firms are less (more) likely to hire financial advisors in M&As. In addition, the evidence reveals that stagnant targets earn higher announcement returns. The regression analysis reveals that targets in growth stages earn lower (higher) announcement returns when targets do not (do) hire financial advisors. Furthermore, stagnant bidders obtain lower announcement returns around merger and acquisition announcements, but experience higher post-announcement returns during the post-announcement period. While the regression analysis consistently shows lower announcement returns to stagnant bidders, bidders in stagnant stages obtain higher post-announcement returns. Overall, this study reveals that corporate life cycle is an important determinant to influence the choice of financial advisors and shareholder wealth in M&As.

1. Introduction

Merger and acquisition activities significantly increase during the last decade. From the perspective of the firms, firms may experience the transition of corporate life cycle. Firms in various corporate life stages may use M&A strategies to fit its objectives. Prior studies argue that firms go through life-cycle stages. These stages show differences in investment and restructuring activity (Gort and Klepper, 1982; Jovanovic, 1982; Klepper and Grady, 1990; Klepper, 1996; Vojislav and Gordon, 2008). Vojislav and Gordon (2008) argue that firms experience the transition of corporate life cycle when competitive advantages for the firms are changing. In addition, Miller and Friesen (1984) and Owen and Yawson (2010) also argue that firms will have a variety of organizational structures, strategies and investment activities when firms are categorized as different life cycle stages. For example, firms in the phases of expansion can enhance their competitive advantages through M&As (Ghemawat, 1984; Ghemawat and Nalebuff, 1985). Hence, successful merger and acquisition transactions can enable different corporate life cycle stages of firms to enhance their competitive ability and facilitate their growth momentum. This can also create value to their shareholders.

A number of prior studies have examined corporate life cycle stages in relation to different aspects in corporate finance, such as dividend payout policy (DeAngelo et al., 2006; Coulton and Ruddock, 2011), seasoned equity offerings (SEOs) (DeAngelo et al., 2010) and share repurchases (Liang et al., 2013). While prior studies report positive gains to targets, the results for bidding firms are inconclusive. In addition, prior studies pay little attention to explore the impact of corporate life cycle in M&As. It is not clear to what extent corporate life cycle influences shareholder wealth in M&As. In a recent paper, Owen and Yawson (2010) use US sample to examine corporate life cycle on the likelihood of a merger and wealth effects for bidding firms. However, their study does not explore corporate life cycle on the influence of target shareholder wealth. In addition, the authors do not take into account the presence of financial advisors to explore the impact of corporate life cycle on shareholder wealth in M&As. The authors find a significant positive relationship between corporate life cycle and the likelihood of becoming a bidder. Their results also reveal that young bidding firms obtain higher announcement returns relative to mature and old bidding firms.

In another stream of research, several studies explore the role of financial advisors in M&As (McLaughlin, 1992; Servaes and Zenner, 1996; Rau, 2000; Hunter and Jagtiani, 2003; Walter et al., 2008; Schiereck et al., 2009; Wang and Whyte, 2010;

Golubov et al., 2012; Song et al., 2013). Servaes and Zenner (1996) argue that bidders are more likely to hire an advisor in M&As when the transactions are more complex. Song et al. (2013) report that bidders are more likely to hire boutique advisors in hostile deals due to the complexity of hostile deals. In addition, Servaes and Zenner (1996) also find that targets with the use of financial advisors earn higher announcement returns than those without using financial advisors. Golubov et al. (2012) find that bidders hired by financial advisors obtain higher announcement returns in comparison to those without using financial advisors. On the contrary, Servaes and Zenner (1996) and Wang and Whyte (2010) report that bidders hired by financial advisors obtain lower announcement returns relative to those without using financial advisors.

It is arguable that firms in early life cycle stages may not have large free cash flow in that these firms may possibly have many investment opportunities. Young (growth) firms may also have less abilities and M&A experience to negotiate the deals. These firms may hire financial advisors to accelerate the negotiation process. The presence of financial advisors can also facilitate the completion of the deals. Alternatively, firms in late life cycle stages may possibly have few investment opportunities and may also have limited growth potential. These firms may possibly hold large free cash flow. Old (stagnant) firms may hire financial advisors to look for suitable targets and enhance their growth opportunities through M&As. The use of financial advisors can also facilitate the integration of resources after the transactions for these firms. Thus, the use of financial advisors can create synergy gains to various corporate life cycle stages of firms.

This study focuses on the Asia Pacific market to explore corporate life cycle on the influence of shareholder wealth in M&As. Unlike US takeover market, the takeover market in the Asia Pacific market is less competitive. In addition, Asia Pacific market contains several markets and firms in these markets may exhibit a high speed of growth potential. While many firms in the Asia Pacific market may be small, these firms may possibly have a variety of corporate life cycle. When engaging in merger and acquisition activities, these firms can experience significant transitions in their corporate life cycle through M&As. Thus, the empirical evidence from the US market may not be applicable to that of the Asia Pacific market.

Due to limited evidence and the lack of the empirical evidence, it is unknown as to whether corporate life cycle can influence shareholder wealth in M&As in the Asia Pacific market. Thus, it remains a question as to whether corporate life cycle is an

important determinant to influence shareholder wealth in M&As. More importantly, none of prior studies takes into account the presence of financial advisors to examine corporate life cycle on the influence of shareholder wealth in M&As. This provides of great valuable opportunity to examine this issue in the Asia Pacific market. Thus, this study firstly explores whether firms in various corporate life cycle stages are more likely to hire financial advisors in M&As. Secondly, this study further investigates whether firms in various corporate life cycle stages can create value to their shareholders in M&As. Furthermore, this study also explores whether various corporate life cycle stages of firms hired by financial advisors are able to create higher value to their shareholders in comparison to those without hiring financial advisors. This can shed lights on the importance of corporate life cycle on shareholder wealth in M&As.

To determine corporate life cycle stages, this study follows Anthony and Ramesh's (1992) study to use multivariate ranking procedures with four variables to identify corporate life cycle stages. These variables include annual dividend as a percentage of income (DP), percent sales growth (SG), capital expenditure as a percentage of total value of the firm (CEV), and age of the firm (AGE). This study differs from prior studies in several ways. First, this study looks into the relationship between corporate life cycle and shareholder wealth in M&As in the Asia Pacific market. More importantly, the current study adds the issue of financial advisors to the empirical analysis in order to explore corporate life cycle on the influence of shareholder wealth in M&As. Thirdly, the empirical analysis examines not only for bidding firms, but also for target firms. This can reveal a clear picture to address the importance of corporate life cycle on the influence of shareholder wealth in M&As.

To measure corporate life cycle on the influence of shareholder wealth in M&As, the standard event study methodology with the market model is applied to calculate the abnormal returns. Using the sample of 919 targets and 3,647 bidders, the evidence shows that corporate life cycle is not a determinant to influence the choice of financial advisors for target firms, but a determinant for bidding firms. The results reveal that growth bidders are less likely to hire financial advisors. Instead, stagnant bidding firms are more likely to hire financial advisors in M&As. With regard to the impact of shareholder wealth, the results indicate that stagnant targets on average earn higher announcement returns at 3.97% over a 3-day (-1,+1) event window relative to growth and mature targets at 3.81% and 3.77%, respectively. For targets that hire financial advisors, mature targets earn higher announcement returns around merger and acquisition announcements relative to growth and stagnant targets. Interestingly, for

targets that do not hire financial advisors, growth target firms obtain higher announcement returns than their counterparts in mature and stagnant stages. In the regression analysis, the results show that growth targets that do not hire financial advisors earn lower announcement returns. Instead, growth targets with hiring financial advisors obtain higher announcement returns.

