

The Determinants of Wealth Gains in Greek Takeover Bids

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Abstract

This paper examines for the first time the determinants of the short-term excess stock returns of a sample of Greek merging firms during the period 1993-2006. Excess stock returns are estimated using the market index model within the standard event studies methodology framework. Our univariate analysis results first establish, that Greek acquirers' obtain significantly positive and higher abnormal returns than those observed by the majority of empirical studies concerning the US and UK markets, while targets' corresponding gains are also positive but lower than those observed respectively. Second, the same results suggest that Greek acquirers' gains are higher when they bid for listed targets using cash, while acquired firms' shareholders gain more when they receive cash in exchange for their shares. Our multiple regression results suggest that bidders' gains are positively associated with cash offers and acquisition of listed targets, while targets' gains are positively associated with the relative size of bidders to targets and negatively related with the acquisition of subsidiaries. These findings are overall consistent with the signaling undervaluation hypothesis of stock offers because of information asymmetries, the increased bargaining hypothesis of unlisted targets and the corporate monitoring hypothesis due to lower agency costs existing in these firms.

Keywords: takeovers, abnormal stock returns, market index model, agency problem.

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1. Introduction

There has always been a widespread interest about the performance of Mergers and Acquisitions (M&As), as they constitute a popular growth corporate strategy which involves a large amount of invested capital, often financed by a large proportion of leverage². Furthermore, M&As activity follows the same trend with the rise and fall of the general stock market activity³. Thus, during the last decade, markets experienced at a global level, a substantial boom in takeover activity which started at about year 1997 and ended in year 2001 and a second one which started in year 2003 and is still under way. At the same period of time, the Greek stock market experienced a similar pattern in takeover activity and stock prices, which was supported by a much more liberal and deregulated economic environment, combined with falling inflation and interest rates which enabled the entry of Greece to the European Union.

Given the above, it becomes a crucial issue for all stakeholder groups whether the M&As constitute a value added activity or not. The vast majority of academic research using stock market data (e.g. Jensen and Ruback, 1983; Franks and Harris, 1989; Sudarsanam and Mahate, 2003) has shown that nearly all the wealth gains created in takeovers go to the target firms' shareholders with the acquiring firms' shareholders experiencing small positive or close to zero insignificant abnormal returns around the announcement period, which turn into highly negative and significant in the post-completion period (e.g. Agrawal et al., 1992; Gregory, 1997). So, the question is why firms engage in this costly activity that seems to fail to produce the expected synergistic benefits? There has been a continuing debate among academics about the possible explanations of this phenomenon which in fact casts a doubt about the validity of the market efficiency hypothesis. Thus, we have from the

² The recent boom in takeover activity is characterized by a large participation of private equity funds in highly leveraged transactions which increase the danger of a potential market collapse.

³ Sudarsanam (2003), chapter 2, pp.13-31.

one side the advocates of market efficiency theory, such as Fama (1998) and Mitchell and Stafford (2000) who claim that the negative returns of acquirers can be attributed to the lack of a perfect capital asset pricing model, the so-called “bad model problem”, because these negative acquirers’ returns can be substantially reduced (but not eliminated) with the application of a three factor model and calendar time portfolio returns methodology. From, the other side we have the behavioural finance explanations about the stock-markets’ overreaction (DeBondt and Thaler, 1985; Barberis, et al., 1998) which claim that the negative drift in acquirers’ returns in the post-bid period observed is one of the various long-term return anomalies (e.g. overperformance of the value vs. growth stocks, the negative price reversals of the IPOs and SEOs, etc.) which manifest the inefficiency of markets. Somewhere, in between these extreme views lie other alternative explanations which indirectly imply the existence of certain market imperfections, such as the agency and information asymmetries problems. The agency costs explanation was initially supported by Jensen and Meckling (1976) and then by Jensen (1986) and Mueller (1980) who argued that takeovers attenuate this problem when managers have at their discretion excess free cash flows, or the information asymmetry explanation supported first by Myers and Majluf (1984) and then by several other researchers (e.g. DeAngelo and Rise, 1984; Shleifer and Vishny, 2003) which attempts to explain the superior abnormal returns documented in cash vs. stock offers. In the past, empirical researchers in their attempt to examine the validity of the above theories, used several variables related with the so-called bid dynamics factors, such as the bidders’ toehold, mode of payment (cash/stock), mood of the bid (hostile/friendly), target firm’s status (listed/unlisted), etc., or with strategic factors (e.g. degree of industrial fit between the merging firms) or even with corporate governance characteristics (e.g. managerial

ownership). From the overwhelming majority of these studies, it was revealed that the mode of payment, the pre-bid acquirer's stake in target firm, the mood of the bid and the target's status proved to be significant in explaining the generation of gains/losses, implying that even if it is true that on average M&As maybe a negative net present value project for acquirers, there are acquirers who perform much better than the average and others who perform much worse. Two US studies carried out by Chang (1998) and Fuller et al. (2002) respectively and a more recent UK study by Draper and Paudyal (2006) established that acquiring firms make significant gains during the announcement period when they purchase unlisted targets instead of listed ones. Draper and Paudyal (2006) argued that this is due to the small bargaining power of those firms who suffer from liquidity trading problem and smaller agency costs in the acquiring firms involved in those transactions. Furthermore, Draper and Paudyal found that the acquirers of unlisted targets gain the most when they use cash as the mode of payment. Since, the previous empirical research has concentrated largely on examining the performance of acquirers of listed targets which attract the public interest, and given that about 80% of the international M&A activity involves private the acquisition of target companies, we consider that the significance of the findings shown in these studies focusing on the performance of unlisted vs. listed targets is quite high.

