An Empirical and Analytical Study of Chinese Mergers and Acquisitions

By

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ABSTRACT

Over the last several years (and especially since China's admission to the World Trade Organisation in 2001) merger and acquisition (M&A) activities in China have increased significantly as a result of the rapid growth in the Chinese economy and the measures which the Chinese government has taken to modernise the laws and regulations which govern its securities markets. Despite this, only a few researchers have studied M&A activities in China in any depth. Moreover, such research as has been conducted on Chinese M&A activities is mainly concerned with the laws and regulations affecting the area and not with their economic consequences. Hence, the particular concern of this dissertation is with the economic benefits that accrue to the shareholders of Chinese acquiring and target firms from the M&A activities that have occurred in the People's Republic of China over the last twenty years. In particular, our study encompasses a theoretical, institutional and empirical analysis of Chinese M&A activities.

M&A activities in China are governed by a number of laws and regulations of which the Takeover Measures, 2006, is undoubtedly the most important. Our analysis in the early part of the dissertation summarises the legal framework under which M&A activities are conducted in China. In particular, the Takeover Measures, 2006 aim to make Chinese laws in the M&A area more compatible with best international practice. Furthermore, a new Anti-Monopoly Law, which addresses the anti-trust issues associated with mergers and acquisitions came into force on 1 August 2008. Amongst other things, this new Anti-Monopoly Law addresses issues of anti-trust and declaration thresholds in M&A activities in China. Besides these issues, the early chapters of the dissertation summarise the Chinese laws dealing with cross-border mergers and acquisitions, the laws relating to the issue of new shares, the laws relating to share swap transactions and the important provisions affecting the regulation of special purpose companies (SPCs).

The dissertation then turns to an empirical analysis of the economic benefits

which accrue to the shareholders of Chinese target and Chinese acquiring firms as a result of their M&A activities. Our analysis is based on the standard market model methodology using both the Dimson (1979) and Ordinary Least Squares (OLS) estimates of equity betas. We also employ an hitherto unused nonparametric testing procedure based on the Corrado (1989) rank test in order to enhance the robustness of our empirical analysis. Suffice it to say that the empirical analysis summarised in the dissertation shows that there are significant abnormal returns around the takeover announcement date for the holders of equity securities in Chinese target firms. This is a result which mirrors much of the empirical research conducted on M&A activities in western economies. Interestingly, however, a significant proportion of these abnormal returns decay away within a few weeks following the takeover announcement date. In contrast, there are few, if any, economic benefits for the holders of equity securities in Chinese acquiring firms from their M&A activities. In this respect our results for Chinese acquiring firms are very similar to those obtained by researchers for western acquiring firms, although there are some important differences. In particular, there appear to be statistically significant and positive abnormal returns for shareholders of Chinese acquiring firms around the takeover announcement date but these generally decay away over the next ten to fifteen trading days thereby leaving the shareholders of Chinese acquiring firms with no significant benefits from their M&A activities. We provide some possible explanations for this phenomenon by linking our empirical results with the Chinese political, economic and capital systems.

A fundamental decision the directors of acquiring firms must make is whether the mode of consideration for takeovers ought to be in cash or some alternative medium of exchange. Prior research in western countries shows that the mode of consideration used in takeovers can have a significant impact on the abnormal returns which accrue to the shareholders of both acquiring and target firms. Our empirical analysis of this issue shows that when the mode of consideration is purely in cash the abnormal returns which accrue to the shareholders of Chinese target firms around the takeover announcement date are positive and significantly different from zero. In contrast, there are no

economic benefits (and indeed, probably economic losses) for the shareholders of Chinese target firms when the consideration for takeovers is other than purely in cash. For Chinese acquiring firms there are significant positive abnormal returns when the consideration for takeovers is other than purely in cash. However, when cash is used as the sole mode of consideration by Chinese acquiring firms there are very few, if any, economic benefits for their shareholders.

The concluding sections of the dissertation note that our calculation of the abnormal returns that accrue to firms involved in Chinese M&A activities is based exclusively on the standard market model - which is empirical counterpart of the Capital Asset Pricing Model (CAPM). In recent years, however, Fama and French (1992, 1993, 1995, 1996) amongst other authors have suggested that the CAPM has serious deficiencies and that these deficiencies flow through to the standard market model on which the empirical analysis of Chinese M&A activities summarised in this dissertation is based. We show, however, that the Fama and French Asset Pricing Model (1992, 1993, 1995, 1996) has numerous deficiencies of its own and that to base the calculation of abnormal returns upon this model has the potential to lead to a seriously flawed analysis of the abnormal returns which accrue to the shareholders of Chinese firms involved in M&A activities and on which our empirical analysis is based.

Key Words: M&A activities, Modified Corrado test, Corrado test, Patell test, average abnormal returns (AARs), cumulative average abnormal returns (CAARs), mode of consideration, A shareholders, B shareholders, H shareholders, Chinese target firms, Chinese acquiring firms.

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CHAPTER ONE

INTRODUCTION

In recent years the Chinese economy has experienced a prolonged period of rapid expansion with a growth rate in Gross Domestic Product (GDP) which far exceeds that of most western economies (Prasad, 2004). The vibrancy of the Chinese economy has attracted significant investment from both domestic firms and virtually every advanced industrialised country in the world (Fei, 2004). This investment takes a variety of forms, including merger and acquisition (M&A) activities where firms grow by acquiring (or merging with) other firms in order to reap the benefits which arise from a strongly expanding economy. The Chinese government has recognised the benefits which flow from M&A activities by modernising the laws and regulations which govern the country's M&A activities, by restructuring listed firms in the country's key industries under the shareholding structure reform (Guquan Fenzhi Gaige) and opening new financing channels to allow qualified firms to fund their M&A activities more easily. Over the last few years (and especially since China's admission to the World Trade Organisation in 2001) M&A activities in China have increased significantly as a result of these measures implemented by the Chinese government (Fei, 2004). Nevertheless, only a few researchers have studied M&A activities in China in any depth. Moreover, such research as has been conducted on Chinese M&A activities is mainly concerned with the laws and regulations affecting the area and not with its economic consequences. Hence, few empirical studies are available on the economic effects of Chinese M&A activities (Fei, 2004). Furthermore, conclusions based on research results from advanced industrialised countries like the UK and US do not necessarily apply to China since the laws and regulations in these countries are significantly different from those which prevail in China. Given this, there is a gap in the research literature which this dissertation seeks to fill.

The particular concern of this dissertation is with the economic benefits that accrue to the shareholders of Chinese acquiring and target firms from the M&A activities that have occurred in the People's Republic of China over the

last twenty years. In particular, our study encompasses a theoretical, institutional and empirical analysis of Chinese M&A activities. We begin our analysis in chapter two by summarising the prior Chinese and western literature dealing with M&A activities and then draw out its implications for the important issues which will be addressed in later chapters of this dissertation. Thus, the principal brief of chapter two is to summarise the literature that deals with such things as the motivation for takeovers and the wealth effects that mergers and acquisitions can have for the shareholders of Chinese acquiring and target firms, the reasons why a particular mode of consideration (cash, shares or a combination of cash and shares) is used in a given merger and/or acquisition and the effects which hostile as against friendly takeovers can have on the long run profitability of acquiring and target firms, etc. Most of the literature in these areas encompasses data and issues that arise in western economies. However, there is a growing literature in China dealing with the unique issues that arise in a Chinese M&A context and this is also summarised in this chapter. Here, however, we have to emphasise that the Chinese literature is mainly theoretical in nature. Moreover, the methodologies employed in the few empirical papers which have been published on Chinese M&A activities are normally very different to the market model approaches for detecting abnormal returns that are applied in the western literature. Given this, chapter two outlines the implications which the western literature has for the empirical work on Chinese M&A activities that is summarised in this dissertation. This enables us to identify any gaps in the Chinese literature and any significant methodological issues which need to be addressed in the empirical work conducted for this dissertation.

The focus of our analysis in chapter three is on the laws and regulations that govern M&A activities in the mainland of China. We begin chapter three by noting that China's recent admission to the World Trade Organisation (WTO) and its generally vibrant economy, has meant that M&A activities in China have increased considerably over the last several years (Fei, 2004). The Chinese government has responded to the increased volume of M&A activities by establishing a legal framework which, on the one hand, is in line with best international practice but also, meets the unique political and socio-economic

considerations that have shaped the People's Republic of China since its formation in 1949. Hence, on 31 July 2006 China's principal securities market regulator, the China Securities Regulatory Commission (CSRC), promulgated the Takeover Measures, 2006. The Takeover Measures, 2006 is a revised version of the original Takeover Measures, 2002 and is designed to fill gaps and loopholes which experience has shown existed in the laws and regulations covering Chinese M&A activities up to that point in time. The Takeover Measures, 2006 also aim to make Chinese laws in the M&A area more compatible with best international practice. Furthermore, in order to address the anti-trust issues associated with mergers and acquisitions, the Standing Committee of the Tenth National People's Congress of China promulgated a new Anti-Monopoly Law which came to force on 1 August 2008. Amongst other things, this new Anti-Monopoly Law addresses issues of anti-trust and declaration thresholds in M&A activities in China. Besides these issues, chapter three also summarises the Chinese laws dealing with cross-border mergers and acquisitions, the laws relating to the issue of new shares, the laws relating to share swap transactions and the important provisions affecting the regulation of special purpose companies (SPCs). In chapter three we also note that shares listed on stock exchanges in China fall into three broad categories; namely, A shares which are usually denominated in the Chinese Yuan and until recently, could only be purchased by Chinese nationals; B shares which are denominated in either the U.S dollar or the Hong Kong dollar and normally can only be purchased by foreign investors; and H shares which are listed exclusively on the Hong Kong Stock Exchange.