With regard to the evidence for bidding firms, the results indicate that stagnant bidding firms on average obtain lower announcement returns around the announcement date relative to growth and mature bidders. However, the results are reverse, showing that stagnant bidders obtain higher post-announcement returns during long run post-announcement period. Given that bidders hire financial advisors, the results show that mature bidders obtain higher announcement returns around the announcement date. Instead, stagnant bidders obtain higher post-announcement returns during the post-announcement period no matter whether bidders hire financial advisors.

In addition, the regression analysis consistently finds that stagnant bidding firms are negatively associated with bidder announcement returns. The results remain the same when analyzing bidders that do not hire financial advisors. On the contrary, the evidence shows that mature bidders obtain higher announcement returns when bidders hire financial advisors. While looking at post-announcement period, the results show that growth bidders are negatively related to bidder post-announcement returns. In contrast, bidders in stagnant stages obtain higher post-announcement returns.

This study makes several contributions to academic research. First, this study offers new evidence to reveal the importance of corporate life cycle on the influence of shareholder wealth in M&As in the Asia Pacific market. More importantly, the current study also adds the issue of financial advisors to explore whether firms in various corporate life cycle stages are more likely to hire financial advisors in M&As and whether financial advisors can create value to firms within various corporate life cycle stages. This is the first study to use a large comprehensive sample in the Asia Pacific market and cover a longer period to explore the importance of corporate life cycle on shareholder wealth in M&As. In addition, this study also controls for inverse mill's ratio to take into account the potential self-selection bias in the analysis. The empirical evidence demonstrates that corporate life cycle can be a determinant to influence the choice of financial advisors and shareholder wealth in M&As. In addition, the current study also provides implications to managers and investors. Managers and investors can realize whether the presence of financial advisors can

create value to firms in various corporate life cycle stages and their shareholders. Hence, the empirical results in this study enhance our knowledge and understanding to address the importance of corporate life cycle on shareholder wealth in M&As.

This paper is organized as follows. Sample selection is provided in Section Two. Methodology is presented in Section Three, followed by the empirical results in Section Four. Section Five presents the conclusion.

2. Sample selection

This study investigates corporate life cycle on the influence of shareholder wealth in M&As in the Asia Pacific market. The sample of mergers and acquisitions is collected from SDC database. The investigation period covers the years from 1995 to 2014. To be included in the sample, each transaction is required to meet the following criteria. The sample is restricted to deals that are classified as mergers, acquisitions, acquisition of majority interests. To focus on the Asia Pacific market, both the target and bidder are in the Asia Pacific market. Either the target or bidder is listed on the stock exchange. This criterion can be expected to obtain unmatched sample for targets and bidders. The transaction is complete and bidders own more than 50% of target shares after the transaction. This allows the current study to focus on the change of corporate control.

Share price and financial data were collected from Datastream database. If share price is missing, the transaction is removed from the sample. Financial characteristics are gathered from the calendar year end prior to the announcement date. More importantly, the transaction is further eliminated if life cycle descriptors are not available from Datastream database. This can reduce a bias introduced to the classification of corporate life cycle stages.

In addition, this study further removes financial firms (SIC codes 6000-6999) and utility firms (SIC codes 4900-4999). The characteristics of financial and utility firms can differ from other firms that may not clearly identify the stages of corporate life cycle. After imposing these criteria, the final sample contains 14 countries, Australia, China, Hong Kong, India, Indonesia, Malaysia, New Zealand, Pakistan, Philippines, Singapore, South Korea, Sri Lanka, Taiwan and Thailand. Thus, the final sample contains 919 targets and 3,647 bidders.[1]

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[1] While the empirical analysis in this study may be biased due to the presence of relative small deals, this study also restricted the deals to be larger than 1 million US dollars. The empirical results quantitatively remain the same.

2.1 The classification of corporate life cycle stages

Prior studies have examined corporate life cycle in different aspects of corporate finance. DeAngelo et al. (2006) and Coulton and Ruddock (2011) examine the relationship between corporate life cycle stages and dividend payout policy while DeAngelo et al. (2010) explore whether corporate life cycle has an influence to conduct seasoned equity offerings (SEOs). In a recent paper, Liang et al. (2013) examine corporate life cycle in share repurchases. Although Anthony and Ramesh (1992) suggest that corporate life cycle can be an important determinant to evaluate firm performance, there is limited evidence to explore corporate life cycle stages on the impact of shareholder wealth in M&As. In a recent paper, Owen and Yawson (2010) argue that corporate life cycle can be related to investment decisions, such as M&As. The authors find that corporate life cycle is positively related to the likelihood of launching a bid. In addition, their results also reveal that growth bidding firms obtain higher announcement returns relative to their mature and old counterparts.

To examine the impact of corporate life cycle stages on the influence of shareholder wealth in M&As, this study follows Anthony and Ramesh's (1992) study to classify firms into various corporate life cycle stages. Anthony and Ramesh (1992) argue that firms in early corporate life cycle stages generally have higher sales growth. Growth firms have lower dividend payout ratios in that these firms may have more opportunities to conduct projects with positive net present value. In addition, growth firms are more likely to invest more funds in fixed assets, such as plant and equipment. Following Anthony and Ramesh's (1992) study, the current study uses four variables to identify corporate life cycle, where life cycle descriptors include annual dividend as a percentage of income (DP)[2], percent sales growth (SG), capital expenditure as a percentage of total value to the firm (CEV), and firm age (AGE). The measurement of life cycle descriptors is computed as follows.

$$DP_t = (DIV_t / EBIT_t) \times 100,$$

$$SG_t = ((Sales_t - Sales_{t-1}) / Sales_{t-1}) \times 100,$$

$$CEV_t = (CE_t / Value_t) \times 100,$$

where
DIV_t = common dividends in year t, where t indicates the year prior to the

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[2] This study uses EBIT as a denominator to measure annual dividend as a percentage of income (DP) collected from Datastream database.

announcement date,

$EBIT_t$ = earnings before interests and taxes in year t,

$Sales_t$ = net sales in year t,

CE_t = capital expenditure in year t,

$Value_t$ = market capitalization of the firm in year t.

Three financial life cycle descriptors, DP, SG and CEV, are calculated each year for the sample firm. For each firm-year, median value of each life cycle descriptor is computed using the prior five years' data (denoted *MDP, MSG, and MCEV*) prior to the announcement date. The variable of AGE indicates the difference between the year of mergers and acquisitions and the year of business formation, where the year of business formation is obtained from Datastream (denoted Bdate).

Accordingly, the four life cycle descriptors (*MDP, MSG, MCEV, and AGE*) are ranked and classified into various life cycle stages. The classification of corporate life cycle stages shows in Table 1. In addition, corporate life cycle stages are measured year by year that allows for temporal shifts in each year as Anthony and Ramesh's (1992) procedure.

[Insert Table 1 here]

Firms are grouped into various life cycle stages [Low, Medium, and High (Young, Adult, and Old for the AGE variable)] by ranking firms on each of the four life cycle descriptors (*MDP, MSG, MCEV, and AGE*). The firm will assign a score (growth = 1, mature = 2, and stagnant = 3) when the firm is in a group. For example, the firm with a low DP (classified as the "growth" stage) is assigned a score of one for dividend payout variable while the firm with a low SG (grouped as the "stagnant" stage) is given a score of three for sales growth variable. When life cycle descriptors are assigned a score, a composition of a score is generated by summing individual variable scores in terms of *MDP, MSG, MCEV, and AGE*. The composition of the score ranges from four to twelve. The composition score at 4-6 is classified as growth stages, at 7-9 as mature stages and stagnant stages at 10-12.

2.2 Control variables

A number of prior studies have demonstrated the importance of deal and firm specific characteristics on shareholder wealth in M&As. Ang and Kohers (2001), Fuller et al. (2002) and Draper and Paudyal (2006) document that bidders obtain substantial gains for acquisitions of privately held firms. Antoniou et al. (2007) similarly report that

bidders obtain gains when acquiring private targets. In addition, Bradley et al. (1983) report that bidders obtain positive abnormal returns when engaging in hostile deals. On the contrary, Goergen and Renneboog (2004) find that bidders in hostile bids obtain negative abnormal returns. Servaes (1991) also reports that bidder announcement returns are lower when engaging in hostile deals.