Considering the above and the fact that very little research⁴ has been done about the stock price performance of Greek M&As, this study is motivated to cover this gap by examining the abnormal returns of Greek acquiring and acquired firms. Our second and more important objective is to test for the first time using Greek data the

⁴ To the best of our knowledge, and with the exception of the study of Protopapas et al. (2003) there are no other published studies using event study methodology, possibly due to the small volume of past acquisition activity in Greece.

argument of Draper and Paudyal (2006) about the reduced bargaining power of unlisted target companies and the superiority of cash vs. stock offers in a different business, constitutional and legal environment such as the Greek one is. We consider that the most notable difference lies mainly in the shareholding structure of the majority of companies, because in Greece the ownership of the majority of companies, is concentrated on a few people, who are usually the owner's family and his associates, who also in most of the cases effectively perform the management of their companies⁵. This causes potentially different agency costs which possibly arise between large vs. small shareholders, instead of those typically assumed between managers and shareholders which discourages the occurrence of hostile bids and lowers the power of competitive forces in the M&A market. Under this scenario, it should be expected that the wealth gains created in Greek takeovers should be larger for acquirers and lower for acquired firms than the corresponding wealth gains observed in the US and UK markets. It can be further assumed, that since the unlisted target firms are typically family owned, it should be more difficult for acquirers to obtain the effective control of these companies without overpaying. So, we consider that in the case of the Greek market there should be an increased bargaining power of unlisted target firms, and hence the acquirers' returns would be lower.

To test the above arguments, we examined the abnormal stock returns estimated over a two months period surrounding the announcement dates, of a sample of 100 acquirers, of which 54 cases concerned the acquisition of listed targets and 46 the acquisition of unlisted ones. The period of time under examination covered the years 1993-2006. From the previously mentioned factors explaining the takeovers' gains,

⁵ This characteristic was especially strong in the decade of 90s, before the entry of Greece to the European Union and before the inclusion of the Greek stock market into the Morgan Stanley Capital International World Indices in year 2000, which signaled the upgrading of the status (from emerging to developed) of the Greek market.

we decided to investigate mainly the effect of the mode of payment and the target's status (listed vs. unlisted).⁶ Thus, we further split the sample into purely cash and purely stock offers and we examined the different excess returns of acquirers and targets depending on the mode of payment and the target's status (listed vs. unlisted). Apart from this univariate analysis, we also examined within a multiple OLS regression framework the explanatory power of the mode of payment, the target's status variables regarding the listed/unlisted, subsidiary/not-subsidary characteristics, as well as the size (market value) of the acquirer and the relative size of acquirer to target (as a control variable) on the cumulative excess returns of acquiring and acquired firms. Our findings, in general vindicate the validity of the aforementioned hypotheses we made, with respect to the Greek market idiosyncratic characteristics.

The remaining of the paper is organized as follows. The second section includes a brief discussion of the previous literature on the stock price performance of merging firms, followed by the third section describing the sample used and the methodology applied. The fourth section presents and discusses our results in relation with previous empirical studies and the fifth and last section contains our conclusions.

2. Literature review

The existing literature with respect to takeovers has been immensely large and diverse piling up over the last thirty years. We shall expose the main theories and empirical studies in relation with the main objective of our research and the variables we decided to examine.

⁶ We did not examine the mood of the bid variable, since our sample does not include any case of a real hostile bid. We also indirectly test the explanatory power of the bidders' toehold by creating a strong proxy of a dummy variable (subsidiary/not-subsidary) which controls for the existence of a bidder's majority interest in target firm in the pre-bid period.

2.1. Cash vs. Stock offers.

Information Asymmetry Hypothesis

Under the seminal theoretical study of Myers and Majluf (1984) one market imperfection is the asymmetric distribution of information among market participants. They argued, that as a result of this, a bid in which the potential acquirer issues new shares in exchange of target's shares, gives a signal to the market that his stock is overvalued which consequently drives the stock of the bidder to adjust downwards. By the same token, a similar effect is predicted for the target's stock because in this case target's shareholders if they decide to swap their shares they will eventually share the risk in the possible overvaluation of bidder's stock. Shleifer & Vishny (2003) further argued that acquirers tend to time stock offers in periods when they believe that their stock is overvalued⁷. A plethora of early empirical studies (e.g. DeAngelo and Rise, 1984; Wansley, et al. 1983, 1987; Travlos, 1987; Franks et al., 1988) as well more recent ones (Draper and Paudyal, 1999, 2006; Sudarsanam and Mahate, 2003; Goergen and Renneboog, 2004; Conn et al., 2005; and Dong, et al., 2006) has established that cash offers on average generate much higher returns than stock offers both for bidders and targets supporting the information asymmetry hypothesis. Of course, there may be cases in which acquirers issue stock and eventually merging firms' shareholders may gain, but this can be attributed to the superior investment opportunities these companies may have. This argument was developed by Myers (1977) to explain why companies with high growth opportunities prefer to issue stock than bonds, and its validity was vindicated by Martin (1996). Nevertheless, under the main thrust of the information asymmetry hypothesis which

⁷ According to a recent McKinsey study conducted by Dobbs et al. (2006), this was particularly true for the boom in M&A activity during the period 1997-1999 (the years of "irrational exuberance"), because the majority of deals (60-70%) were done with an exchange of shares, in contrast with the current ongoing boom after the year 2003, which is related with a more modest and rational increase in stock prices, where cash offers constitute about the 50% of all alternative means of payment.

exists on average for most of the markets worldwide, we should predict that the same will apply to the Greek market driving cash offers to produce higher returns for both acquirers and acquirees than stock offers.