In chapter four of the dissertation, we assess the significance of the abnormal returns earned by Chinese target firms involved in M&A activities over the period from 1 January, 1990 until 31 December, 2008. Our analysis is based on the standard market model methodology using both the Dimson (1979) and Ordinary Least Squares (OLS) estimates of equity betas. We employ nonparametric testing procedures in order to enhance the robustness of our analysis. Here Corrado (1989) has introduced a nonparametric rank test for assessing abnormal security-price performance which, it is claimed, is preferable to the conventional parametric "t" tests employed in the area

(Patell, 1976). The Corrado (1989) test is valid when applied to skewed and/or lepto(meso)kurtic distribution functions and avoids many of the limitations implicit in alternative nonparametric tests of abnormal security-price performance (e.g. the symmetry assumptions on which the Wilcoxon signed rank test is founded). Yet for all its virtues the Corrado (1989) test is computationally cumbersome and lacks power in comparison to the Patell (1976) "t" test which, as we have already noted, is the traditionally used parametric test in the area. Moreover, little is known about the small sample properties of the Corrado (1989) test. We address these issues by modifying the Corrado (1989) test so as to increase its power relative to the benchmark Patell (1976) "t" test. In particular, we employ a consistent estimator for the variance of the ranks of abnormal security returns and then use it to obtain an exact closed form expression for the Corrado (1989) test statistic. This simplifies the computational procedures behind the Corrado (1989) test considerably – to the point where they can be implemented using only a hand held calculator. We also demonstrate how a second order Edgeworth expansion can be employed to determine the small sample properties of the Corrado (1989) test statistic.[1] Suffice it to say that the empirical analysis summarised in this chapter shows that there are significant abnormal returns around the takeover announcement date for the holders of A shares in Chinese target firms. Interestingly, however, a significant proportion of these abnormal returns decay away within a few weeks following the takeover announcement.

Our review of the literature in chapter two shows that most research which deals with Chinese M&A activities is restricted to a consideration of A shares. In other words, M&A activities that involve B shares and H shares have generally been ignored by Chinese researchers. In chapter five we seek to address this gap in the literature by conducting an empirical analysis of the wealth effects that M&A activities have on the holders of B and H shares in Chinese target firms. That is, in chapter five we assess whether there are any

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[1] Many of the analytical results summarised in chapter four are based on an article entitled "A Modified Corrado Test for Assessing Abnormal Security Returns" jointly written by Ali Ataullah, Xiaojing Song and Mark Tippett that is forthcoming in the European Journal of Finance.

differences in the economic benefits which accrue to the holders of A shares in Chinese target firms in comparison to the economic benefits which accrue to the holders of B and H shares. Our general conclusion is that whilst there are positive abnormal returns around the takeover announcement date for the holders of B shares in Chinese target firms, they tend to be marginal at best when compared to the economic benefits that accrue to the holders of A shares. Moreover, the abnormal returns around the takeover announcement date for the holders of H shares tend to be larger than those for B shares though still less than those that accrue to the holders of A shares. However, an important caveat here is that our sample of H shares is very small and possibly not representative of the wider Chinese securities market.

Chapter six deals with the wealth effects which Chinese M&A activities have on the holders of A shares, B shares and H shares in Chinese acquiring firms. Our empirical results show that the shareholders of Chinese acquiring firms obtain virtually no economic benefits from their M&A activities and this applies irrespective of whether one considers the A shares, B shares or H shares of Chinese acquiring firms. In this respect our results for Chinese acquiring firms are very similar to those obtained by researchers for western acquiring firms, although there are some important differences between the empirical results for Chinese as against western acquiring firms. In particular, there appear to be statistically significant and positive abnormal returns for shareholders of Chinese acquiring firms around the first public announcement of the takeover but these generally decay away over the next ten to fifteen trading days thereby leaving the shareholders of Chinese acquiring firms with no significant benefits from their M&A activities. We provide some possible explanations for this phenomenon by linking our empirical results with the Chinese political, economic and capital systems which, as we have previously noted, are fundamentally different from those of western economies.

We begin our analysis in chapter seven by noting that once an acquiring firm has decided to make a takeover offer for a target firm it must then make a decision about the way in which it will finance the proposed takeover. The fundamental decision the directors of the acquiring firm must make is whether

the consideration for the takeover ought to be in cash, the shares of the acquiring firm, convertible bonds in the acquiring firm, warrants issued by the acquiring firm, the transfer of some of the acquiring firm's assets to the shareholders of the target firm, the repayment of some of the target firm's debt by the acquiring firm, or some combination thereof). The importance of this issue stems from the fact that prior research in western countries shows that the mode of consideration used in takeovers can have a significant impact on the abnormal returns which accrue to the shareholders of both the acquiring and target firms. Until recently the tradition has always been for takeovers in China to be financed exclusively in cash. However, the Shareholding Structure Reform (Guquan Fenzhi Gaige) which came into force in 2005 has created incentives for Chinese acquiring firms to offer modes of consideration that are other than in cash. There are as a consequence a fairly large minority of Chinese acquiring firms which now conduct their M&A activities using modes of consideration that are other than purely in cash. This has enabled us to conduct an empirical analysis of the economic benefits that accrue to the shareholders of Chinese target firms when the consideration is in cash as against when the consideration is other than purely in cash. Our empirical analysis of this issue shows that when the mode of consideration is purely in cash the abnormal returns which accrue to the shareholders of Chinese target firms around the takeover announcement date are positive and significantly different from zero. In contrast, there are no economic benefits (and indeed, probably economic losses) for the shareholders of Chinese target firms when the consideration for takeovers is other than purely in cash.

In chapter eight the focus of our attention will be on the impact that different modes of consideration for takeovers can have on the economic benefits that accrue to the shareholders of Chinese acquiring firms. We ask in particular whether the economic benefits that accrue to the shareholders of Chinese acquiring firms are consistent with the economic benefits that accrue to the shareholders of Chinese target firms when cash as against alternative modes of consideration are used to finance takeovers. Our analysis of this issue shows that the abnormal returns that accrue to the shareholders of Chinese acquiring firms when alternative modes of consideration are used are positive

and significantly different from zero in a statistical sense. In contrast, the economic benefits for shareholders of Chinese acquiring firms where cash is used as the sole mode of consideration tend to be insignificantly different from zero and occasionally, negative. In other words, the economic benefits which accrue to the shareholders of Chinese acquiring firms when alternative modes of consideration are employed far exceed the economic benefits for shareholders of Chinese acquiring firms when cash is used as the sole mode of consideration. These results could arise because of the peculiar nature of the Chinese capital gains tax and/or the information asymmetries that arise in Chinese takeover procedures and which are compounded by the relatively unsophisticated nature of the Chinese capital market.

We begin our analysis in chapter nine by noting that in this dissertation the calculation of the abnormal returns that accrue to firms involved in Chinese M&A activities is based exclusively on the empirical counterpart of the Capital Asset Pricing Model (CAPM); namely, the one factor market model. However, in recent years several authors have suggested that the CAPM has serious deficiencies and that these deficiencies flow through to the market model as well (Ashton and Tippett, 1998; Roll, 1977; Roll, 1978). In response to this Fama and French (1992, 1993, 1995, 1996) have formulated an asset pricing model which allegedly addresses the deficiencies of the market model and therefore, which should be used in preference to the market model for isolating the abnormal returns which accrue in event studies of the kind employed in this dissertation. It is our view, however, that the Fama and French Asset Pricing Model (1992, 1993, 1995, 1996) has numerous deficiencies of its own and that to base the calculation of abnormal returns upon this model has the potential to lead to a seriously flawed analysis of the abnormal returns which accrue to the shareholders of Chinese firms involved in M&A activities. Hence, in chapter nine we outline the reasons for not employing the Fama and French Asset Pricing Model (1992, 1993, 1995, 1996) to isolate the abnormal returns associated with Chinese firms involved M&A activities. Our analysis shows that even when the CAPM is descriptively true it will still be possible for an empirical researcher to determine a Fama and French Asset Pricing Model (1992, 1993, 1995, 1996) which is based on

an inefficient index portfolio that leads to a set of betas which when taken in conjunction with such other factors as the researcher stipulates are to be important in the asset pricing process (e.g. firm size, market to book ratios, etc.) will be perfectly correlated with the ex post average returns earned by the firms on which the empirical analysis is based. However, the abnormal returns obtained from the empirically determined Fama and French Asset Pricing Model (1992, 1993, 1995, 1996) will be different (and invariably substantially so) from those obtained under the (descriptively true) CAPM. Indeed, our analysis shows that the empirical researcher will always be able to choose a set of factors in conjunction with an inefficient index portfolio which leads to a Fama and French Asset Pricing Model (1992, 1993, 1995, 1996) that is compatible with any hypothesis of the researcher's choosing. This in turn will mean that the Fama and French Asset Pricing model (1992, 1993, 1995, 1996) is never empirically falsifiable. Since all scientific theories have to be potentially falsifiable this will mean that the Fama and French Asset Pricing Model (1992, 1993, 1995, 1996) can never form the basis of a scientific theory of the asset pricing process (Popper, 1963, p. 36). Given this, we have elected to base our analysis on the CAPM and its empirical counterpart – namely, the market model – since this procedure suffers from fewer theoretical deficiencies when compared to using the Fama and French Asset Pricing Model (1992, 1993, 1995, 1996) to isolate the abnormal returns associated with Chinese firms involved in M&A activities. [2]

The final chapter in the dissertation – namely, Chapter ten – summarises the analysis of previous chapters and draws conclusions with regard to the issues which arise in our empirical analysis of Chinese M&A activities. These issues mainly include the wealth effects that M&A activities have on the holders of shares in Chinese acquiring and target firms – although in this chapter there is also significant discussion of the Chinese legal, institutional and cultural framework and of the impact that these are likely to have on Chinese M&A activities, especially in comparison to the M&A activities that occur in western

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[2] Many of the analytical results summarised in chapter nine are based on an article entitled "Constructing Asset Pricing Models with Specific Factor Loadings" that is jointly written by Ian Davidson, Qian Guo, Xiaojing Song and Mark Tippett and which is forthcoming in the journal Abacus.

economies. Overall, our empirical analysis shows that whilst the holders of A shares in Chinese target firms earn statistically significant abnormal returns around the announcement date of the proposed takeover, these abnormal returns decay away over the days and weeks which follow the takeover announcement date. Moreover, the abnormal returns which accrue to the holders of A shares in Chinese target firms are larger when cash is used as the sole mode of consideration in comparison to the abnormal returns which arise when alternative modes of consideration are used to finance Chinese takeovers. In contrast, the abnormal returns that accrue to the holders of A shares in Chinese acquiring firms are quite modest and arise only in a very narrow window surrounding the takeover announcement date. However, these abnormal returns are barely significant in a statistical sense and quickly decay away within a few days of the proposed takeover announcement date. Even here our empirical analysis shows, however, that the abnormal returns that accrue to the shareholders of Chinese acquiring firms are marginally larger when the mode of consideration is other than purely in cash. That is, the abnormal returns that accrue to the shareholders of acquiring firms are lower when the mode of consideration employed to finance the takeover is purely in cash. Our empirical analysis also shows that the abnormal returns that accrue to the holders of B and H shares in Chinese acquiring and target firms are much more modest when compared to those which accrue to the holders of A shares.