Bidders with cash payment obtain higher announcement returns than those with stock payment (Travlos, 1987; Draper and Paudyal, 1999). Moeller et al. (2004) report that bidders paid by cash obtain positive announcement returns. However, Moeller et al. (2004) also find negative announcement returns to bidders with stock payment. Cai et al. (2011) similarly find that bidders in stock payment obtain lower returns than those in cash or mixed payment.

Furthermore, several studies have reported that bidders involved in focusing acquisitions obtain positive abnormal returns (Sudarsanam et al., 1996; Walker, 2000). Lang and Stulz (1994) and Servaes (1996) report that diversification acquisitions reduce the wealth to bidder shareholders. In contrast, prior evidence shows that bidders in diversification acquisitions are associated with positive abnormal returns (Jensen and Ruback, 1983; Bradley et al., 1988; Hadlock et al., 2001). In addition, Harris and Ravenscraft (1991) document that targets earn higher gains when foreign bidders involve in M&A transactions. However, Conn et al. (2005) report that bidders in cross border deals obtain lower announcement returns. Eckbo and Thorbum (2000) report that domestic bidders obtain positive abnormal returns.

The existing literature has reported that firm specific characteristics are important determinants to affect shareholder wealth in M&As. Morck et al. (1990) report that firms with superior prior performance make better acquisitions. Dong et al. (2006) report positive relationship between targets' book to market ratio and target abnormal returns. In addition, Rau and Vermaelen (1998) document that acquirers with low book to market ratio (glamour acquirers) outperform those with high book to market ratio (value acquirers). Moeller and Schlingemann (2005) find that bidder announcement returns are positively associated with their market to book ratio. Hunter and Tagtiani (2003) find that bidders obtain higher post-merger gains when bidder size is large.

While prior studies have demonstrated that deal and firm specific characteristics are important determinants to influence shareholder wealth in M&As, this study also controls for these characteristics in the regression analysis. This enables the current

study to explore corporate life cycle on the influence of shareholder wealth precisely. In addition, controlling for these characteristics also allows the current study to further explore the determinants that can affect shareholder wealth in M&As. Hence, the regression analysis controls for private targets, friendly deals, cross border deals, cash payment, relatedness[3], market to book ratio, ROA and firm size. ROA is measured as net income to total assets. The market to book ratio is measured as the market value of equity to the book value of equity. Firm size is measured as ln(total assets).

3. Methodology

To investigate the impact of corporate life cycle stages on shareholder wealth in M&As, this study follows Brown and Warner's (1985) study and uses the standard event study methodology to measure the impact of shareholder wealth. The impact of shareholder wealth is measured by abnormal returns. The market model is applied to compute the abnormal returns. The market model parameters are estimated from day -270 to day -61, where day 0 is the announcement date. The Datastream market index is selected as the benchmark for each market. The abnormal returns are calculated by subtracting expected returns from actual returns.

$$AR_{it} = R_{it} - (\alpha + \beta R_{mt})$$

Where:
AR_{it} = the abnormal returns for stock i on day t,
R_{it} = the return for stock i on day t,
R_{mt} = the returns for the market on day t,
α, β = the market model parameters.

The cumulative abnormal returns are calculated by aggregating the abnormal returns over a certain period of the event window. This study focuses on short term announcement returns as share price tends to have a significant impact around the announcement date. Hence, three event windows are selected in terms of (-1,+1), (-2,+2) and (-5,+5) event windows to examine corporate life cycle on the influence of shareholder wealth in M&As. In addition, this study also looks at post-announcement returns for bidding firms to reveal corporate life cycle on the influence of shareholder wealth in M&As during the post-announcement period, including (0,+180) and (0,+270) event windows. This can provide additional insights to reveal corporate life

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[3] This study uses 4-digit SIC code (XXXX) to classify diversifying or focusing deals. If 2-digit SIC code (e.g. 10XX) for the target and bidder is the same, the transaction is classified as focusing deals; otherwise, diversifying deals.

cycle on the influence of bidder post-announcement returns in M&As. In addition, cross-sectional *t*-statistics is used to test the significance level for the hypothesis, H_0: mean abnormal returns are equal to 0.

To better know the impact of corporate life cycle on M&As, this study further runs cross-sectional regression analysis to explore the relationship between corporate life cycle and the announcement returns. While prior studies have reported the importance of deal and firm specific characteristics on shareholder wealth in M&As, the regression analysis also controls for these characteristics. The variables include private targets, friendly deals, cross border deals, cash payment, relatedness, market to book ratio, ROA and firm size.

4. The empirical results

4.1 Descriptive statistics

This section presents descriptive statistics for the sample. Panel A in Table 2 describes the distribution of the sample on the basis of the year and corporate life cycle stages of the firms. As the figures show, the number of M&A activities significantly increases prior to the year of 2007. An upward trend of M&A transactions indicates that the takeover market in the Asia Pacific market is more active. The figures also reveal that there are a large number of M&A transactions during the period of 2003-2007 for bidding firms. While economic situations in the Asia Pacific market generally have better performance during the period of 2003-2007, the figures also suggest that M&As take place during the period of economic booms. Taking into account corporate life cycle stages, the figures indicate that mature firms tend to engage in M&A transactions in comparison to growth and stagnant firms. This suggests that mature firms are more likely to engage in M&As to enhance their growth momentum and fit their corporate objectives.

[Insert Table 2 here]

Panel B presents the descriptive statistics of firm characteristics. The figures show that growth firms on average have slightly poor performance relative to mature and old firms. Mean value of ROA is 0.06 and 0.09 for targets and bidders, respectively. With regard to growth potential, growth targets on average have market to book ratio at 1.95 slightly higher than 1.80 and 1.84 for mature and stagnant targets. On the contrary, stagnant bidding firms appear to have higher market to book ratio relative to growth and mature bidders. The figures indicate that stagnant bidders with high growth potential can engage in M&As to maintain their growth momentum. When

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looking at firm size, the figures reveal that growth targets are large firms and mature bidders on average have large firm size.

4.2 The choice of financial advisors in relation to corporate life cycle stages

This section presents probit regression analysis to examine whether firms in different corporate life cycle stages are more likely to hire financial advisors in M&As. If financial advisors have more ability to advise the deals, firms within various corporate life cycle stages are more likely to hire financial advisors. This allows the current study to identify whether various corporate life cycle stages of firms are more likely to hire financial advisors in M&As. Dependent variable equals to 1 if firms hire financial advisors in M&As; 0 otherwise. As shows in Table 3, targets within growth and mature stages are less likely to hire financial advisors in M&As. The coefficients are -0.008 and -0.076 in model specification (1) and (2) respectively. On the contrary, the results in model specification (3) reveal that stagnant targets are more likely to hire financial advisors in M&As, the coefficient at 0.119. However, the results are not statistically significant. With regard to control variables, the results indicate that targets are more likely to hire financial advisors when in the transactions involve in cross border deals and targets have better prior performance. In contrast, targets are less likely to hire financial advisors when targets engage in diversification acquisitions and targets are large firms.

[Insert Table 3 here]

With regard to the empirical results for bidding firms, the evidence shows interesting findings. The results in model specification (4) show that growth bidders are less likelihood to hire financial advisors in M&As. The coefficient is -0.159. The managers of growth bidding firms may believe their ability to manage the deals. Thus, growth bidders are less likely to hire financial advisors. Alternatively, growth bidding firms may have limit funds and may not want to pay advisory fees to their advisors. Growth firms may prefer not to hire financial advisors in M&As. On the contrary, the results in model specification (6) show that stagnant bidding firms are more likely to hire financial advisors in M&As. The coefficient is 0.268. While stagnant bidding firms may have a variety of assets and diversified operation, stagnant bidding firms are more likely to hire financial advisors to facilitate the transactions and assist to integrate the resources after the transactions. In addition, the evidence also reveals that bidders are less likely to hire financial advisors in M&As when acquiring private targets, engaging in friendly deals and using cash payment. When engaging in cross border deals, bidders are more likely to hire financial advisors.