2.2. Listed vs. Unlisted Targets.

Agency Costs Theory

Under the agency costs theory (Jensen and Meckling, 1976; Mueller, 1980; Jensen, 1986), managers have strong motives to engage in acquisitions in order to promote their own interests (e.g. prestige, higher salaries and bonuses associated with the larger size) which eventually may harm their shareholders' interests. Therefore, it is reasonable to expect that managers of acquiring firms who target listed firms (which are typically larger firms than unlisted firms) are more likely to pursue their own benefits against the principals' (shareholders) interests and hence the acquirers' returns of listed targets should be lower than the corresponding returns of unlisted ones. Draper and Paudyal (2006) provided empirical evidence of UK takeover bids supporting this argument, the so-called managerial motive hypothesis. On the other hand, from the side of the target firms' we have the corporate monitoring hypothesis that claims that the agency costs will be lower in unlisted targets than listed ones, because unlisted targets are typically owned and managed by a small group of people who are usually the owner's family and associates. Ang, et al. (2000) offered evidence in support of this argument, by finding that privately held firms in which managers are the ultimate owners face much lower agency costs. Under this scenario, we should expect that acquirers of unlisted targets would experience lower returns, since in this case the managers' interests are completely aligned with the interests of the ultimate owners. Given that in Greece, the overwhelming majority of unlisted firms (if not all)

typically has the above mentioned ownership structure, we can predict that acquirers of private targets would obtain lower returns than acquirers of listed ones.

Bargaining Power Hypothesis

The bargaining power hypothesis is a coin with two faces. The first one refers to acquirers and the second to targets. Thus, acquirers of unlisted targets may have an increased bargaining power, because the latter firms suffer from *the liquidity problem* and are eager to sell, due to the fact that the probability of the appearance of more bidders is limited. Draper and Paudyal's results are consistent with this argument. However from the side of targets, it may be true that unlisted firms may have an increased bargaining power, since managers and owners are the same small group of people (lower agency costs) and may be able to decide not to sell out, if they do not obtain the most beneficial terms of the deal, especially if they are prepared to accept the bidder's stock in exchange for their shares. We consider that under the typical structure of Greek unlisted firms, we should expect to find support for this argument, and hence we predict that acquirers of unlisted firms would receive lower returns than acquirers of listed firms.

2.3. The Bidder's Toehold/ Pre-bid Majority Stake.

The existence of the acquirer's pre-bid stake on the share capital of the target firm has been empirically documented in many studies (e.g. Franks and Harris, 1989; Stultz et al. 1990; Holl and Kyriazis, 1997) that it increases the acquirer's returns and reduces the corresponding target's returns, while at the same time it increases the probability of bid success. Here, we decide to test the effect of a stronger variable, i.e. the possible acquirer's pre-bid majority stake to the target firm, which translates to a

subsidiary/non-subsidiary status of a target company. Based on the above empirical findings about the effect of bidder's toehold, we predict a strong positive effect between acquirers' returns and the takeover event of a subsidiary and a corresponding negative effect of the subsidiary status on targets' returns.

2.4. The Size of Bidder and Target.

According to the evidence provided by Asquith et al. (1983) the larger is the target's size relative to bidder, the higher should be the acquirers' returns, due to the fact that in this case there are larger synergistic benefits created in takeover bids. Draper and Paudyal (2006) reached to the same conclusions regarding the bidders' returns of unlisted companies only. However, Limmack (1990) did not find any significant relationship between bidder's relative size and returns, while Holl and Kyriazis (1997) found a positive relationship between relative size ratio of bidder to target and targets' returns. The latter positive association can be explained by the argument that large acquirers can pay higher premia because they have an increased capacity to do so, if they decide in order to preserve their prestige, a fact that is associated with larger agency costs which are present in these firms and because the acquisition of smaller targets may possibly imply subsequent lower integration costs in the post-merger period. Since, we use the relative size as a control variable, we do not make any prediction about the expected sign of the relationship with the excess returns.

3. Data and Methodology

3.1. Data-Sample construction

We collected takeover activity data over the period 1993-2006 from Thomson One Banker Deals database (formerly Platinum SDC). This period of time includes two booms in takeover activity, from 1998-2000 and from 2004-2006. From a large population of about 700 bids we ended up with a final sample of 100 bids, of which 46 concerned listed targets and 54 unlisted ones, due to various filters applied and in order to have a complete dataset from DataStream about : daily stock prices for the merging firms and the DataStream Total Greek Market Index, dividend payments and ex-div dates (to compute total shareholders' returns), information about the type of payment (cash/stock) and monthly values of book and market values of equity. We included only completed domestic deals (both acquirer and acquiree should have been Greek firms) in which the post-bid stake of acquirer became higher than 50% (full ownership control of the target). We also excluded successive acquirers for a period of 1 year before the first bid in order to have a clean estimation period of returns for the application of the market model.

Table 1 goes here

From panel A of Table 1 we can observe that the peak year of acquisition activity in Greece with respect to average deal value occurred in year 2006 (€701mln.) followed by the previous peak year 1999 (€480.4mln.). At these years of rising stock market activity the average market value of bidders was also high (€2.6bln. and €1.4bln. respectively). However, large transaction values were also recorded in the years 1998, 2001 and 2003-4. The record year with respect to number of transactions (22) was the year 2001, which is surprising if we consider that it coincides with the stock market

crash following the “bubble” years of 1999-2000. However, this can partly be explained by the fact that the majority of these bids were made for unlisted companies (13 for year 2000 and 11 out of the 22 for the year 2001) for which the average deal value paid was relatively low (€11.6mln. and €118.5mln. respectively). Out of the 100 bids of our sample 55 were made with cash payment and 45 with exchange of shares and 46 concerned listed target firms and 54 unlisted ones. From panel B, we can see that the mean market value of all sample bidders was about €1bln., while the corresponding value of all listed targets was about €325mln., implying that target firms were almost 4 times smaller than their acquirers. Although, it seems at first that the mean market value of bidders using cash (€933mln.) is lower than those who used stock (€1,082mln.), this picture is reversed if we look at the target firms’ status. Thus, acquirers that used cash to bid for listed targets had a larger average market value (€1.4bln.) than those who used cash to bid for unlisted targets (€831mln.). Also, the mean market value of bidders using stock to acquire listed target firms is higher than bidders using stock to acquire unlisted ones (€1.25bln. vs. €432mln.). This is reasonable since listed target firms are typically larger than unlisted ones and larger bidders acquire listed firms, which is clearly shown (panel B) since the average value of bidders of listed targets is €1.3bln., while the corresponding value of bidders of unlisted targets is €765mln. Finally, the mean market value of listed target firms is higher in cash offers than stock offers (€512mln. vs. €273mln. respectively).