CHAPTER TWO

SURVEY OF THE LITERATURE ON M&A ACTIVITIES: WESTERN AND CHINESE ECONOMIES

2.1 Introduction

The objective of this chapter is to summarise the prior literature dealing with mergers and acquisitions (M&A) and to draw out its implications for the important issues that will be addressed in this dissertation. We will therefore be concerned with the literature that deals with such things as the motivation for takeovers and the wealth effects it can have on the shareholders of acquiring and target firms, the reasons why a particular mode of consideration (cash, shares or a combination of cash and shares) is used in a given takeover and the effects which hostile as against friendly takeovers can have on the future profitability of acquiring and target firms, etc. Most of the literature in these areas encompasses data and issues that arise in western economies. However, there is a growing literature dealing with the unique issues that arise in a Chinese M&A context and this literature is also summarised in this chapter. Here we would note, however, that the Chinese literature is mainly theoretical in nature. The literature dealing with empirical issues in Chinese M&A activities is to say the least, sparse. Moreover, the methodologies employed in the few empirical papers which have been published on Chinese M&A activities are normally very different to those applied in the western literature. Given this, an important emphasis in this chapter will be on the implications which the western literature has for the theoretical and especially, empirical issues that arise in the analysis we conduct of Chinese M&A activities in this

dissertation.   In particular, this will enable us to identify any gaps in the Chinese literature and any significant methodological issues which might be addressed by the empirical work conducted as part of this dissertation.

The remainder of this chapter is structured as follows.   Section 2.2 provides a summary of the prior literature (in both western economies and China) which deals with the wealth effects of mergers and acquisitions on the shareholders of acquiring firms.   Next, in Section 2.3 we move our attention on to the key literature dealing with the impact that mergers and acquisitions have on target firm performance in both western economies and China.   Section 2.4 primarily focuses on the important literature dealing with the effect that the motivation for takeovers has on acquiring and target firms not only in western economies but also in China.   Section 2.5 goes on to consider the impact that different modes of consideration (e.g. cash, stock or a combination of cash and stock) can have on the profitability of both acquiring and target firms in western and Chinese economies.   The literature that deals with the impact that friendly and hostile takeovers can have on shareholder wealth is considered in Section 2.6.   Finally, Section 2.7 provides a brief summary of this chapter, as well as some concluding remarks regarding what needs to be done so as to fill the gaps which exist in the Chinese M&A literature.

2.2 The Impact of M&A Activities on Acquiring Firm Performance

A considerable volume of research has been conducted in both western and developing countries on the wealth effects of M&A activities for the shareholders of acquiring firms.   In western countries in particular the empirical evidence on the wealth effects of mergers and acquisitions for the shareholders of acquiring firms is mixed and often contradictory.   For example, Mandelker (1974) employs a sample of 241 U.S. firms involved in M&A activities covering the period from 1948 until 1967 and concludes that

acquiring firms earn only a normal rate of return from their M&A activities, with any abnormal gains accruing primarily to the shareholders of the target firms. Similarly, Dodd and Ruback (1977) employ a sample of 172 U.S. acquiring firms involved in M&A activities covering the period from 1958 until 1976. They use an event window which begins 60 months before the first public announcement of the M&A proposals and concludes 60 months after the announcement date; that is, (-60,60). They find that stockholders of successful bidding firms earn positive abnormal returns in a narrow window surrounding the takeover announcement date. Likewise, the recent studies of Renneboog and Goergen (2003) using European data and Moeller, Schlingemann and Stulz (2003) and Fuller and Netter and Stegemoller (2002) using U.S data all find that shareholders of acquiring firms earn positive returns from M&A activities. In contrast, Dodd (1980), who uses U.S. data, finds evidence of small but significant negative abnormal returns at the date of the first public announcement of the merger proposals. Moreover, the cumulative average abnormal return (CAAR) from ten days before the public announcement of the proposed takeover through to ten days after the directors of the target firm approve of the intended takeover is a statistically significant -7.22 percent. In similar vein, Langtieg (1978) finds evidence of negative abnormal returns for U.S. acquiring firms over the six months before and the twelve months after the merger date. Similarly, Agrawal, Jaffe and Mandelker (1992) use an exhaustive sample of New York Stock Exchange (NYSE) acquirers and NYSE/ American Stock Exchange (AMEX) targets over the period from 1955 to 1987 and find that stockholders of acquiring firms suffer a statistically significant (negative) cumulative abnormal return of about -10% over the five year period following the consummation of the merger. Agrawal, Jaffe and Mandelker's (1992) findings are robust with respect to a variety of specifications. In particular, their results do not seem to be caused by time series changes in beta in either the run up to, or after the consummation of the

M&A activities. Also, the most recent studies conducted by Mulherin and Boone (2000), Mitchell and Stafford (2000), Walker (2000), Houston et al. (2001) and Ghosh (2002) find similar results to those obtained by Agrawal, Jaffe and Mandelker (1992); that is, M&A activities result in statistically significant negative abnormal returns to the shareholders of acquiring firms. In contrast to these results, Asquith (1983) finds that the stocks involved in M&A activities that are listed on the NYSE show little or no reaction on the date of the first public announcement of the merger and/or acquisition proposals and this applies for both successful and unsuccessful bidding firms. Likewise, Bruner (2003) concludes that in the aggregate, abnormal returns to shareholders of U.S. acquiring firms from M&A activities are essentially zero. A much more detailed summary of the wealth effects that M&A activities have for the shareholders of acquiring firms in western countries is to be found in the article by Martynova and Renneboog (2008).

In China, as in western countries, a great deal of research has been conducted about the wealth effects of M&A activities on the shareholders of acquiring firms. However, government restrictions have meant that M&A activities for publicly listed Chinese firms only commenced in the 1990's and so, there is little published research on Chinese M&A activities prior to this time. One of the earliest studies is that of Chen and Zhang (1999) who employed data for Chinese firms involved in M&A transactions on the Shanghai Stock Exchange covering the 1997 fiscal year. Using the classical event study methodology Chen and Zhang (1999) determined the cumulative average abnormal return (CAAR) for their sample of Chinese firms involved in M&A activities over an event window which commenced ten days before the first public announcement of the merger and/or acquisition proposals and concluded twenty days after the public announcement date; that is, an event window of (-10, 20) trading days. Chen and Zhang (1999) found that although the CAAR of Chinese firms involved in M&A activities tends to drift upwards over

this event window it is not significantly different from zero in a statistical sense at any point over the event window.   They conclude from this that the wealth effects for shareholders of Chinese firms involved in M&A activities are essentially zero.

Wong (1999) based his sample on all publicly listed firms involved in M&A activities in Hong Kong from 1990 to 1998, irrespective of whether the mergers and/or acquisitions were successful or not.   Note that Wong's (1999) analysis covers only H shares (refer to section 3.2.3 of chapter 3 for further details) and does not encompass the A and B shares traded on the mainland Chinese Stock Exchanges.   Wong (1999) uses an event window which starts 45 days before the first public announcement of the merger and/or acquisition proposals and concludes 45 days after the public announcement date; that is, an event window of (-45, 45) days.   A summary of the classical t statistics associated with the CAAR's over this event window are shown below:

Cumulative Period	t statistic associated with CAAR
(-1, 1)	-5.83
(-3, 3)	-2.83
(-6, 6)	-4.35
(-12, 12)	-6.86
(-24, 24)	-10.70
(-45,45)	-23.32

Wong (1999) reports the interesting result that whilst the CAAR randomly fluctuates around zero over the event window (-45,0) (that is, before the public announcement of the merger and/or acquisition proposals), it becomes negative and gradually drifts downwards over the event window (0,45) (that is, after the public announcement of the merger and/or acquisition proposals). This has the important implication that takeovers in Hong Kong have no

economic benefits for the shareholders of firms involved in M&A activities. Indeed, the evidence is that the shareholders of firms involved in M&A activities in Hong Kong suffer significant economic losses. Wong (1999) concludes that a possible reason for this is that the management of acquiring firms in Hong Kong do not seek to act in the best interests of their shareholders (the so called agency problems which arise in takeover activities).

Yu and Yang (2000) used a sample comprised of all mergers and/or acquisitions which occurred on the two mainland Chinese stock exchanges – namely, the Shanghai Stock Exchange and the Shenzhen Stock Exchange – over the period from 1993 until 1995. They found that the CAARs of acquiring firms randomly fluctuate around zero over their event window. In other words, there did not appear to be statistically significant economic benefits for the shareholders of acquiring firms listed on the two mainland Chinese stock exchanges over the period of Yu and Yang's (2000) study (that is, from 1993 until 1995). Similarly Yang and Liu (2000) investigated the M&A activities on the Shanghai Stock Exchange using shares swap transactions in 1998. They showed that for the randomly selected sample of 28 listed firms used in their empirical analysis, the CAARs were both significantly positive and increased dramatically over the 40 days prior to the first public announcement of the merger and/or acquisition proposals but then plummeted just as dramatically immediately after the announcement date of the proposals They concluded that the behaviour of the CAARs for these 28 firms was compatible with the possible existence of insider trading activities.