4.3 The empirical results for targets

4.3.1 Target abnormal returns

This section presents the empirical results for targets. If firms have higher growth potential, these firms are more attractive to bidders. Thus, bidders would like to pay higher premium to targets resulted in higher announcement returns. As shows in Table 4, the results reveal that targets on average earn 3.82% cumulative abnormal returns over a 3-day (-1,+1) event window. Splitting the sample based on corporate life cycle stages of firms, the results show that targets within stagnant stages earn cumulative abnormal returns at 3.97% over a 3-day (-1,+1) event window higher than those in growth and mature stages at 3.81% and 3.77%, respectively. The results may suggest that stagnant targets may have more free cash flow due to limited investment opportunities Thus, bidders may need to pay higher premium to stagnant targets resulted in higher announcement returns. While performing kruskal-wallis test to examine the difference of target announcement returns among three corporate life cycle stages, the results are not statistically significant.

[Insert Table 4 here]

While financial advisors can provide advisory services to their clients, a further analysis is to explore whether different corporate life cycle stages of targets can create higher synergy gains to their shareholders taking into account the presence of financial advisors. Hence, the sample in each corporate life cycle stage is further split into with and without using financial advisors. This can provide additional insights to address whether the presence of financial advisors can create higher value to various corporate life cycle stages of targets. As shows in Table 5, the results show that targets hired by financial advisors on average earn higher announcement returns around the announcement date than those without using financial advisors regardless of the stages of corporate life cycle. The results suggest that financial advisors can assist their clients to negotiate better terms leading to higher announcement returns.

Given that targets hire financial advisors, the evidence reveals that growth targets on average obtain lower announcement returns than mature and stagnant targets. For example, targets within growth stages earn cumulative abnormal returns at 1.95% relative to 4.28% and 3.88% for those in mature and stagnant stages. The difference in target announcement returns is statistically significant. Given that targets do not fire financial advisors, the evidence shows that growth targets earn higher announcement returns than mature and stagnant targets. Growth targets without using financial

advisors earn 5.67% cumulative abnormal returns higher than 3.25% and 4.09% for mature and stagnant targets, respectively. The results suggest that growth targets without using financial advisors do not pay advisory fees to their advisors led to higher announcement returns.

[Insert Table 5 here]

4.3.2 Cross-sectional regression analysis for targets

This section conducts OLS regression analysis to explore the relationship between corporate life cycle and target announcement returns in M&As. If firms in various corporate life cycle stages are more attractive to bidders, targets can create higher value to their shareholders. While prior studies have demonstrated the importance of deal and firm specific characteristics on shareholder wealth, this study also controls for these characteristics in the regression analysis. This enables the current study to further explore the determinants that can affect target announcement returns.

In addition, endogeneity may be an issue to be taken into account in the regression analysis in that the stages of corporate life cycle may be endogenously correlated to deal and firm specific characteristics. For example, targets in various corporate life cycle stages may have different degrees of growth potential that may correlate to the variable of market to book ratio. This may raise the concern of endogeneity issue. In the presence of endogeneity, the coefficient can be biased to address the relationship between corporate life cycle and target announcement returns.

Hence, this study uses Heckman's (1979) two stage procedure to take into account the potential self-selection bias. In the first stage, this study conducts probit regression analysis with controlling for deal and firm specific characteristics to obtain inverse mill's ratio for various corporate life cycle stages of target firms. In the second stage, this study further runs OLS regression analysis by controlling for inverse mill's ratio as an additional variable to take into account the potential self-selection bias. This can shed lights on the importance of corporate life cycle on target announcement returns.

As targets in various corporate life cycle stages may hire financial advisors to negotiate better deals, the presence of financial advisors can facilitate the transactions and create value to the firms. Hence, I further split the sample based on the presence of financial advisors to explore the relationship between corporate life cycle and target announcement returns. Dependent variable is target 3-day (-1,+1) cumulative abnormal returns.

[Insert Table 6 here]

As can be seen in Table 6, the results in model specification (1) and (2) show that there is a positive relationship between target announcement returns and targets in growth and mature stages, respectively. On the other hand, the results in model specification (3) reveal that there is a negative relationship between target announcement returns and stagnant targets. However, the results are not statistically significant. With regard to control variables, the evidence indicates that targets earn higher announcement returns when target size is small.

In addition, the results show interesting findings when partitioning the sample based on the presence of financial advisors. When targets do not hire financial advisors, the results in model specification (4) show that there is a negative relationship between growth target firms and target announcement returns. The coefficient is -0.021, indicating that growth targets without hiring financial advisors obtain lower announcement returns. On the contrary, when targets hire financial advisors, the results in model specification (7) indicate that growth target firms obtain higher announcement returns. The coefficient is 0.018. The results suggest that financial advisors can assist growth target firms to create higher gains to their shareholders.

4.4 The empirical results for bidders
4.4.1 Bidder abnormal returns
This section presents the empirical findings for bidding firms. If firms in various corporate life cycle stages are able to enhance their competitive abilities through M&As, these firms can create higher value to their shareholders. As shows in Table 7, the results reveal that bidders on average obtain positive gains around the announcement date, but suffer losses during the post-announcement period. Bidders obtain 1.63% cumulative abnormal returns over a 3-day (-1,+1) event window. When looking at long run post-announcement period, bidders lose their wealth up to -10.78% cumulative abnormal returns during the post-announcement (0,+270) period.

Splitting the sample based on the stages of corporate life cycle, the results reveal that growth bidders on average obtain higher gains than mature and stagnant bidders. Growth bidding firms obtain 1.91% cumulative abnormal returns over a 3-day (-1,+1) event window relative to 1.70% and 0.99% for mature and stagnant bidders, respectively. The results are consistent with Owen and Yawson's (2010) study. While growth bidding firms can enlarge their market share and enhance their competitive

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abilities through M&As, growth bidding firms can generate higher announcement returns to their shareholders.

[Insert Table 7 here]

Looking at long run post-announcement period, the evidence shows interesting findings. The results indicate that stagnant bidding firms on average obtain higher post-announcement returns than their counterparts in growth and mature stages. Stagnant bidding firms obtain -4.98% cumulative abnormal returns over a post-announcement (0,+270) event window relative to -12.28% and -11.82% for growth and mature bidding firms, respectively. While stagnant bidders may have more ability to integrate the resources after the transactions, stagnant bidding firms can generate higher synergies during long run post-announcement period resulted in higher long run post-announcement returns.

An additional analysis is to look into whether firms in various corporate life cycle stages are able to generate higher value to their shareholders in the presence of financial advisors. This can provide additional insights to determine whether financial advisors can assist different corporate life cycle stages of firms to create higher value in M&As. As shows in Table 8, the results show that mature and stagnant bidders that hire financial advisors on average earn higher announcement returns than those that do not hire financial advisors both around the announcement date and during post-announcement period. In contrast, growth bidding firms that hire financial advisors appear to obtain lower announcement returns in comparison to their counterparts that do not hire financial advisors. A possible explanation is that financial advisors may overestimate growth potentials to bidders and bidders also need to pay advisory fees to their advisors. This can lead to lower announcement returns to growth bidders.