3.2. Methodology

Our methodology consists of two parts. The first part contains a univariate analysis of estimating the abnormal returns of acquiring and acquired firms and examining their differences between cash and stock offers, as well as listed and unlisted targets. The

second part includes a multiple regression analysis by which we attempt to test the results of the univariate analysis regarding the determinants of abnormal returns with the inclusion of more variables than the mode of payment (cash/stock) and the target status (listed/unlisted).

Univariate analysis

The rate of return for each firm is calculated as follows :

$$R'_{jt} = \ln(R_{jt}) = \ln [(P_{jt} + \text{Div}_{jt}) / P_{jt-1}] \quad (1)$$

Where, R'_{jt} = the monthly rate of return for share $j = 1, 2, 3, \dots, N$ firms at time $t = 1, 2, 3, \dots, T$ (days) taken in logarithmic form, P_{jt} = the price of share j at the end of day t , Div_{jt} = the cash dividend paid (if a company had paid a dividend) of the j share during day t taken from the ex-dividend date, and P_{jt-1} = the price of share j at the end of day $t-1$.

The estimation of wealth gains created in our sample of takeover bids was done under the framework of standard event study analysis framework, with the computation of abnormal stock returns (actual minus expected returns) :

$$AR_{jt} = R_{jt} - E(R_{jt}) \quad (2)$$

Where, AR_{jt} = the abnormal return of stock j at time t as above, $E(R_{jt})$ = expected stock returns j in t points of time and R_{jt} = actual raw total stock returns j in t points of time.

For the generation of expected returns we decided to report the results based on the so-called market index (or market adjusted return) model⁸, in which the benchmark of

⁸ We also applied the market model to obtain the abnormal returns and we examined more event windows using both the market index model and the market model. The reason of not reporting the results generated by the market model, which are not materially different from the market index model, but are less significant, is to save space and because this model has received extensive criticism about

predicted returns of sample firms, if the takeover event did not occur, equals the actual market return proxied by a market index. The model is a simplification of the general so-called market model :

$$E(R_{jt}) = \alpha + \beta R_{mt} + \varepsilon_{jt} \quad (3)$$

Where, $\alpha = 0$ and $\beta = 1$, so that :

$$E(R_{jt}) = R_{mt} \quad (4)$$

R_{mt} is the DataStream Total Greek Market Index during the observation period. We examined various event windows during the observation period, such as (-30, +30days), (-5, +5 days), (-20, +20 days), (0, +30 days) and (0day) and we estimated their corresponding Cumulative Average Abnormal Returns (CAARs) :

(5)

$$CAAR_t = \sum_{t=-n}^T AAR_t$$

Where, $t = -n, \dots, +n$ days (the length of the event window) and

$$AAR_t = \sum_{j=1}^N \frac{AR_{jt}}{N} \quad (6)$$

In which, $j=1,2,\dots,N$ sample firms and AR_{jt} the abnormal return of each sample firm j at time t .

The statistical significance of the AARs and CAARs is examined by using the standard t-statistics given by Brown & Warner (1985).

$$t_{AAR} = \frac{AAR_t}{S(AAR_t)} \quad (7)$$

$$t_{CAAR} = \frac{CAAR_t}{\sqrt{T} * S(AAR_t)} \quad (8)$$

the stability of alpha and beta coefficients as well as the ability of beta to explain reliably the risk-return relationship (e.g. Fama and French, 1992; 1993).

Multiple regression analysis

To find the determinants of acquirers' and targets' gains proxied by their CARs, within a multivariate framework we run a cross-sectional OLS regression of the following form :

$$CAR_j = \alpha + \sum_{j=1}^N X_j + \varepsilon_j \quad (9)$$

Where, CAR = the cumulative abnormal return for each firm j, α = the regression intercept, X_j = a vector including the explanatory variables for each firm j and ε_j = the residual (error term) of the regression, assuming that it is identically and normally distributed.

The explanatory variables are three dummies (taking a value of 1/0), of which CS controls for cash/stock offers, LU reflects listed/unlisted targets and SUB stands for subsidiaries/non subsidiaries, as well as three continuous variables which respectively describe the size in terms of market value of acquirers, acquirees and their relative size ratio, all expressed in a log form. Thus, LNMVB is the market value of bidders, LNMVT is the market value of targets and LNMVBT is the ratio of the relative size of bidders at the end of the second month before the bid announcement to avoid contamination effects due to a possible market anticipation of merger synergies.

4. Results and Discussion

Here we report the abnormal returns generated by the market index model for two event windows⁹. The first event window covers a long period of 30 days before and after the bid announcement date and the second event window includes a short period

⁹ The results produced by examining other event windows, namely (-20, +20), (0, +30) and (0) are not essentially different from the ones we decided to report above.

of 5 days before and after the announcement date. We consider that the first event window incorporates better the full impact of markets' reaction on stock prices, as the completion of a bid usually occurs within a month after the public bid announcement date, and at the same time it allows for any information leakage concerning the bid offer to the market before the date of public announcement.