Li and Chen (2002) investigated the M&A activities of firms listed on the Shanghai and Shenzhen stock exchanges over the period from 1999 to 2000. Their final sample consisted of 349 mergers and/or acquisitions. They used standard market model procedures based on an event window which starts ten days before the first public announcement of the merger and/or acquisition

proposals and concludes 30 days after the public announcement date [that is, (-10,30) days]. In contrast to most studies in this area, they find that there are significant economic benefits for the shareholders of Chinese acquiring firms; in particular, the CAAR was a statistically significant 3% by the end of the 30 day post announcement event window used in their study. Moreover, Li and Chen (2002) find that the CAARs of acquiring firms are influenced by the shareholding structure of the affected firms. In particular, acquiring firms whose equity is principally comprised of legal shares and/or state owned shares (see section 3.2.3 of this dissertation) tend to earn much larger abnormal returns for their shareholders than firms whose equity is mainly comprised of A shares. Interestingly, Li and Chen (2002) find that the CAARs of target firms whose equity is principally comprised of legal shares tend to be significantly negative; that is, firms whose equity is principally comprised of legal shares tend to earn significant negative abnormal returns from their M&A activities. Against this, the CAARs of target firms whose equity is principally comprised of state owned shares and A shares are positive throughout the post announcement event window used in their study.

Zhang and Gu (2002) also investigated M&A activities of Chinese firms which are listed on the Shanghai and Shenzhen stock exchanges but for the period from 1996 to 2000. Their sample consisted of 248 M&A transactions and they used an event window which started 60 days before the first public announcement of the merger and/or acquisition proposals and concluded 60 days after the public announcement date [that is (-60,60) days]. Zhang and Gu (2002) find that the market reacts positively to M&A activities; in particular, when the mode of consideration is comprised mainly of the assets of the acquiring firm. This is in contrast to Li and Chen's (2002) results which, as we have noted above, did not show any significant abnormal returns for the shareholders of acquiring firms.

Zhang (2003) studied the M&A activities of Chinese firms listed on the Shanghai and Shenzhen stock exchanges between 1993 and 2002 and computed the abnormal returns using a standard market model methodology. He found that over the event window (-60, 30) days the CAARs on the shares of acquiring firms amounted to a statistically significant -16.76%. Zhang (2003) concluded from this that the M&A activities of the acquiring firms comprising his sample have a negative wealth effect for their shareholders. Fei (2004) too focuses on the M&A transactions of acquiring firms listed on Shanghai and Shenzhen stock exchanges which make takeover offers for unlisted target firms. Fei (2004) identifies 14 instances over the period 1997 to 2003 in which listed acquiring firms make takeover offers for unlisted target firms. He uses a standard market model methodology to determine the abnormal returns accruing to acquiring firms as a result of such transactions. He finds that the CAARs of the acquiring firms start to increase three trading days before the first public announcement of the takeover offer and reaches a (statistically significant) peak of 4.77% five days after the public announcement. However, the CAAR then drifts downward until 20 days after the announcement date at which point the CAAR is negative but insignificantly different from zero in a statistical sense. Further details of the behaviour of the CAARs for Fei's (2004) sample are summarised in the following table:

CAARs for Chinese Acquiring Firms (1997-2003)

Window	CAAR	t-value
(-20, 20)	1.18%	0.25
(-10, 10)	5.47%	1.11
(-5, 5)	4.23%	1.17
(-2, 2)	3.89%***	2.89
(-1, 1)	1.91%*	1.73
(-20, 0)	2.50%	1.21
(-10, 0)	0.25%	0.11
(-5, 0)	1.96%	1.20
(-2, 0)	2.70%**	2.12
(-1, 0)	1.48%	1.59
(0, 1)	0.85%	1.30
(0, 2)	1.61%*	1.95
(0, 5)	2.69%	1.11
(0, 10)	2.33%	0.76
(0, 20)	-0.90%	-0.28
(0, 90)	0.52%	0.07

* Significant at 10%; ** Significant at 5%; *** Significant at 1%

Fei (2004) interpreted these results as showing that at first the stock market reacts positively to the takeover proposals, but then on reflection takes a more negative view of the potential profitability arising from the takeover. Hence, whilst there might be positive abnormal returns before the takeover announcement date, in the longer term these abnormal returns decay away and there are no clear benefits for the shareholders of the Chinese acquiring firms. The empirical results summarised in later chapters of this dissertation are very much consistent with the results sumamrised in Fei's (2004) study –

although there are some areas of significant difference.

Li and Zhu (2005) used standard market model methodology to analyse the M&A activities of 1,672 firms listed on the Shanghai and Shenzhen stock exchanges between 1998 and 2003. Their event window covered ten days before the first public announcement of the M&A proposals until thirty days after the announcement date [that is, (-10, 30) days]. They concluded that shareholders of acquiring firms suffered significant losses for up to three years following the M&A activities. They also confirm Li and Chen's (2002) results that the proportion of an acquiring firm's equity comprised of state owned shares has a significant association with the abnormal returns acquiring firms earn for their shareholders from M&A activities. Finally, Li and Zhu (2005) find that there is no association between the proportion of an acquiring firm's equity capital owned by the top management of the firm and the abnormal returns the acquiring firm earns for their shareholders from M&A activities over the long term.

Du and Nie (2007) employed a sample of 2,128 M&A transactions covering the period from 1998 until 2003 for firms listed on the two mainland Chinese stock exchanges; namely, the Shanghai and Shenzhen stock exchanges. They again used a standard market model methodology based on a (-180,-31) trading day estimation period and a (-30, 30) trading day event window. They also use the Patell (1976) "t" test to assess the significance of the abnormal returns they obtained from the market model. Their most important conclusion was that the shareholders of Chinese acquiring firms do not benefit from M&A activities. This is evidenced by the CAARs of the acquiring and target firms for their sample which are shown in the following graph taken directly from their paper:

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图3　收购公司和目标公司CAR的时序分布图
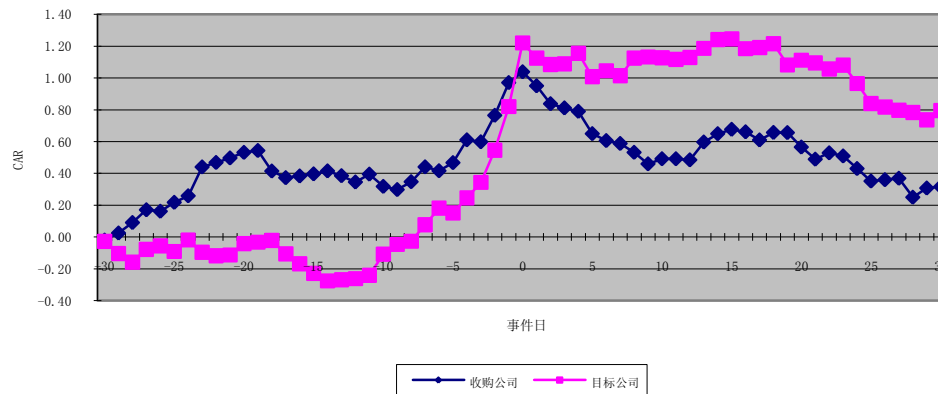
The CAARs of the target firms are denoted by the lighter (pink) square figures; the CAARs of the acquiring firms are denoted by the darker (blue) triangular figures. Du and Nie (2007) conclude from this graph that whilst the shareholders of target firms gain considerable benefits from M&A activities, the shareholders of acquiring firms gain only marginal abnormal returns, at best.

Song, Zhang and Chu (2008) selected a sample of 23 M&A share swap transactions which occurred on the Shanghai and Shenzhen stock exchanges over the period from 1998 to 2007 in order to assess the abnormal returns which accrued to the shareholders of acquiring firms. Their study was based on two event windows; namely, a shorter event window of (-30, 30) trading days and a longer event window (-120, -31) trading days. They find that acquiring firms earned positive abnormal returns over the shorter event window, although none of the classical "t" statistics associated with the CAARs are significantly different from zero. Song, Zhang and Chu (2008) used a pure Buy and Hold Abnormal Return (BHAR) strategy to assess the profitability of M&A activities over the longer event window. This showed that shareholders of acquiring firms experienced significant negative abnormal returns over the longer term as a result of the M&A activities.

Wu (2008) examined 1,363 M&A transactions involving 1,086 firms listed on the Shanghai and Shenzhen stock exchanges over the period from 2004 to

2005. A standard market methodology was again used with an event window that commenced 49 days before the first public announcement of the merger and/or acquisition proposals and concluded 40 days after the public announcement [that is (-49,40) days]. The CAARs obtained from the event-study approach utilised in the study showed that in sum, acquiring and target firms earned negative abnormal returns during 2004.   Wu (2008) reports CAARs separately for the acquiring and target firms in 2005.   These show that acquiring firms earned positive abnormal returns of 1.68% over the (-49, 40) event window whilst target firms earned positive abnormal returns of 2.03% over the same period.

Zhu (2009) analysed the market reaction to 1,415 M&A transactions for companies listed on the mainland Chinese stock exchanges over the period from 1998 to 2002.   His study was based on standard market model methodology and an event window of (-60, 60) days.   For acquiring firms Zhu (2009) finds that the CAAR during the event windows (-60, -1) and (-10, -1) reaches respectively 4.6% and 1.3%, both of which are statistically significant at the 1% level.   However, the CAAR for acquiring firms over the event window (0,60) (that is, following the announcement date) is only (a marginally significant) 0.7%.   An abridged summary of Zhu's (2009) empirical results appears in the following table:

CAAR for Acquiring Firms before and after the Announcement Date

		Event Window			
	N	(-60, -1)	(-10, -1)	(0, 10)	(0, 60)
CAR	1397	0.046***	0.013***	0.002	0.007*
	"t" statistics	(11.08)	(7.97)	(0.90)	(1.92)

* Significant at 10%; ** Significant at 5%; *** Significant at 1%

Zhu's (2009) results are consistent with most of the prior empirical research in the area and suggest that whilst shareholders of acquiring firms do make abnormal returns from M&A activities, most of these abnormal returns are earned before the public announcement of the merger and/or acquisition proposals. Thus, for most investors, purchasing shares of acquiring firms after the announcement of the merger and/or acquisition proposals will not lead to abnormal profits. In this regard Zhu's (2009) results confirm the conclusion reached by Yang (2000); namely, that the behaviour of the CAARs for the firms in his sample are compatible with the possible existence of insider trading activities.