Given that bidders hire financial advisors, mature bidders generally generate higher announcement returns around the announcement date. The evidence indicates that mature bidding firms on average obtain 3.03% cumulative abnormal returns over a 3-day (-1,+1) event window higher than 1.87% and 1.83% for in growth and stagnant bidders, respectively. While looking at the post-announcement period, the evidence reveals that stagnant bidders obtain higher post-announcement returns than growth and mature bidders. The results reveal that stagnant bidding firms obtain post-announcement returns at -1.69% over a post-announcement (0,+270) event window higher than -20.73% and -7.20% for growth and mature bidding firms,

respectively. The results suggest that financial advisors can have more ability to generate higher synergies to stagnant bidding firms during the post-announcement period led to higher post-announcement returns. For bidders that do not hire financial advisors, the results show that growth bidders obtain higher announcement returns around the announcement date than mature and stagnant bidders. When looking at post-announcement period, the results show that stagnant bidders obtain higher announcement returns. The results suggest that stagnant bidders have more ability to integrate the resources after the transactions led to higher announcement returns.

[Insert Table 8 here]

4.4.2 Cross-sectional regression analysis for bidders

This section presents the regression analysis to explore the relationship between corporate life cycle and bidder announcement returns. Similar to the empirical analysis for targets, the regression analysis also controls for deal and firm specific characteristics. This enables the current study to further explore the determinants that can affect bidder announcement returns. In addition, this study also uses Heckman's (1979) two stage procedure to take into account the potential self-selection bias. Dependent variable is bidder 3-day (-1,+1) cumulative abnormal returns. As shows in Table 9, the results in model specification (3) reveal that there is a negative relationship between bidder announcement returns and bidders in stagnant stages. The coefficient is -0.009, indicating that bidders obtain lower announcement returns when bidders are classified as stagnant firms. The results are consistent with Owen and Yawson's (2010) study, showing that firm life cycle is negatively related to bidder abnormal returns.

This study further partitions the sample based on the use of financial advisors to explore the relationship between bidder announcement returns and the stages of corporate life cycle. Given that bidders do not hire financial advisors, the results in model specification (6) consistently show that stagnant bidders obtain lower announcement returns around the announcement date. Interestingly, when bidders hire financial advisors, the results in model specification (8) indicate that mature bidders obtain higher announcement returns. The coefficient is 0.015. The results suggest that mature bidders can create higher value to their shareholders.

[Insert Table 9 here]

To better known corporate life cycle on the influence of bidder shareholder wealth in

M&As, this study further looks at long run post-announcement returns to explore the relationship with corporate life cycle stages. Dependent variable is bidder post-announcement (0,+270) returns. As can be seen in Table 10, the results in model specification (1) show that there is a negative relationship between bidder post-announcement returns and bidders in growth stages. The coefficient is -0.088, indicating that growth bidders obtain lower post-announcement returns during post-announcement period. In addition, the results in model specification (3) reveal that stagnant bidders obtain higher post-announcement returns. The coefficient is 0.068.

While splitting the sample on the basis of the use of financial advisors, the results do not show any significant relationship between bidder post-announcement returns and the stages of the firms, given that bidders do not hire financial advisors. Instead, given that bidders hire financial advisors, the results in model specification (7) show that there is a negative relationship between bidder post-announcement returns and bidders in growth stages. The coefficient is -0.197, indicating that growth bidders obtain lower post-announcement returns. A possible explanation is that financial advisors may not precisely evaluate synergies to growth bidding firms prior to the transactions led to lower post-announcement returns. In addition, the evidence in model specification (9) also reveals that stagnant bidders generate higher post-announcement returns during post-announcement period, the coefficient at 0.125. The results suggest that financial advisors can assist stagnant bidding firms to integrate the resources and enhance their competitive advantages after the transactions. This results in higher post-announcement returns to stagnant bidding firms.

[Insert Table 10 here]

5. Conclusion
This study investigates corporate life cycle on the influence of shareholder wealth in M&As. Specifically, this study examines whether firms in various corporate life cycle stages are more likely to hire financial advisors and whether financial advisors can create value to various corporate life stages of firms. Using 919 targets and 3,647 bidders during the period of 1995-2014, the empirical results reveal that corporate life cycle is a determinant to influence the choice of financial advisors for bidding firms, but not for target firms. The evidence shows that growth bidding firms are less likely to hire financial advisors. Instead, stagnant bidding firms are more likelihood to hire financial advisors in M&As.

In addition, the evidence shows that stagnant targets generally earn higher announcement returns relative to growth and mature targets. For targets that hire financial advisors, an additional analysis reveals that mature targets earn higher announcement returns than growth and stagnant targets. Interestingly, for targets that do not hire financial advisors, growth targets obtain higher announcement returns around merger and acquisition announcements in comparison to their mature and stagnant counterparts. The regression analysis reveals that growth targets obtain lower announcement returns when targets do not hire financial advisors. On the contrary, for targets that hire financial advisors, targets earn higher announcement returns when targets are classified as growth firms.

With regard to the evidence for bidding firms, stagnant bidding firms on average obtain lower announcement returns around the announcement date, but experience higher post-announcement returns during long run post-announcement period. The empirical findings also indicate that stagnant bidding firms on average obtain lower announcement returns around the announcement date regardless of the use of financial advisors. In contrast, stagnant bidding firms on average obtain higher post-announcement returns during long run post-announcement period.

While performing cross-sectional regression analysis, this study consistently finds lower bidder announcement returns in relation to stagnant bidding firms. When bidders do not hire financial advisors, the results consistently show that bidders obtain lower announcement returns in relation to bidders in stagnant stages. When analyzing bidders that hire financial advisors, the evidence reveals that bidder announcement returns are positively associated with mature bidders. While looking at post-announcement period, the results show that growth bidders are negatively related to bidder post-announcement returns. On the contrary, stagnant bidders obtain higher post-announcement returns.

Overall, this study reveals the importance of corporate life cycle on the influence of shareholder wealth in M&As. In particular, the impact of corporate life cycle on shareholder wealth in M&As can be influenced by the presence of financial advisors. The empirical findings indicate that corporate life cycle is an important determinant to influence the choice of financial advisors and shareholder wealth in M&As. Hence, this study sheds lights on the importance of corporate life cycle on M&As.

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Table 1. The classification of corporate life cycle stages

Stages	Corporate life cycle descriptors			
	DP	SG	CEV	AGE
Growth	Low	High	High	Young
Mature	Medium	Medium	Medium	Adult
Stagnant	High	Low	Low	Old

Table 1 presents the classification of corporate life cycle stages. DP, SG, CEV and AGE indicates dividend payout ratio, percent sales growth, capital expenditure divided by market capitalization, and firm age, respectively.

Table 2. Descriptive statistics

Panel A	Targets				Bidders			
year	All	growth	mature	stagnant	All	growth	mature	stagnant
1995	14	5	5	4	43	8	24	11
1996	8	2	5	1	62	8	45	9
1997	19	3	11	5	60	12	33	15
1998	23	4	18	1	67	11	41	15
1999	30	7	16	7	101	22	62	17
2000	30	8	14	8	109	28	67	14
2001	40	8	25	7	159	38	96	25
2002	35	9	18	8	169	49	89	31
2003	55	10	33	12	318	75	186	57
2004	50	9	31	10	312	77	181	54
2005	73	12	45	16	311	81	178	52
2006	91	14	62	15	315	66	201	48
2007	88	20	49	19	320	73	195	52
2008	77	16	45	16	260	59	162	39
2009	65	12	38	15	220	47	144	29
2010	67	11	44	12	228	45	149	34
2011	75	19	41	15	209	45	131	33
2012	37	7	21	9	161	32	96	33
2013	23	5	14	4	137	30	82	25
2014	19	1	16	2	86	15	57	14
N	919	182	551	186	3647	821	2219	607

Panel B	Targets			Bidders			

	N	Mean	Median	N	Mean	Median
ROA						
growth	182	0.06	0.02	821	0.09	0.04
mature	551	0.09	0.04	2219	0.11	0.04
stagnant	186	0.11	0.05	607	0.15	0.06
Market to book						
growth	182	1.95	1.35	821	2.10	1.44
mature	551	1.80	1.18	2219	2.09	1.35
stagnant	186	1.84	1.22	607	2.25	1.46
ln(total assets)						
growth	182	14.43	13.72	821	14.54	13.99
mature	551	14.17	13.55	2219	14.80	14.20
stagnant	186	14.10	13.85	607	14.22	13.96

Table 2 presents the summary of descriptive statistics for targets and bidders. Panel A presents the distribution of the sample based on the year and corporate life cycle stages for 919 targets and 3,647 bidders from 1995 to 2014. Panel B presents descriptive statistics of firm characteristics classified as growth, mature and stagnant stages of corporate life cycle. ROA is measured as net income to total assets. The market to book ratio is measured as the market value of equity to the book value of equity. Ln(total assets) is measured as the log of total assets.