Examination of CAARs

a. Acquirers

The whole sample of acquiring firms gain positive cumulative average abnormal returns (CAARs) which are statistically significant. Thus, by looking at Table 2 we can observe, that acquirers in the event window (-30, +30) gain a CAAR of 4.6% which is statistically significant at the 10% level and in the shorter event window (-5, +5) gain a corresponding 3.81% which is statistically significant at the 5% level. What, is also obvious from table 2 (both panels A and B) is that, there is a clear difference in the returns obtained between cash and stock offers and listed and unlisted target firms. Thus, bidders obtain higher abnormal returns by acquiring listed firms using cash as a means of payment.

Table 2 goes here

First, all acquirers using cash gain statistically significant positive CAARs ranging from 9.16% in the event window (-30, +30) to 5.43% in the event window (-5, +5), which are much higher than those obtained by acquirers using stock, which are negative (though not significant) ranging from -1.05% to 1.83% respectively for the two event windows. This result is in line with the vast majority of the empirical studies previously mentioned and may be explained by the existence of information

asymmetries which lead the market to perceive the issuance of stock by bidders as an overvaluation signal for these companies.

Second, all acquirers of listed target firms in both event windows obtain higher CAARs than those acquirers of unlisted target firms, ranging from 5.51% in the longer event window of 61 days to 4.01% to the shorter event window of 11 days, compared with 3.76% to 3.64% for the corresponding event windows of acquirers of unlisted firms. The over-performance of acquirers of listed firms vs. those of acquirers of unlisted firms becomes more pronounced if we examine separately the cash and stock offers. Thus, for the event window (-30, +30) we can observe that acquirers using cash to acquire listed targets gain a CAAR of 16.37% which is almost double than the corresponding 7.55% of acquirers using cash to buy out unlisted targets. For stock offers in the same event window, the difference in the CAARs obtained by acquirers bidding for listed vs. unlisted targets is even more apparent, with the CAARs of the first to be a positive 2.49% (but insignificant) to a highly negative 15.19% and statistically significant at the 10% level. It is also clear by looking at Table 2, that in our sample, bidders use more frequently cash to purchase unlisted targets and stock to acquire listed targets. The above findings are contrary to those predicted by the reduced bargaining power hypothesis of target firms due to the illiquidity of unlisted targets, as well as the lower agency problems faced by bidders of unlisted targets, an argument which was well established in the study of Draper and Paudyal (2006). However, it is consistent with the increased bargaining power hypothesis of unlisted target firms and the lower agency costs associated with unlisted firms, since the majority of them is family owned and management is concentrated on a few people closely watched by the ultimate owners, if they are not in fact, themselves the managers. This shareholding structure is very common for a large

number of Greek companies, especially for those which are not listed. This argument may be combined by the remark made previously (look at Table 1) that the acquirers of unlisted targets have smaller size than the corresponding acquirers of listed targets. This is true for the acquirers of our sample, because the average size in terms of market value equals to €1,304.2mln. for listed targets vs. the respective size of €765mln. for unlisted targets. Thus, the first category of acquirers may be more eager to grow faster and may have less experience in consummating beneficial takeover deals, than the latter category of acquirers, a fact which makes them more prone to overpay, even if the average deal value paid is low.

The fact that the acquirers' abnormal returns we found, are somewhat higher than those observed in other developed markets may be attributed to a lower degree of market competition and efficiency which characterises the Greek stock market. Competition among rival bidding firms is much lower in Greece since there were almost no hostile bids in the period examined¹⁰, and furthermore about 26 cases out of the 100 bids included in our sample concerned absorption of subsidiaries where bid premia are expected to be lower, due to the existence of bidders' pre-majority stake and much lower (or even non-existing) market competitive pressures. As far as efficiency is concerned, the Greek stock market was for the most of the time period examined in our study (years 1993-2000) a relatively inefficient and emerging market, having experienced the stock market "bubble" of years 1997-9, which was accompanied by a dramatic increase in takeover activity. Under this situation and anecdotal evidence of that period of time, the most plausible explanation is that upon the bid announcement date the stock prices of both bidder and target companies' stock

¹⁰ Apart from the case of Eurobank bidding for ErgoBank on the 9/6/1999, which initially started as a hostile bid, then became a contested bid after Piraeus Bank entered the fight as a white knight, but turned later on to a friendly recommended bid by the management of ErgoBank.

prices were rising indiscriminately and investors were not considering at that time that in the long-run the bidder will bear the costs of target's overpayment. These results are similar to those reported by the study of Protopapas et al. (2003) which also examined the abnormal stock-price performance of Greek acquiring firms.

b. Targets

Targets which are all listed firms, as it was expected obtain the "lion's share" in the wealth created in takeover bids. By looking at Table 3 we can clearly observe that targets' CAARs range from 6.44% (event window -5, +5) to 10.83% (event window -30, +30). Here again we observe that these abnormal returns are lower than those reported by other studies for the developed markets of US and UK, but similar to those found in the study of Protopapas et al. (2003). The same argument of the low competitive nature of the Greek M&A market may explain this phenomenon.

Table 3 goes here

Table 3 also exhibits that the over-performance of cash vs. stock offers is also true for target shareholders. Thus, the abnormal gains for target shareholders receiving cash offers explode to 27.61% (highly significant at the 1% level) and 11.18% (significant at the 5% level) for the (-30, +30) and (-5, +5) event windows respectively, which compare to an insignificant gain of 6.73% and 5.28% respectively for stock offers.

Multiple regression analysis.