Wu and Zhang (2009) selected 238 Chinese acquiring firms listed on the Shanghai and Shenzhen stock exchanges covering the period from 1999 until 2004. Wu and Zhang's (2009) principal brief was to measure the short-term and long-term wealth effects of M&A activities for the shareholders of acquiring firms. To do this Wu and Zhang (2009) measured abnormal returns using the CAAR and Buy and Hold Abnormal Returns (BHAR) techniques, respectively. Their results showed that acquiring firms suffered significant abnormal losses in both the short and long term periods and this applied irrespective of whether the abnormal returns were measured in terms of the CAAR or the BHAR technique. One can illustrate this from the CAARs for acquiring firms as given in the following table:

CAAR of Acquiring Firms in the Short-term

Time (Day)	CAAR	"t" value	Sample Size	Time (Day)	CAAR	"t" value	Sample Size
(-20, 20)	-2.49%	-2.53**	238	(-5, 5)	-0.63%	-1.65*	238
(-20, 0)	-0.55%	-0.84	238	(-3, 3)	-0.62%	-0.87	238
(0, 20)	-2.11%	-3.07***	238	(-1, 1)	-0.23%	-0.93	238
(-10, 10)	1.39%	-2.17**	238	(0, 0)	-0.17%	-0.95	238

* Significant at 10%; ** Significant at 5%; *** Significant at 1%

Further confirmation of this can be seen from the following diagram which summarises the AAR and the CAARs of all acquiring firms over the short term period:
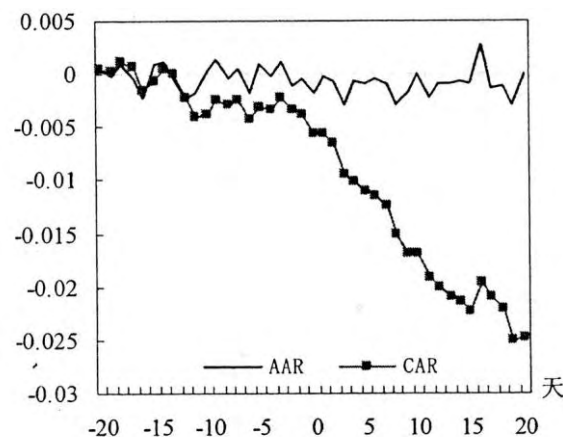
From the Chinese literature regarding M&A activities summarised above, it is important to note that generally, there are few benefits from M&A activities for the shareholders of acquiring firms. Such benefits as do arise are normally earned prior to the public announcement of the M&A proposals. However, because China's securities and capital markets are uniquely different from those in other industrialised and developing countries, the reasons behind the

losses and or absence of abnormal profits that accrue to shareholders of acquiring firms from M&A activities are somewhat different to those which apply in western economies. These reasons will be analysed in depth in the section 6.6 (of chapter six) in this dissertation. For the moment, however, we turn our attention to the impact that M&A activities have on the shareholders of target firms in the Chinese economy.

2.3 The Impact of M &A Activities on Target Firm Performance

In western countries, a considerable volume of research has been devoted to the issue of how M&A activities affect the wealth of shareholders of target firms. Most of these studies find that M&A activities deliver significant positive abnormal returns to the shareholders of target firms and this is so irrespective of the time period in which the study is conducted, the nature of the M&A transactions (shares as against cash) and the exact specification of the event window. Specifically, by the end of their event windows, target firms typically have positive and statistically significant cumulative abnormal returns of the order of 20% to 30% (Jensen and Ruback, 1983).

Eckbo and Langohr (1989) employed a sample of 306 French M&A transactions over the period from 1966 until 1982. They use a variant of the standard market model methodology which allows for time varying expected returns and an event window which begins eight days before the first public announcement of the takeover offer and eight days after the end of the offer expiration week. They find a median cumulative abnormal return for target firms which totals 16.1% on the takeover announcement date and the day following the announcement date, after which any additional abnormal returns fluctuate around zero. Schwert (1996) employs a sample of 1,814 successful and unsuccessful U.S. takeovers from 1975-91 based on an event window which commences 126 days before the first public announcement of the

takeover proposals and ends 252 days after the announcement. Using a standard market model methodology, Schwert (1996) calculates a statistically significant CAAR in excess of 20% for all (successful and unsuccessful) takeover deals over his chosen event window. However, this splits into 37% for successful deals and -5% for unsuccessful deals. An important aspect of Schwert's (1996) study is that positive abnormal returns for target firms begin to emerge about 42 days prior to the first public announcement of the takeover announcement date. This contrasts with the results reported by Echbo and Langohr (1989) who find that positive abnormal returns for French target firms occur only on the takeover announcement date and the day following the announcement of the bid.

Langetieg (1978) employs a sample of 149 U.S. mergers selected from the CRSP (Center for Research in Security Prices) covering the period from 1929 until 1969. He employs four market-industry models in combination with a matched non-merging control group and finds that target firms have significant negative CAARs over the event window (-72, -19) months. However, the CAAR for target firms over the event window (-6,-1) is a significantly positive 10.7%. Thus, Langetieg (1978) argues that the negative return over the event window (-72, -19) is an indication of inefficient management in the target firms and therefore, inefficiency may have been a motivating factor for the mergers examined in his study.

Dodd and Ruback (1977) employ a sample of 172 U.S. target firms involved in M&A activities covering the period from 1958 until 1976. Using an event window of (-60,60) months and a standard market model methodology they report that shareholders of target firms, in the month of the takeover announcement, earn large and significant abnormal returns of 20.58% for successful offers and 18.96% for unsuccessful offers. In other words, shareholders of both successful and unsuccessful target firms earn large

positive abnormal returns from takeover (tender) offers, most of which occur in the month of the offer.

Dodd (1980) uses a sample of 151 merger proposals for NYSE firms covering the period between 1970 and 1977. His sample includes 71 completed and 80 cancelled (that is, unsuccessful) merger proposals. Importantly, Dodd (1980) sets the announcement date (day 0) as the announcement of the merger proposal as first published in the Wall Street Journal, rather than the effective date of merger which is used by Mandelker (1974), Ellert (1976) and Langtieg (1978). Dodd (1980) concludes that shareholders of target firms earn large positive abnormal returns from the time of the announcement of the merger proposals, irrespective of the outcome of the merger proposal. Specifically, in both completed and cancelled (that is, unsuccessful) merger proposals, the shareholders of target firms earn approximately 13% abnormal returns on the day the merger offer is initially announced. However, target firms involved in successful merger proposals earn CAARs (up to the point of approval by stockholders) of 34%. Conversely, target firms involved in cancelled (that is, unsuccessful) merger proposals earn CAARs (up to the point of termination of the merger proposals) of marginally less than 4%.

Franks, Harris and Titman (1991) study 399 U.S. takeovers completed over the period from 1975 to 1984 in order to investigate share-price performance following corporate takeovers. They report that for the entire sample, the shareholders of target firms experience substantial abnormal gains of 28% on average around the bid announcement date.

Jensen and Ruback (1983) review 13 studies which document the abnormal returns associated with merger and tender offers up to the year 1983 and find that target firms of successful M&A proposals earn substantial and statistically significant abnormal returns around the date on which the M&A proposals are

publicly announced. In particular, the cumulative abnormal returns for target firms of successful tender offers in the two months surrounding the offer are uniformly positive and range from a minimum of 16.9% up to a maximum of 34.1%. It is important to note that the most recent studies conducted by Mulherin and Boone (2000), Renneboog and Goergen (2003), Beiten et al. (2002) etc. find similar results to those obtained by Dodd and Ruback (1977), Franks, Harris and Titman (1991) and Jensen and Ruback (1983). A much more detailed summary of the wealth effects that M&A activities have for the shareholders of target firms in both western and developing countries is to be found in the article by Martynova and Renneboog (2008).

Since the 1990s a substantial volume of research has been conducted on the wealth effects which M&A activities have on the shareholders of target firms in China. It is important to note that almost all Chinese academics in this field are of the view that shareholders of target firms experience substantial economic benefits from M&A activities. For example, Zhang (2003) studied all 1,216 takeover transactions of firms listed on the two (Shanghai and Shenzhen) mainland Chinese stock exchanges over the period between 1993 until 2002. Using both the event-window approach based on the standard market model methodology and accounting-based performance measures, Zhang (2003) found that M&A activities do have significant wealth effects for the shareholders of target firms. In particular, the CAAR accruing to target firm shareholders over the event window of (-60, 30) days amounts to 29.05%. This is considerably above the CAAR levels documented for M&A activities in western countries by Jensen and Ruback (1983, p. 8). In other words, the shareholders of target firms in China gain significant economic benefits from M&A activities.