Table 3. Corporate life cycle stages and the choice of financial advisors

	Targets			Bidders		
	(1)	(2)	(3)	(4)	(5)	(6)
constant	1.251***	1.296***	1.227***	0.280**	0.266*	0.166
	(0.252)	(0.258)	(0.252)	(0.144)	(0.146)	(0.146)
growth	-0.008			-0.159***		
	(0.109)			(0.062)		
mature		-0.076			-0.059	
		(0.087)			(0.052)	
stagnant			0.119			0.268***
			(0.107)			(0.065)
Private targets				-0.937***	-0.935***	-0.934***
				(0.053)	(0.053)	(0.053)
friendly	-0.014	-0.019	-0.016	-0.684***	-0.679***	-0.684***
	(0.122)	(0.122)	(0.122)	(0.089)	(0.089)	(0.090)
cross border	0.274*	0.276*	0.269*	0.129**	0.129**	0.114*
	(0.108)	(0.108)	(0.108)	(0.065)	(0.065)	(0.065)
cash	0.078	0.081	0.078	-0.262***	-0.262***	-0.267***
	(0.096)	(0.096)	(0.81)	(0.054)	(0.054)	(0.054)
relatedness	-0.242**	-0.237*	-0.247**	0.026	0.019	0.025
	(0.093)	(0.092)	(0.093)	(0.051)	(0.051)	(0.051)
market to book	0.015	0.015	0.015	-0.001	-0.001	-0.001
	(0.015)	(0.016)	(0.016)	(0.002)	(0.002)	(0.002)
roa	0.020**	0.021**	0.020**	-0.019	-0.018	-0.021
	(0.008)	(0.008)	(0.007)	(0.023)	(0.023)	(0.023)

ln(total assets)	-0.083***	-0.083***	-0.083***	0.004	0.005	0.006
	(0.014)	(0.014)	(0.014)	(0.007)	(0.007)	(0.007)
N	910	910	910	3615	3615	3615
Pseudo R square	0.0504	0.0510	0.0514	0.1159	0.1145	0.1189

Table 3 presents probit regression analysis for targets and bidders to explore whether firms in various corporate life cycle stages are more likely to hire financial advisors in M&As. Dependent variable is a dummy that equals to one if firms hire financial advisors in M&As; 0 otherwise. Key independent variables include the stages of corporate life cycle, where a dummy equals to one if firms are classified as growth, mature and stagnant stages respectively. Control variables include private targets, friendly deals, cross border deals, cash, relatedness, ROA, market to book ratio and ln(total assets). A dummy equals to one if targets are private firms, transactions involve in friendly deals, deals are cross border transactions, payment is cash and deals are diversification acquisitions; 0 otherwise. ROA is measured as net income to total assets. The market to book ratio is the market value of equity to the book value of equity. Ln(total assets) is measured as the log of total assets. Financial data is collected from the year end prior to the announcement date in the Datastream database. White's (1980) heteroskedasticity is used to compute *p-value*. Standard errors are reported in parentheses. *** indicates significance at 0.01 level; ** indicates significance at 0.05 level; * indicates significance at 0.1 level

Table 4. Target announcement returns

	All	growth	mature	stagnant	kruskal-wallis
(-1,+1)	**0.0382**	**0.0381**	**0.0377**	**0.0397**	2.32
p-value	0.0000	0.0000	0.0000	0.0000	0.3140
(-2,+2)	**0.0318**	**0.0258**	**0.0323**	**0.0363**	1.9100
p-value	0.0000	0.0003	0.0000	0.0000	0.3850
(-5,+5)	**0.0216**	0.0073	**0.0254**	**0.0244**	0.2800
p-value	0.0000	0.6472	0.0000	0.0005	0.8680
N	919	182	551	186	

Table 4 presents target announcement returns taking into account corporate life cycle. Firms are classified as growth, mature and stagnant stages based on the summation of composition scores from life cycle descriptors. The event study methodology with the market model is used to compute the abnormal returns. The model parameters are estimated from day -270 to day -61, where day 0 is the announcement date. Student t-statistics is used to test the significance level, assuming cross-sectional independence of the sample. Kruskal-Wallis test is used to test the difference in target announcement returns among three corporate life cycle stages.

Table 5. Target announcement returns taking into account corporate life cycle stages and the choice of financial advisors

	growth			mature			stagnant			Difference (with IB)	Difference(no IB)
	with IB	no IB	difference	with IB	no IB	difference	with IB	no IB	difference		
(-1,+1)	**0.0195**	**0.0567**	**-0.0373**	**0.0428**	**0.0325**	0.0103	**0.0388**	**0.0409**	-0.0020	**6.79**	**5.63**
p-value	0.0070	0.0000	0.0000	0.0000	0.0000	0.1060	0.0000	0.0000	0.8350	0.0340	0.0600
(-2,+2)	0.0077	**0.0439**	**-0.0362**	**0.0355**	**0.0291**	0.0063	**0.0376**	**0.0347**	0.0029	2.43	**7.66**
p-value	0.5000	0.0000	0.0100	0.0000	0.0000	0.2890	0.0002	0.0000	0.8090	0.2960	0.0220
(-5,+5)	-0.0162	**0.0307**	-0.0470	**0.0243**	**0.0265**	-0.0021	**0.0252**	**0.0233**	0.0019	3.10	**4.96**
p-value	0.6000	0.0000	0.1400	0.0000	0.0000	0.7730	0.0257	0.0007	0.8850	0.2130	0.0840
N	91	91		278	273		103	83			

Table 5 presents the empirical results to examine whether targets with the use of financial advisors create higher value to their shareholders taking into account corporate life cycle. Firms are classified as growth, mature and stagnant stages based on the summation of composition scores from life cycle descriptors. Targets with the use of financial advisors are categorized as "with IB"; otherwise "no IB". The event study methodology with the market model is used to compute the abnormal returns. The model parameters are estimated from day -270 to day -61, where day 0 is the announcement date. Student t-statistics is used to test the significance level, assuming cross-sectional independence of the sample. 2-sample t-statistics is used to test the difference of target announcement returns between with and without using financial advisors for firms within various stages of corporate life cycle (difference). Kruskal-Wallis test is used to test the difference in target announcement returns among three corporate life cycle stages given with and without using financial advisors (Difference).