In order to foster the validity of our univariate analysis results which were previously exposed regarding the significance of the bid dynamics factors such as the mode of payment, status and other characteristics (subsidiary or not) of target firms as well as

the relative size of bidder to target, we decided to test the explanatory power of these factors within a multiple regression framework. The dependent variable here is the CARs of bidding and target firms and the explanatory variables are, first the continuous variables, LNMVB and LNMVT as well as the LNMVBT, and second the three dichotomous variables, the CS, LU and SUB.

For reasons of sensitivity analysis, we run the regression equations using again several event windows. However, we decided to report here only those produced by the longer event window (-30, +30) which incorporates the full impact of takeover bids. Tables 4 and 5 show the descriptive statistics for bidding and target firms respectively.

Tables 4 and 5 go here

The average value of CAR for acquirers is 4.6%, with a maximum value of 155% and a minimum value of -49.3%. The same value of CAR for targets is 10.83%, with a maximum value of 154% and a minimum value of -46%. From the correlation matrices¹¹, there seems to be neither a multi-collinearity problem nor any serious correlation among the variables used in the equations.

Tables 6 and 7 show the regression results¹² produced by performing different combinations of equation (8) for bidding and target firms respectively.

Table 6 goes here

By looking at Table 6 first, we can observe that there is a significant and positive association between cash offers, listed targets and acquirers' CARs. Thus, in all four

¹¹ These are not reported here, but are available upon request.

¹² These OLS results were adjusted for the heteroskedasticity problem using the White's (1980) correction procedure.

equations CS and LU variables had a positive sign with a t-statistic that was significant at the 5% level and 10% level (two-sided test) respectively. In other words, acquirers' gains should be higher when they bid for listed targets using cash as the mode of payment. However, the relationship between the acquirers' CARs and the size (LNMVB) of the bidder proved to be insignificant producing a positive sign. The same insignificant relationship appeared between the acquirers' CARs and the subsidiary dummy (SUB) generating a negative sign. Although, these results more or less confirm our previous findings from univariate analysis regarding the superiority of cash payment and the reduced bargaining power of listed targets, we should mention that we should interpret these with caution, because the explanatory power of the regressions is quite low (the R^2 s are from 6% to 7.3%)¹³.

The explanatory power of the regressions in Table 7 (targets) improves with relation to Table 6 (acquirers) since the R^2 s are higher (up to 22.8%) and the F-statistics are significant.

Table 7 goes here

Our regression results for target firms (Table 7) seem to establish a positive and significant (at the 5% level) association between targets' CARs and the relative size of bidder to target (LNMVBT) and an equally significant but negative association between the targets' CARs and the subsidiary dummy (SUB). Thus, targets' gains

¹³ However, this is not surprising, since we did not add more variables in our attempt to explain the CARs (for example the mood of the bid or the industrial relatedness), but it is not unusual for this kind of studies (e.g. Draper and Paudyal, 2006 reported similar R^2 s). The reason of not including additional variables, is that our objective was to focus on the mode of payment and status of the target which seemed to be the dominant explanatory factors of bidders' gains from previous empirical research and constituted the main aim of this study.

tend to be higher when their size is smaller than the corresponding size of their acquirers and when the deal concerns the absorption of a subsidiary. The first result indicates the possibility of bidders' overpayment and contradicts the argument of creation of synergies by Asquith et al. (1983) but they agree with the results of Holl and Kyriazis (1997). However, it is consistent with the argument of increased payment capacity of bidders, which claims that a large bidder would be more prone to pay more in the case of acquiring a small target, due to the fact that, among other things (e.g. higher agency costs in large bidders), in this case the integration should be an easier task in the post-merger period and the associated costs should be lower too. Thus, the bidder does not risk a lot by giving a more generous premium to a small target firm.

The second result regarding the negative link between targets' gains and the subsidiary dummy can be easily explained under the argument that when the target firm is a subsidiary its bargaining power is limited due the existence of a majority interest which deters other acquirers to bid and the takeover decision has been agreed and determined solely by the management of the parent company. In this case, it is likely that the minority shareholders will receive a much lower premium.

The other variables, namely the mode of payment (CS), the size of the bidder (LNMVB) and the size of the target (LNMVT) in log-form proved to be in general not significant in explaining the CARs. With regards to the mode of payment variable, the CS dummy, we may observe that although it retained the correct positive sign in all regression equations, pointing to the benign effect of cash vs. stock offers, failed to be significant even at the 10% level, possibly due to the strong effect of the SUB dummy

and the LNMVBT variables. However, when, CS is the only explanatory variable (eq.6) then it becomes significant at the 10% level. Thus, we cannot easily conclude that the behaviour of this variable in a multi-regression framework is necessarily in disagreement with the finding of the cash superiority relative to the targets' gains obtained by the univariate analysis (Table 3).

5. Conclusions

The main objective of this study was to examine the stock price performance of Greek merging firms (acquiring and acquired firms) and investigate for the first time, with respect to Greek M&As, the source of these gains/losses by testing the explanatory power of those factors which proved to be critical by the majority of the previous empirical research studies. These factors were the mode of payment, the pre-bid acquirer's stake in target firm, the mood of the bid and the target's status. Since, our sample included only friendly bids we decided to test the explanatory power of the other three variables.

We first established, that acquirers gain on average a 4-5% positive and significant excess returns which are higher than the insignificant and close to zero returns observed in the US and UK studies, while acquirees gain on average a 6-11% positive and significant excess returns which are much lower than an average of about 30% observed in the majority of the corresponding US and UK studies, but consistent with the results of the previous study of Protopapas et al. (2003) for the Greek takeover market. This finding signifies the lower competitive nature of the Greek takeover market (e.g. absence of hostile bids, different agency costs, absorption of subsidiaries by parent companies) which tilts the balance towards the bidders' side. In other words, the wealth gains created in Greek takeover bids are lower, but at the expense

of targets' shareholders and not at the expense of the bidders' shareholders (smaller bidders' overpayment).