Fei (2004) chose a sample of 207 Chinese M&A transactions that occurred on the two mainland stock exchanges between 1997 and 2003 and which

involved unlisted acquiring firms making takeover offers for listed target firms. Fei's (2004) particular focus is with M&A activities where there is a change in the largest shareholder of target firms. Fei (2004) employs an (-20, 90) days event-window based on a standard market model methodology as well as accounting-based performance measures to determine the target firms' CAARs. He finds that the listed target firms have a positive and highly significant CAAR around the announcement date of 5.28%. However, the CAAR is already statistically significant some 10 to 15 days before the first public announcement of the takeover proposals and this suggests the possible existence of significant information slippage as well as potential insider trading. It is important to note that over the 90 days after the announcement date, the CAAR for target firms gradually becomes negative, indicating that the economic benefits of the takeover for target shareholders gradually decays away. Further details of the CAARs obtained by Fei (2004) for target firms over various event windows are summarised in the following table:

CARs for Chinese Targets (1997-2003)

Window	Mean CAR	"t"-value
(-20, 20)	4.66%***	4.20
(-10, 10)	2.64%***	3.45
(-5, 5)	2.26%***	3.74
(-2, 2)	0.13%	0.73
(-1, 1)	1.04%***	2.75
(-20, 0)	4.67%***	6.22
(-10, 0)	3.42%***	5.92
(-5, 0)	2.68%***	6.31
(-2, 0)	0.26%	1.19
(-1, 0)	0.86%***	2.97
(0, 1)	0.44%	1.34
(0, 2)	0.57%	1.48
(0, 5)	-0.15%	-0.32
(0, 10)	-0.52%	-0.90
(0, 20)	-0.05%	-0.07
(0, 90)	0.03%	0.02

* Significant at 10%; ** Significant at 5%; *** Significant at 1%

Liu (2005) chose a sample of 103 M&A transactions which occurred on the two mainland Chinese stock exchanges in 2008 to evaluate whether M&A transactions have significant wealth effects for the shareholders of Chinese acquiring and target firms.   Liu (2005) employed an Economic Value Added (EVA Spread) methodology, which equals the return on investment (ROI) less the weighted average cost of capital (WACC), to examine the wealth effects from M&A activities for the acquiring and target firms in his sample.   Liu (2005) eschewed both the event-study and accounting-based performance

approaches because of the methodological inadequacies he identified with these two techniques. Using this EVA Spread criterion Liu (2005) finds that there are significant wealth effects for the shareholders of both acquiring and target firms at the time when the M&A proposals are first announced. However, the significant wealth effects for both the acquiring and target firms identified by the EVA Spread criterion decay away soon after the announcement date. Nevertheless it is worthwhile noting that the EVA Spread of target firms is apparently higher than that obtained for acquiring firms, and this suggests that the beneficial effects arising from M&A activities for Chinese target firms are far more than those that accrue to Chinese acquiring firms.

Du and Nie (2007) use a sample of 2,128 M&A transactions covering the period between 1998 and 2003 for firms listed on the two mainland Chinese stock exchanges. Using a standard market model methodology, they find over the event window (-30, -7) trading days that the CAARs of target firms tend to be slightly negative, although not significantly different from zero in a statistical sense. However, Du and Nie (2007) also find that the CAARs of target firms are positive and drift upwards from the sixth day prior to the announcement date and then level off at about 1% on the announcement date itself. These results suggest that the takeovers in Du and Nie's (2007) sample occur as a result of inefficiencies in the target firms' operations. Overall, Du and Nie (2007) find that there are significant economic benefits for the shareholders of target firms as a result of the M&A activities. This is further emphasised by the CAARs of acquiring and target firms as summarised in the following graph:

图3　收购公司和目标公司CAR的时序分布图
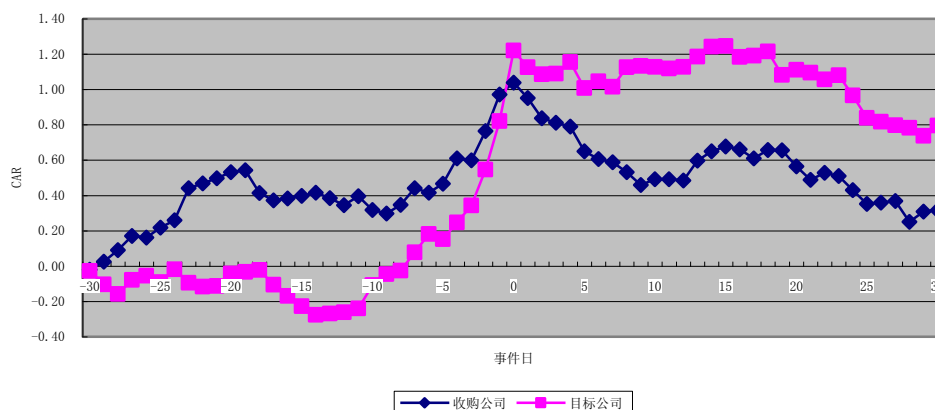
Note: The CAARs of the target firms are denoted by the square figures; the CAARs of the acquiring firms are denoted by the triangular figures.

Qu, Liu and Chen (2008) selected a random sample of 81 M&A transactions that occurred on the Shanghai stock exchange or the Shenzhen stock exchange over the period from 2003 to 2004 in order to assess the impact that M&A activities have on the performance of both acquiring and target firms. Using a purely accounting-based performance methodology, they conclude that the performance of target firms drifts upward prior to the first public announcement of the M&A proposals, but then dips away in the year that follows the announcement.   However, one year out from the announcement of the M&A proposals the performance of target firms begins to drift upwards again.   This suggests that generally the performance of target firms has significantly improved as a result of the M&A activities.

The dominant conclusion to be obtained from the literature summarised in the latter half of this section of the dissertation is that shareholders of Chinese target firms experience significant economic benefits from M&A activities. Occasionally, as in the case of Li and Chen's (2002) study, empirical researchers find that there are few, if any, benefits for the shareholders of Chinese target firms.   However, the overwhelming weight of the empirical

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evidence is that whether measured by the CAARs of the standard market model methodology, accounting-based measures (such as the abnormal earnings methodology of Liu (2005)) or the EVA Spread (again of Liu (2005)), significant benefits accrue to the shareholders of Chinese target firms that are involved in M&A activities.

2.4 The Impact of Motivation on the Performance of Acquiring and Target Firms

An increasingly asked question in the western finance literature relates to why – that is, the motivation – firms have for undertaking M&A activities. Here Berkovitch and Narayanan (1993) summarised three main motivations for M&A activities; namely, the synergy motive, the agency motive and hubris. The synergy motive suggests that takeovers occur because of economic gains that result by merging the resources of the two firms. The agency motive suggests that takeovers occur because they enhance the acquirer management's welfare at the expense of acquirer shareholders. The hubris hypothesis suggests that managers make mistakes in evaluating target firms, and engage in acquisitions even when there is no synergy or other benefits. In this section, our initial focus will be on the literature dealing with the motivation for mergers and acquisitions in western economies. We then move our focus onto considering whether the same motivations apply to Chinese M&A activities.

Berkovitch and Narayanan (1994) present a method for distinguishing among different motives for mergers and acquisitions by examining the correlation between the wealth gains earned by target shareholders and the total wealth gains (that is, the abnormal gains made by the target and acquiring firm shareholders combined). Berkovitch and Narayanan (1994) argue that this correlation should be positive if synergy is the motive, negative if agency considerations motivate the takeover and zero if hubris is the motive. Their

empirical analysis is based on 330 successful U.S. tender offers that occurred over the period from 1963 to 1988.   Abnormal gains are determined using a standard market model methodology.   They conclude that synergy is the dominant motive for the takeover bids they examine but they also find some evidence of agency and hubris for certain sub-samples of their data.

Hodgkinson and Partington (2008) investigate the motives for takeovers in the UK by also examining the correlations between the abnormal gains earned by target shareholders and the abnormal gains earned by the shareholders of acquiring firms in the first instance and then the correlations between the abnormal gains earned by target shareholders and the total abnormal gains. Their sample consisted of around 200 mergers and acquisitions that occurred in the U.K. over the period from 1984 to 1998.   Abnormal gains are determined using a standard market model methodology.   The results they obtain are sensitive to whether the gains are measured over a long or short window, the method of measuring abnormal returns, and whether controls are included for the form of the bid consideration and the sign of the total bid gains. More importantly, they conclude that the takeover bids on which their empirical analysis is based are primarily motivated by synergy, but there is also evidence of the presence of hubris and weak evidence of bids with an agency motivation.

In contrast to the prior two studies, Firth (1980) examined the impact that takeovers have on shareholder returns and management benefits.   Firth's (1980) sample consisted of 563 U.K. acquiring firms and 486 target firms covering the period from 1969 to 1975.   As with previous studies Firth (1980) isolates abnormal returns using a standard market model methodology.   Firth (1980) finds that whilst mergers and acquisitions give rise to benefits for the shareholders of target firms as well as to the acquiring firms' managers, the shareholders of acquiring firms suffer losses from their M&A activities.   Thus,

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Firth (1980) concludes that takeovers are motivated more by maximisation of management utility rather than by the maximisation of shareholder wealth.   In other words, Firth's (1980) results are consistent with the hubris hypothesis.

Roll (1986) surveys mainly the U.S. M&A literature and concludes that the empirical evidence largely supports Firth's (1980) hubris hypothesis.   Roll (1986) finds the empirical evidence shows that there are large gains for target firm shareholders and only meager or even negative though statistically insignificant returns for the shareholders of acquiring firms.   Hence, Roll (1986) concludes that this evidence is not consistent with acquirer management creating wealth for their shareholders but rather, that managers of acquiring firms overestimate the gains from takeovers and overpay for the privilege of accessing mainly non-existent gains.   This is compatible with the hubris motive hypothesis for M&A activities.

In contrast to Firth (1980),   Bradley, Desai and Kim's(1988) study is based on a sample of 236 successful U.S. tender offers carried out between 1963 and 1984 in which both the target and acquiring firms are listed on either NYSE or AMEX at the time of acquisition. They find that the average synergistic gain created by the 236 deals in their sample is $US117 million which represents a 7.4% increase in the combined value of the equity of the target and acquiring firms.   This finding is consistent with a synergistic motive for takeover bids.

Hodgkinson and Partington (2008, p. 105), note that under the agency motive for M&A activities the management of bidding firms will seek to expropriate wealth from the firm's shareholders.   Firth (1991) examines this issue by using a sample of 254 U.K. acquiring firms and 215 target firms covering the period from 1974 to 1980.   Firth (1991) finds that managers of acquiring firms do appear to gain financial benefits from the takeovers they are involved with. Against this, Firth (1991) also finds that the acquiring firms' shareholders

appear to obtain little, if anything, in terms of economic benefits from these takeover activities. Hence, using the argument of Hodgkinson and Partington (2008, p. 105), Firth's (1991) results are consistent with an agency motive for takeovers in the sample he examines.