Table 6. Cross-sectional regression analysis for targets

	All			No IB			With IB		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
constant	0.086***	0.078***	0.170***	0.124	0.026	0.063**	0.262***	0.139***	0.297***
	(0.053)	(0.017)	(0.030)	(0.099)	(0.031)	(0.027)	(0.104)	(0.021)	(0.066)
growth	0.001			-0.021**			0.018**		
	(0.006)			(0.009)			(0.008)		
mature		0.002			0.010			-0.008	
		(0.005)			(0.007)			(0.007)	
stagnant			-0.002			0.006			-0.005
			(0.006)			(0.007)			(0.008)
friendly	0.006	-0.002	0.004	0.017	0.027***	0.030***	-0.027**	-0.027***	-0.023**
	(0.010)	(0.007)	(0.007)	(0.020)	(0.011)	(0.011)	(0.014)	(0.010)	(0.010)
cross border	0.007	0.012**	0.007	0.035	0.019*	0.015	0.011	0.010	0.007
	(0.010)	(0.006)	(0.006)	(0.034)	(0.011)	(0.010)	(0.010)	(0.008)	(0.008)
cash	0.001	0.004	-0.001	0.011	0.007	0.006	0.012	0.005	-0.003
	(0.007)	(0.005)	(0.005)	(0.010)	(0.008)	(0.008)	(0.012)	(0.007)	(0.007)
relatedness	-0.011	-0.004	-0.012**	-0.004	-0.008	-0.010	0.018	-0.001	-0.019*
	(0.009)	(0.005)	(0.006)	(0.011)	(0.007)	(0.007)	(0.020)	(0.006)	(0.010)
market to book	-0.000	-0.000***	-0.000***	-0.001	-0.000***	-0.000***	-0.001*	-0.000*	0.000
	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
roa	-0.002***	0.003*	-0.003***	-0.002**	0.001	-0.002***	0.011**	0.009***	-0.005
	(0.000)	(0.002)	(0.001)	(0.001)	(0.002)	(0.000)	(0.006)	(0.003)	(0.005)
ln(total assets)	-0.005***	-0.006***	-0.005***	-0.003***	-0.003***	-0.003***	-0.009***	-0.009***	-0.009***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)

inverse mill's ratio (growth)	0.016			-0.042			-0.069	
	(0.034)			(0.063)			(0.069)	
inverse mill's ratio (mature)		0.059***			0.031			0.087**	
		(0.022)			(0.027)			(0.038)	
inverse mill's ratio (stagnant)			-0.038**			-0.009			-0.072**
			(0.017)			(0.017)			(0.033)
N	827	827	827	373	373	373	454	454	454
Adjusted R square	0.0716	0.0778	0.0759	0.1092	0.1016	0.0974	0.0945	0.0951	0.0919

Table 6 presents OLS regression analysis for targets. Dependent variable is target 3-day (-1,+1) cumulative abnormal returns. Key independent variables include the stages of corporate life cycle, where a dummy equals to one if firms are classified as growth, mature and stagnant stages respectively. Control variables include friendly deals, cross border deals, cash, relatedness, ROA, market to book ratio and ln(total assets). A dummy equals to one if transactions involve in friendly deals, deals are cross border transactions, payment is cash and deals engage in diversification acquisitions; 0 otherwise. In addition, the sample is further partitioned into whether targets hire financial advisors (With IB) or targets do not hire financial advisors (No IB) to run the regression analysis. ROA is measured as net income to total assets. The market to book ratio is the market value of equity to the book value of equity. Ln(total assets) is measured as the log of total assets. Inverse mill's ratio is obtained by using two-stage Heckman (1979) procedure. Financial data is collected from the year end prior to the announcement date in the Datastream database. White's (1980) heteroskedasticity is used to compute *p-value*. Standard errors are reported in parentheses. *** indicates significance at 0.01 level; ** indicates significance at 0.05 level; * indicates significance at 0.1 level.

Table 7. Bidder announcement returns

	All				
		growth	mature	stagnant	kruskal-wallis
(-1,+1)	**0.0163**	**0.0191**	**0.0170**	**0.0099**	1.51
p-value	0.0000	0.0000	0.0000	0.0000	0.4690
(-2,+2)	**0.0184**	**0.0204**	**0.0191**	**0.0133**	0.68
p-value	0.0000	0.0000	0.0000	0.0000	0.7130
(-5,+5)	**0.0207**	**0.0206**	**0.0225**	**0.0144**	3.74
p-value	0.0000	0.0011	0.0000	0.0015	0.1540
(0,+180)	**-0.0652**	**-0.0859**	**-0.0665**	-0.0325	2.80
p-value	0.0000	0.0006	0.0000	0.1062	0.2460
(0,+270)	**-0.1078**	**-0.1228**	**-0.1182**	**-0.0498**	1.99
p-value	0.0000	0.0005	0.0000	0.0648	0.3690
N	3647	821	2219	607	

Table 7 presents bidder announcement returns and long run post-announcement returns taking into account corporate life cycle. Firms are classified as growth, mature and stagnant stages based on the summation of composition scores from life cycle descriptors. The event study methodology with the market model is used to compute the abnormal returns. The model parameters are estimated from day -270 to day -61, where day 0 is the announcement date. Student t-statistics is used to test the significance level, assuming cross-sectional independence of the sample. Kruskal-Wallis test is used to test the difference in bidder announcement returns among three corporate life cycle stages.

Table 8. Bidder announcement returns taking into account corporate life cycle stages and the choice of financial advisors

	growth			mature			stagnant			Difference (with IB)	Difference(no IB)
	with IB	no IB	difference	with IB	no IB	difference	with IB	no IB	difference		
(-1,+1)	**0.0187**	**0.0191**	-0.0004	**0.0303**	**0.0138**	**0.0165**	**0.0183**	**0.0069**	**0.0114**	3.03	0.70
p-value	0.0544	0.0000	0.9670	0.0000	0.0000	0.0020	0.0005	0.0074	0.0470	0.2200	0.7030
(-2,+2)	**0.0248**	**0.0195**	0.0053	**0.0388**	**0.0143**	**0.0244**	**0.0278**	**0.0079**	**0.0198**	3.37	0.79
p-value	0.0122	0.0001	0.6280	0.0000	0.0000	0.0000	0.0002	0.0111	0.0120	0.1850	0.6740
(-5,+5)	0.0110	**0.0226**	-0.0116	**0.0394**	**0.0184**	**0.0210**	**0.0442**	0.0035	**0.0407**	3.84	3.29
p-value	0.3144	0.0019	0.3780	0.0000	0.0000	0.0110	0.0002	0.4336	0.0010	0.1470	0.1930
(0,+180)	**-0.1465**	**-0.0735**	-0.0730	-0.0351	**-0.0741**	0.0390	0.0077	**-0.0472**	0.0549	**6.76**	0.36
p-value	0.0047	0.0095	0.2110	0.2232	0.0000	0.2280	0.7897	0.0624	0.1530	0.0340	0.8350
(0,+270)	**-0.2073**	**-0.1056**	-0.1018	**-0.0720**	**-0.1293**	0.0573	-0.0169	**-0.0619**	0.0450	4.19	0.74
p-value	0.0053	0.0079	0.2230	0.0673	0.0000	0.1980	0.6809	0.0661	0.3970	0.1230	0.6890
N	139	682		431	1788		163	444			

Table 8 presents the empirical results to examine whether bidders with the use of financial advisors create higher value to their shareholders taking into account corporate life cycle stages. Firms are classified as growth, mature and stagnant stages based on the summation of composition scores from life cycle descriptors. Bidders with the use of financial advisors are categorized as "with IB"; otherwise "no IB". The event study methodology with the market model is used to compute the abnormal returns. The model parameters are estimated from day -270 to day -61, where day 0 is the announcement date. Student t-statistics is used to test the significance level, assuming cross-sectional independence of the sample. 2-sample t-statistics is used to test the difference of bidder announcement returns between with and without using financial advisors for firms within various stages of corporate life cycle (difference). Kruskal-Wallis test is used to test the difference in bidder announcement returns among three corporate life cycle stages given with and without using financial advisors (Difference).