Second, we discovered that pure cash offers related with the pure stock offers produce the largest gains for both the acquiring and acquired firms' shareholders, which is line with the international empirical evidence, probably to due to the existence of information asymmetries which lead the market to believe that when a bidder uses his stock in exchange of the target's shares, this implies overvaluation. Third, we revealed that bidders gain more by acquiring listed vs. unlisted targets and that bidders experience negative excess returns when they use stock to acquire unlisted targets. This finding is consistent with the increased bargaining power hypothesis of unlisted target firms, which goes against the results of Draper and Paudyal (2006) for UK takeover bids. Our findings maybe possibly explained by the fact that it is harder to obtain the effective control of these firms without the consent of the ultimate owners, since nearly all of them are managed and owned by the same people, who are usually the owner's family and associates. Thus, the lower agency costs existing in the unlisted firms would demand higher premia from bidders in order the owners to agree to sell out. Based on the remark that bidders of unlisted targets are typically smaller companies than bidders of listed targets, their bargaining power is smaller and it is likely that they will eventually overpay. Fourth, we uncovered the importance of the majority pre-bid stake in target firm, since the acquisition of subsidiaries increases the returns of acquiring firms' shareholders and decreases the returns of target firms' shareholders. Finally, we found that the larger is the relative size ratio of bidder to target the larger are the targets shareholders' gains, implying that large bidders acquiring small targets may be more willing to pay more possibly due to lower post-merger integration costs.

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Tables

Table 1. Summary statistics									
<i>Panel A.</i>									
Year	Frequency	Average Market Value (MV) of Acquirer (€mln.)	Average Deal Value (\$mln.)	Cash	Stock	Listed	Unlisted		
1993	1	7.85	13.71	1	0	1	0		
1994	0	-	-	-	-	-	-		
1995	0	-	-	-	-	-	-		
1996	1	44.95	3.73	1	0	0	1		
1997	2	124.67	10.19	1	1	1	1		
1998	6	705.63	199.07	4	2	2	4		
1999	13	1,410.09	480.42	7	6	7	6		
2000	13	239.69	11.63	10	3	0	13		
2001	22	1,135.92	118.52	11	11	11	11		
2002	13	423.86	31.49	7	6	7	6		
2003	10	740.85	138.28	3	7	6	4		
2004	4	1,329.08	232.98	1	3	3	1		
2005	6	1,339.17	22.93	3	3	3	3		
2006	9	2,565.45	701.11	6	3	5	4		
Total No.	100			55	45	46	54		
<i>Panel B.</i>									
	All firms	Cash	Stock	Listed	Unlisted	Cash-Listed	Cash-Unlisted	Stock-listed	Stock-Unlisted
Mean MV (€mln.) of Acquirers	1,003.32	932.98	1,089.29	1,304.2	765.15	1,388.06	831.85	1,253.71	431.64
Mean MV (€mln.) of Targets (only listed firms)	325.18	511.89	273.32						

Table 2. Acquirers' Cumulative Average Abnormal Returns (CAARs).

The CAARs of the Acquirers have been estimated with the application of the Market Index Model. The expected returns were set equal to the market index returns and the abnormal returns is the difference between the actual and the expected returns.

<i>Panel A. EW1 (-30, +30)</i>			
All Acquirers (<i>t</i> -statistic)	4.57% (1.65) ^c		
	Listed	Unlisted	All
Cash (<i>t</i> -statistic)	16.37% (2.44) ^b N=10	7.55% (2.19) ^b N=45	9.16% (2.72) ^a N=55
Stock (<i>t</i> -statistic)	2.49% (0.64) N=36	-15.19% (-1.85) ^c N=9	-1.05% (-0.28) N=45
All (<i>t</i> -statistic)	5.51% (1.61) ^c N=46	3.76% (1.14) N=54	 N=100
<i>Panel B. EW1 (-5, +5)</i>			
All Acquirers (<i>t</i> -statistic)	3.81% (2.26) ^b		
	Listed	Unlisted	All
Cash (<i>t</i> -statistic)	8.84% (3.87) ^a N=10	4.67% (3.06) ^a N=45	5.43% (4.19) ^a N=55
Stock (<i>t</i> -statistic)	2.66% (0.99) N=36	-1.52% (-0.48) N=9	1.83% (0.75) N=45
All (<i>t</i> -statistic)	4.01% (1.72) ^c N=46	3.64% (2.36) ^b N=54	 N=100
t-statistic is calculated as in equation (8).			
^a Indicates statistical significance at the 1% level, ^b Indicates statistical significance at the 5% level and ^c Indicates statistical significance at the 10% level.			

Table 3. Targets' Cumulative Average Abnormal Returns (CAARs).

The CAARs of the targets have been estimated with the application of the Market Index Model. The expected returns were set equal to the market index returns and the abnormal returns is the difference between the actual and the expected returns.

	EW1 (-30, +30)	EW2 (-5, +5)
Cash (<i>t</i> -statistic)	27.61% (3.13) ^a N=10	11.18% (2.62) ^b N=10
Stock (<i>t</i> -statistic)	6.73% (1.35) N=36	5.28% (1.57) N=36
All (<i>t</i> -statistic)	10.83% (2.25) ^a N=46	6.44% (1.92) ^c N=46
t-statistic is calculated as in equation (8).		
^a Indicates statistical significance at the 1% level, ^b Indicates statistical significance at the 5% level and ^c Indicates statistical significance at the 10% level.		