Here it will be recalled that Berkovitch and Narayanan (1993) argue that the existence or otherwise of agency considerations in M&A activities can be inferred from the correlation between the wealth gains earned by target shareholders and the total wealth gains. If this correlation is positive then synergy is the motive for takeovers. If the correlation is negative then agency considerations motivate the takeovers. Finally, if the correlation is zero then hubris is the motive. We have previously noted how studies based on western financial data have used this particular technique to show that agency considerations or hubris are often the principal factors behind western M&A activities. Unfortunately, there are no Chinese studies which employ this particular technique to identify the motives behind Chinese M&A activities. We have previously noted that there are several studies which employ market model specifications to identify the abnormal returns which accrue to shareholders of Chinese acquiring and target firms. These studies generally find that there are significant positive abnormal returns for the shareholders of Chinese target firms but also, that the shareholders of acquiring firms tend to suffer considerable losses from M&A activities. These results are normally interpreted as meaning that M&A activities in China are largely driven by agency and hubris considerations. However, none of these studies compute the correlation between the abnormal gains accruing to target shareholders and the total of the abnormal gains across both the acquiring and target firms. Until this is done there must be considerable uncertainty surrounding the true motives which underlie the growing volume of M&A activities on Chinese capital markets. Given this, we now survey the empirical work that has been conducted on the motives which lie behind Chinese M&A activities.

We have previously noted how Zhang's (2003) empirical study of M&A activities of firms listed on the Shanghai and Shenzhen stock exchanges shows that the shareholders of acquiring firms gain little benefit from M&A activities. Indeed, Zhang (2003) shows that over the event window (-60, 30) days the CAAR on the equity of acquiring firms amounts to a statistically significant -16.76%. In contrast, the CAAR accruing to target firm shareholders over the same event window was a highly statistically significant 29.05%. Zhang (2003) argues that as China is increasingly transformed into a market-oriented economy there are likely to be significant potential benefits from a more liberal approach to the regulation M&A activities. For example, Chinese firms can use M&A activities to acquire advanced technologies, resources and management skills that are not available in China. Similarly foreign firms can use M&A activities to gain access to new and larger markets and cheaper labour resources. Considerations like these mean that there are potentially huge synergistic effects to be gained from Chinese M&A activities. However, Zhang (2003) also argues that hubris and agency considerations play an important role in Chinese M&A activities because the managers of Chinese firms often lack experience and business acumen and may use M&A activities to enter unfamiliar business areas. Thus, they may tend to over estimate the potential benefits from M&A activities and thereby make random acquisitions with little or no synergistic payoff for their shareholders.

Wu and Zhang's (2009) empirical study of M&A activities on the two mainland Chinese stock exchanges, which was considered earlier in this chapter, finds that acquiring firms experience huge losses not only in the short term, but also over the longer run. Wu and Zhang (2009) seek to isolate whether these losses are due to the free cash flow hypothesis, the hubris hypothesis, the undue influence of large shareholders and/or government interference in the activities of the firm, balance sheet window dressing, diversification or some

combination of all of these factors, by using various ratios and regression specifications based on different independent variables. Zhang (2009) concludes that Chinese M&As are generally motivated by a combination of several of these factors although the specific importance of any one factor varies from takeover to takeover. In particular, he finds that the undue influence of large shareholders negatively affects the performance of acquiring firms in the longer term. Takeovers motivated by balance sheet window dressing have at best a weak influence on the acquiring firm's performance. Finally, government interference has no significant association with an acquiring firm's performance either in the short or long term. Here it is important to emphasise that none of these latter three motives appear amongst the list of reasons identified by Berkovitch and Narayanan (1993) as motives for M&A activities in western economies. In other words, Chinese M&A activities can be motivated by very different factors and circumstances when compared to those which motivate western takeovers. Nevertheless, Zhang (2009) does find some commonality between western and Chinese motivations for M&A activities. In particular, he finds that excess free cash flows, hubris and diversification all have a significant negative impact on the performance of Chinese acquiring firms and these all appear amongst the list of reasons identified by Berkovitch and Narayanan (1993) as motives for M&A activities in western economies.

We have previously noted how Fei (2004) determines the abnormal returns which arise on a sample of 221 acquiring and target firms listed on the Shanghai and Shenzhen Stock Exchanges over the period from 1997 until 2003. However, Fei (2004) also uses accounting data-based performance measures and management turnover data to test the hypothesis that M&A activities in China are motivated by poor managerial performance. Fei (2004) argues that if poor prior managerial performance is a significant characteristic of target firms, then it can be concluded that Chinese takeovers are regarded

as an external control mechanism on poor managerial performance. Likewise, he argues that if key board members of target firms such as the CEO leave the firm after the consummation of the takeover process, then poor managerial performance is probably the motivating factor for Chinese takeovers. Fei's (2004) results show that the profitability of target firms is relatively poor before takeovers. For example, compared with industry peers target firms underperformed in ROE (return on equity) terms by an average 13.53% in the two years prior to the takeover announcement. This indicates that target firms are characterised by poor performance in the lead up to the takeover process. Furthermore, Fei (2004) finds that there is a big improvement in the financial performance of target firms following successful takeovers. This taken in conjunction with the high rate of top management turnover and the large number of new managers that come into target firms following successful takeovers, suggests that most takeovers in China are of a disciplinary nature; that is, Fei (2004) argues that the principal motivation for Chinese takeovers is to correct non-value-maximising behaviour on the part of target firm managers.

Du, Rui and Wong (2008) note that because of the state-dominated financial system and the discriminatory policies of financial resource allocation implemented by the Chinese authorities, private firms in China tend to use the acquisition of block shares in listed firms as a means of gaining access to the formal financial system. Du, Rui and Wong (2008) note that once private firms become controlling shareholders of publicly listed firms, they are able to enjoy the privilege of accessing external financing in both the Chinese capital market and the banking sectors. In other words, Du, Rui and Wong (2008) argue that Chinese takeovers can be motivated by a desire to facilitate access to external financing. Du, Rui and Wong (2008) test this hypothesis by selecting a sample of 162 M&A transactions that occurred between 1997 and 2001 and which were taken from the China Stock Market Accounting Research (CSMAR) database. Du, Rui and Wong (2008) find that the target firms in

their sample present a strong tendency to conduct seasoned equity offering (SEOs) and bank borrowing in the post-acquisition period.   This is very much consistent with the hypothesis that Chinese M&A activities are financing-motivated.   Moreover, Du, Rui and Wong (2008) find that there is no evidence that such financing-motivated acquisitions improve the corporate performance of target firms.

From the literature summarised above, we can see that the motivation behind Chinese M&A activities have some common features with those identified for M&A activities in western economies; that is, Chinese takeovers are often characterised by a combination of agency considerations, synergy and hubris. However, it is also important to observe that the empirical research reviewed in this section shows that there are motivating factors for M&A activities in China that can be quite different from those which prevail in western economies.   In particular, our review of the empirical literature shows that Chinese M&A activities are also motivated by financing considerations, the undue influence of large shareholders, government interference in the activities of the firm and balance sheet window dressing or some combination of all of these.   Hence, not the all motives which are applicable to western economies necessarily apply to Chinese M&A activities.   This in turn means that the motives behind Chinese M&A activities need to be analysed with reference to the unique political and contextual factors that influence the Chinese economic system.

2.5 The Impact of Consideration on the Performance of Acquiring and Target Firms

Once an acquiring firm has decided to make a takeover offer for another firm it must then decide on the mode of consideration; that is, should the consideration be in cash, the shares of the acquiring firm, some combination of shares and cash or some other form of consideration.   If a listed acquiring firm's shares are over-valued in the market, then it will have an incentive to

offer its own shares in exchange for the shares of the target firm since this reduces the cost of the takeover to the acquiring firm. Likewise, if the acquiring firm offers cash in exchange for the shares of the target firm it will be a signal to the market that the acquiring firm's shares are undervalued in the market (Hansen, 1987, pp. 76-77). Moreover, consideration in the form of a share exchange may enable the target firm's shareholders to defer the incidence of capital gains tax in contrast to an offer in cash, where capital gains tax would have to be paid immediately. Hence, the mode of consideration and its associated tax implications can have significant differential wealth effects on the shareholders of both acquiring and target firms. In this section, we first provide a brief summary of the main literature dealing with the impact of the mode of consideration on both acquiring and target firms for western economies. We then move on to consider the Chinese literature that deals with the impact that the mode of consideration has on the shareholders of acquiring and target firms.

Asquith, Bruner and Mullins (1990) employ a sample of 343 completed mergers where both the target and bidding firms were listed on either the New York Stock Exchange (NYSE) or the American Stock Exchange (AMEX) at the time of the merger and where the merger announcements were reported in the Wall Street Journal over the period from 1975 until 1983. Their objective was to test the hypothesis that the excess return and excess dollar return on the announcement date of mergers where the bidding firm used its own stock as consideration was lower than the excess return and excess dollar return on the announcement date of mergers where the bidding firm used cash as the sole mode of consideration. They conclude that both the excess returns and the excess dollar returns to bidding firms are smaller for stock (that is, share) financed bids than for cash mergers. Likewise, they find that while the market's average response to a merger is always positive for target firms, it is significantly more positive when the offer is financed with cash rather than

stock.

Martin (1996) uses a sample of 846 acquisitions of firms listed either on NYSE or AMEX during the period from 1978 until 1988. The 846 acquisitions are grouped into three financing categories according to the mode of consideration used. The first category consists of 250 acquisitions which are financed solely with the stock of the acquiring firm. The second category includes 483 acquisitions financed exclusively with cash or cash plus debt securities in the acquiring firm. The third category comprises 113 acquisitions financed jointly with cash and the stock of the acquiring firm, or securities that can be converted into the stock of the acquiring firm. Using the logistic regression approach, Martin (1996) finds that the higher the acquirer's growth opportunities, the more likely the acquirer is to use stock to finance an acquisition. Moreover, the likelihood of stock financing increases with higher pre-acquisition market and acquiring firm stock returns and it decreases with an acquirer's higher cash availability (e.g. large cash balances on its balance sheet or the availability of lines of credit that can be readily converted into cash), higher institutional shareholdings and block holdings and whether the acquiring firm makes a tender offer for the target firm.