Table 9. Cross-sectional regression analysis for bidders

	All			No IB			With IB		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
constant	0.019	0.012	0.013	0.012	-0.100	0.070*	0.014	0.026	0.042
	(0.081)	(0.076)	(0.081)	(0.103)	(0.249)	(0.038)	(0.276)	(0.068)	(0.049)
growth	0.002			0.006			-0.012		
	(0.005)			(0.006)			(0.010)		
mature		0.004			0.001			0.015**	
		(0.004)			(0.005)			(0.008)	
stagnant			-0.009**			-0.009**			-0.009
			(0.004)			(0.005)			(0.008)
private targets	0.010**	0.011*	0.010**	0.009**	0.025	0.014	0.016	0.013	0.016
	(0.005)	(0.006)	(0.005)	(0.004)	(0.029)	(0.010)	(0.013)	(0.011)	(0.010)
friendly	-0.001	0.001	-0.001	0.002	-0.004	0.001	-0.006	0.000	-0.001
	(0.007)	(0.007)	(0.007)	(0.009)	(0.011)	(0.008)	(0.041)	(0.016)	(0.013)
cross border	0.007	0.007	0.006	0.008	0.005	0.006	0.003	0.006	0.008
	(0.006)	(0.005)	(0.006)	(0.006)	(0.008)	(0.007)	(0.025)	(0008)	(0.009)
cash	-0.018***	-0.018***	-0.018***	-0.017***	-0.019***	-0.017***	-0.023	-0.017**	-0.014
	(0.005)	(0.005)	(0.005)	(0.006)	(0.007)	(0.006)	(0.043)	(0.008)	(0.010)
relatedness	0.008**	0.008**	0.008**	0.008*	0.009**	0.009**	0.009	0.005	0.002
	(0.004)	(0.004)	(0.004)	(0.005)	(0.04)	(0.004)	(0.033)	(0.007)	(0.009)
market to book	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.004	-0.004**	-0.004**
	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.003)	(0.002)	(0.002)
roa	0.001	0.001	0.001	-0.003	-0.001	-0.005	0.005	0.004**	0.005
	(0.003)	(0.002)	(0.003)	(0.004)	(0.003)	(0.004)	(0.004)	(0.002)	(0.004)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ln(total assets)	-0.001**	-0.001	-0.002***	-0.001**	0.001	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.004)	(0.001)	(0.001)	(0.002)	(0.002)
inverse mill's ratio (growth)	0.019			0.023			0.029		
	(0.061)			(0.079)			(0.218)		
inverse mill's ratio (mature)		0.033			0.167			0.017	
		(0.082)			(0.294)			(0.063)	
inverse mill's ratio (stagnant)			0.027			-0.025			0.009
			(0.062)			(0.037)			(0.040)
N	2426	2426	2426	1803	1803	1803	623	623	623
Adjusted R square	0.0177	0.0180	0.0188	0.02	0.0195	0.0179	0.0528	0.0560	0.0522

Table 9 presents OLS regression analysis for bidders. Dependent variable is bidder 3-day (-1,+1) cumulative abnormal returns. Key independent variables include the stages of corporate life cycle, where a dummy equals to one if firms are classified as growth, mature and stagnant stages respectively. Control variables include private targets, friendly deals, cross border deals, cash, relatedness, ROA, market to book ratio and ln(total assets). A dummy equals to one if targets are private firms, transactions involve in friendly deals, deals are cross border transactions, payment is cash and deals engage in diversification acquisitions; 0 otherwise. In addition, the sample is further partitioned into whether bidders hire financial advisors (With IB) or bidders do not hire financial advisors (No IB) to run the regression analysis. ROA is measured as net income to total assets. The market to book ratio is the market value of equity to the book value of equity. Ln(total assets) is measured as the log of total assets. Inverse mill's ratio is obtained by using two-stage Heckman (1979) procedure. Financial data is collected from the year end prior to the announcement date in the Datastream database. White's (1980) heteroskedasticity is used to compute *p-value*. Standard errors are reported in parentheses. *** indicates significance at 0.01 level; ** indicates significance at 0.05 level; * indicates significance at 0.1 level.

Table 10. Cross-sectional regression analysis for bidders during the post-announcement period

	All			No IB			With IB		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
constant	3.153***	2.820***	-0.922***	3.965***	7.752***	-1.464***	-7.290***	1.153**	-1.293***
	(0.812)	(0.756)	(0.216)	(1.094)	(2.435)	(0.412)	(2.562)	(0.599)	(0.389)
growth	-0.088*			-0.054			-0.197**		
	(0.047)			(0.055)			(0.082)		
mature		0.027			0.025			0.044	
		(0.037)			(0.045)			(0.063)	
stagnant			0.068*			0.034			0.125**
			(0.039)			(0.050)			(0.061)
private targets	-0.204***	-0.282***	-0.246***	-0.148***	-1.032***	-0.454***	0.288**	0.213**	0.164*
	(0.048)	(0.063)	(0.058)	(0.046)	(0.290)	(0.118)	(0.121)	(0.101)	(0.090)
friendly	-0.021	-0.146**	-0.082	-0.203**	0.230**	-0.054	-0.959***	-0.204*	-0.054
	(0.057)	(0.065)	(0.060)	(0.091)	(0.103)	(0.076)	(0.347)	(0.109)	(0.090)
cross border	0.147***	0.107**	0.121***	0.113**	0.260***	0.164***	-0.626***	0.011	0.099
	(0.049)	(0.045)	(0.047)	(0.053)	(0.077)	(0.060)	(0.237)	(0.078)	(0.088)
cash	0.158***	0.083**	0.104***	0.125**	0.224***	0.143**	-1.069***	0.020	0.193**
	(0.048)	(0.043)	(0.043)	(0.058)	(0.068)	(0.059)	(0.387)	(0.062)	(0.098)
relatedness	-0.010	0.029	0.006	0.086**	0.039	0.057	0.811***	-0.000	-0.140*
	(0.040)	(0.037)	(0.038)	(0.044)	(0.045)	(0.044)	(0.306)	(0.064)	(0.077)
market to book	-0.006**	-0.004	-0.005*	-0.004	-0.005*	-0.004	0.028	-0.010	-0.016
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.018)	(0.013)	(0.014)
roa	0.042***	0.026*	0.090***	0.100***	-0.048	0.128***	0.093***	0.037***	0.089***
	(0.016)	(0.015)	(0.026)	(0.033)	(0.031)	(0.047)	(0.033)	(0.014)	(0.032)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ln(total assets)	0.005	-0.044***	-0.026***	0.006	-0.123***	-0.046***	0.025***	-0.008	-0.015
	(0.005)	(0.012)	(0.009)	(0.006)	(0.037)	(0.014)	(0.010)	(0.014)	(0.016)
inverse mill's ratio (growth)	-2.549***			-3.163***			5.558***		
	(0.622)			(0.837)			(2.027)		
inverse mill's ratio (mature)		-3.281***			-9.330***			-1.517***	
		(0.820)			(2.874)			(0.582)	
inverse mill's ratio (stagnant)			0.834***			1.348***			0.995***
			(0.214)			(0.403)			(0.364)
N	2426	2426	2426	1803	1803	1803	623	623	623
Adjusted R square	0.0161	0.0146	0.0145	0.0179	0.0150	0.0159	0.0355	0.0261	0.0281

Table 10 presents OLS regression analysis for bidders during the post-announcement period. Dependent variable is bidder post-announcement (0,+270) returns. Key independent variables include the stages of corporate life cycle, where a dummy equals to one if firms are classified as growth, mature and stagnant stages respectively. Control variables include private targets, friendly deals, cross border deals, cash, relatedness, ROA, market to book ratio and ln(total assets). A dummy equals to one if targets are private firms, transactions involve in friendly deals, deals are cross border transactions, payment is cash and deals engage in diversification acquisitions; 0 otherwise. In addition, the sample is further partitioned into whether bidders hire financial advisors (With IB) or bidders do not hire financial advisors (No IB) to run the regression analysis. ROA is measured as net income to total assets. The market to book ratio is the market value of equity to the book value of equity. Ln(total assets) is measured as the log of total assets. Inverse mill's ratio is obtained by using two-stage Heckman (1979) procedure with controlling for deal and firm characteristics. Financial data is collected from the year end prior to the announcement date in the Datastream database. White's (1980) heteroskedasticity is used to compute *p-value*. Standard errors are reported in parentheses. *** indicates significance at 0.01 level; ** indicates significance at 0.05 level; * indicates significance at 0.1 level.