Table 4. Acquirers' Descriptive Statistics (EW -30, +30)					
	CAR	CS	LNMBV	LU	SUB
Mean	0.045661	0.550000	5.429858	0.460000	0.260000
Median	-0.003296	1.000000	5.309983	0.000000	0.000000
Maximum	1.550868	1.000000	9.593372	1.000000	1.000000
Minimum	-0.492982	0.000000	1.695616	0.000000	0.000000
Std. Dev.	0.296002	0.500000	1.697559	0.500908	0.440844
Sum	4.566092	55.00000	542.9858	46.00000	26.00000
Sum Sq. Dev.	8.674123	24.75000	285.2889	24.84000	19.24000
Observations	100	100	100	100	100

Table 5. Targets' Descriptive Statistics (EW -30, +30)						
	CAR	CS	LNMBV	LNMT	LNMTBT	SUB
Mean	0.108264	0.196078	5.915563	4.608033	1.373110	0.411765
Median	0.047673	0.000000	5.684939	4.331917	1.246843	0.000000
Maximum	1.543229	1.000000	8.905572	8.076522	3.379190	1.000000
Minimum	-0.460993	0.000000	2.060514	0.609766	0.717211	0.000000
Std. Dev.	0.350303	0.400979	1.905893	1.658979	0.455142	0.497050
Sum	5.521442	10.00000	301.6937	235.0097	70.02861	21.00000
Sum Sq. Dev.	6.135605	8.039216	181.6215	137.6105	10.35772	12.35294
Observations	46	46	46	46	46	46

Table 6. Multiple regression results- The determinants of Acquirers' CARs.

An OLS regression is estimated of the following form :

$$CAR_j = \alpha + \sum_{j=1}^N X_j + \varepsilon_j$$

The dependent variable are the Cumulative Abnormal Returns (CARs) across sample firms, α is the regression intercept, X_j is a vector including the explanatory variables for each firm j and ε_j is the residual (error term) of the regression, assuming that it is identically and normally distributed. The explanatory variables are three dummies (taking a value of 1/0), of which CS controls for cash/stock offers, LU reflects listed/unlisted targets and SUB stands for subsidiaries/non subsidiaries, as well as one continuous variable (LNMVB) which describes the size in terms of market value of acquirers expressed in a log form, taken at the end of the second month before the bid announcement to avoid contamination effects due to a possible market anticipation of merger synergies.

Eq.	C	CS	LU	LNMVB	SUB	R ²	F.st. (<i>prob.</i>)
Eq1. (<i>t.st.</i>)	-0.121 (-1.07)	0.169 (2.25) ^b	0.143 (1.87) ^c	0.005 (0.31)	-0.084 (-1.17)	0.073	1.871 (0.12)
Eq2. (<i>t.st.</i>)	-0.126 (-1.11)	0.181 (2.43) ^b	0.128 (1.69) ^c	0.002 (0.13)		0.06	2.03 (0.11)
Eq3. (<i>t.st.</i>)	-0.095 (-1.27)	0.172 (2.31) ^b	0.146 (1.94) ^c		-0.08 (-1.14)	0.072	2.487 (0.06)
Eq4. (<i>t.st.</i>)	-0.114 (-1.56)	0.182 (2.46) ^b	0.129 (1.75) ^c			0.06	3.07 (0.05)

t-st. is a standard two-tailed test of statistical significance.

^a Indicates statistical significance at the 1% level, ^b Indicates statistical significance at the 5% level and ^c Indicates statistical significance at the 10% level.

Table 7. Multiple regression results- The determinants of Targets' CARs.

An OLS regression is estimated of the following form :

$$CAR_j = \alpha + \sum_{j=1}^N X_j + \varepsilon_j$$

The dependent variable are the Cumulative Abnormal Returns (CARs) across sample firms, α is the regression intercept, X_j is a vector including the explanatory variables for each firm j and ε_j is the residual (error term) of the regression, assuming that it is identically and normally distributed. The explanatory variables are three dummies (taking a value of 1/0), of which CS controls for cash/stock offers, LU reflects listed/unlisted targets and SUB stands for subsidiaries/non subsidiaries, as well as three continuous variables which respectively describe the size in terms of market value of acquirers and acquirees and their relative size ratio, all expressed in a log form. Thus, LNMVB is the market value of bidders, LNMVT is the market value of targets and LNMVBT is the ratio of the relative size of bidders at the end of the second month before the bid announcement to avoid contamination effects due to a possible market anticipation of merger synergies.

Eq.	C	CS	LNMVBT	LNMVB	LNMVT	SUB	R ²	F.st. (<i>prob.</i>)
Eq1. (<i>t.st.</i>)	-0.125 (-0.83)	0.095 (0.80)	0.221 (2.23) ^b			-0.217 (-2.28) ^b	0.228	4.624 (0.006)
Eq2. (<i>t.st.</i>)	-0.237 (-1.59)	0.178 (1.52)	0.226 (2.18) ^b				0.142	3.98 (0.02)
Eq3. (<i>t.st.</i>)	0.17 (1.08)	0.123 (0.99)		0.0009 (0.04)		-0.222 (-2.17) ^b	0.146	2.685 (0.06)
Eq4. (<i>t.st.</i>)	0.337 (2.41) ^b	0.143 (1.17)			-0.038 (-1.34)	-0.198 (-1.99) ^b	0.178	3.383 (0.03)
Eq5. (<i>t.st.</i>)	0.175 (2.48) ^b	0.123 (1.00)				-0.222 (-2.24) ^b	0.146	4.113 (0.02)
Eq6. (<i>t.st.</i>)	0.067 (1.25)	0.208 (1.72) ^c					0.057	2.969 (0.09)

t-st. is a standard two-tailed test of statistical significance.

^a indicates statistical significance at the 1% level, ^b indicates statistical significance at the 5% level and ^c indicates statistical significance at the 10% level.