Huang and Walking (1987) employ a sample which includes 326 target firms listed on the CRSP (Centre for Research in Securities) tapes and where the proposed takeovers receive their first public announcement on the front pages (as distinct from the latter pages) of the financial newspapers over the period from 1977 to 1982. Their brief is to test the hypothesis that CAARs surrounding the announcement of cash offers exceeds those surrounding stock offers. Using standard market model and regression methodologies, Huang and Walking (1987) conclude that the abnormal returns for target firms associated with cash offers are significantly higher than those associated with stock offers. In addition, Huang and Walking (1987) argue that when cash is

used as the mode of consideration shareholders of target firms will demand higher takeover premiums because of the capital gains tax that will have to be paid immediately and which would not have to be paid if the acquiring firm had used its own stock as the mode of consideration.

Yook (2003) selects 311 U.S acquisitions which occured over the period between 1985 and 1996.   The consideration for 199 of these acquisitions was purely in cash whilst for 112 acquisitions, the consideration was in the stock of the acquiring firm.   Here it will be recalled that if an acquiring firm feels that its stock is over-valued in the market it is likely to use stock as the consideration for the takeover; that is, a firm that uses its stock as consideration in a takeover is signaling that its stock is over-valued.   Against this, acquiring firms that use cash as consideration for the takeover are signaling that their stock is under-valued.   Moreover, there are well known tax advantages from using debt (that is, leverage) instead of equity to raise the cash necessary to finance takeovers.   Yook (2003) uses the Standard and Poor's debt rating reviews/changes as a proxy to investigate whether the signaling hypothesis or the tax advantages associated with leverage hypothesis provide a better explanation as to why firms use cash or stock as the mode of consideration for takeovers.   Yook (2003) uses a standard event study methodology to calculate the abnormal returns on bidding firms around the takeover announcement date.   Yook (2003) finds that cash tends to be used as the mode of consideration in hostile takeovers.   In contrast, stock is used as the mode of consideration in friendly takeovers.   Yook (2003) also argues that there is no convincing evidence from his sample that the abnormal returns associated with takeovers are correlated with the mode of consideration. That is, cash takeovers are no more likely to earn significant abnormal returns than stock takeovers and vice versa.   However, there is some evidence that stock might have been used to finance the most unsuccessful acquisitions.

Wansley, Lane and Yang (1983) select a total of 203 US target firms whose daily returns are available on the CRSP tape in order to examine the effects of type of acquisition and method of payment on the abnormal returns that accrue to target firms.   Using a standard market model methodology, Wansley, Lane and Yang (1983) find that shareholders of the target firms in their sample earn, on average, abnormal returns of 33.54% in the forty days prior to the announcement date.   This figure is almost twice the corresponding number, 17.47%, for mergers employing stock as the mode of consideration. Importantly, Wansley, Lane and Yang (1983) attribute the difference in the abnormal returns between cash and stock acquisitions to tax differences and regulatory requirements that favour cash as the mode of consideration.   In particular, when cash is used as the mode of consideration shareholders of target firms will demand higher takeover premiums because of the capital gains tax that will have to be paid.

Hansen (1987) formulates an asymmetric information bargaining model in which a firm must choose the mode of consideration for a prospective takeover based on some important characteristics of the acquiring and target firms.   In particular, the target firm knows its value better than the potential acquirer and so the acquirer will normally prefer to offer stock, rather than cash, which has desirable contingent-pricing characteristics.   Furthermore, Hansen (1987) shows that with information asymmetry on both sides of the transaction, a signaling equilibrium will develop under which firms use cash and/or stock to implement acquisitions and the exact proportion of stock and cash used in the takeover bid provides a cardinal signal of the acquiring firm's value.

Berkovitch and Narayanan (1990) formulate an asymmetric information model to investigate the role of the medium of exchange in determining the returns which accrue to target and acquiring firms' stockholders.   Berkovitch and Narayanan's (1990) model shows that shareholders of both acquiring and

target firms obtain higher returns when a takeover is financed with cash rather than stock and importantly, that the returns accruing to shareholders of target firms tend to increase with competition. Moreover, Berkovitch and Narayanan's (1990) model also shows that the fraction of synergy captured by target firms decreases with the absolute level of synergy and that the cash component of the offer increases in both absolute and proportionate terms as competition between potential bidders increases.

Fishman (1989) develops a model in which competition between potential bidders for the acquisition of a given target firm increases when one of the potential bidders makes a formal offer for the given target. Both the target firm and potential bidding firms have private information about the profitability of the acquisition process. For example, the target firm will invariably have the best information about its own physical assets and prospective profitability and contractual arrangements. Bidding firms will have private information about the intrinsic value of their own shares. Fishman's (1989) model shows that when bidding firms offer their own stock as the medium of exchange it will induce the target firm's management to make an efficient accept or reject decision. Against this, cash offers have the advantage of preempting potential competition amongst bidders by signaling a "high" valuation for the target firm. Fishman's (1989) model also shows that the target firm's management is more likely to reject a stock offer as compared to a cash offer and also, that competing bidders are more likely to make an initial stock offer as compared to an initial cash offer.

Our analysis to date provides a brief summary of the important literature that deals with the impact which the mode of consideration can have on M&A activities in western economies. There is also a steadily increasing volume of literature which addresses this important issue of the mode of consideration for Chinese M&A activities. In the rest of this section, we summarise the key

literature regarding the impact which the mode of consideration has on Chinese M&A activities. This will enable us to evaluate past Chinese research in the area and also, to identify any gaps in the literature and significant methodological issues which might be addressed by the empirical work conducted for this thesis.

Ge and Ping (2009) note that before 2005, around two-thirds of the shares issued by Chinese firms were non-tradeable. The absence of organised markets for these shares means that it was extremely difficult to value them – especially in the context of M&A activities. Moreover, the absence of organised markets for non-tradable shares and the difficulties associated with valuing them means that before 2005, Chinese M&A activities were normally conducted with cash as the mode of consideration. That is, before 2005 relatively few mergers and acquisitions employed the bidding firm's stock as the mode of consideration. However, as noted in Section 2.3 of Chapter 3, the shareholding structure reforms which came into force in April, 2005 (Guquan Fenzhi Gaige) means that non-tradable shares are gradually being converted into tradable shares – that is, shares which can be freely bought and sold on the stock exchange. This in turn has led to an increasing number of bidding firms using their own stock as the mode of consideration in M&A activities. Ge and Ping (2009) examine the impact which the shareholding structure reforms have had on the mode of consideration used in Chinese M&A activities by employing a sample of 96 Chinese acquisitions that occurred in 2006. They group the 96 Chinese acquiring firms into two categories in terms of the mode of consideration employed for the takeovers. Specifically, the first category consists of 87 firms and is comprised of takeovers which use only cash as the mode of consideration. The second category is comprised of 9 firms where cash was not used as the mode of consideration and consists of 6 firms where the mode of consideration was purely in the stock of the bidding firm, two firms where the mode of consideration was in the form of the

repayment of the target firms' debt and one firm where the bidding firm exchanged some of their assets for a controlling interest in the target firm. Here we should note that takeovers which involve the acquiring firm repaying the debt obligations of the target firm are unique to China and have no direct equivalents in western economies. Using debt repayment as the mode of consideration for takeovers is relatively common in China, especially for target firms which are facing bankruptcy or financial distress. Ge and Ping (2009) formulate a principal components model based on nine important accounting ratios; viz, earnings per share, rate of return on equity, debt to equity ratio, current ratio, rate of sales growth, rate of growth in profits, etc. They estimate the variance-covariance matrix formed from these nine ratios for the entire sample of 96 firms based on data covering the period from 2005 until 2007. They then extract the eigenvalues for the variance-covariance matrix and find that only five principal components are necessary to explain most of the variation in the data. These five principal components are used to formulate a performance score for each of the 96 acquiring firms in 2005; that is, before the takeovers occurred in 2006. Ge and Ping (2009) also calculate performance scores for all 96 companies in 2007; that is the year after the takeovers occurred. They find that 32 of the 87 bidding firms which used cash as a mode of consideration improved their performance score between 2005 and 2007. In contrast, five of the nine firms which used a mode of consideration other than cash improved their performance measures between 2005 and 2007. In other words, less than half of the firms that used cash as a mode of consideration improved their performance score. In contrast more than half of the firms that used a mode of consideration other than cash improved their performance scores. Ge and Ping (2009) conclude from this that non-cash takeovers, which are principally comprised of share swap transactions, have positive wealth enhancing effects for the shareholders of acquiring firms in the short run. In contrast, cash based takeovers do not have significant wealth

enhancing effects for the shareholders of acquiring firms. However, one must view Ge and Ping's (2009) conclusions with some skepticism because their sample of non-cash takeovers is very small and doubts must remain about the generalisability of their results because of this.

Wang (2003) selects a sample of fifty firms which are listed on the mainland (that is, Shanghai and Shenzhen) stock exchanges in China and which had recently been involved in Chinese M&A activities. Wang (2003) concludes from his empirical analysis that Chinese firms with differing financial characteristics will finance their M&A activities in different ways. For example, he finds that firms with low debt to equity ratios tend to use cash or cash in combination with the repayment of the target firm's debt as the principal modes of consideration in their M&A activities. In contrast, firms with a relatively high rate of return on assets employed tend to use their stock or a combination of cash and stock as the principal modes of consideration in their M&A activities. Importantly, Wang (2003) notes that whilst it is normally the case that cash is used as the sole mode of consideration for Chinese M&A activities many other modes of consideration are employed by Chinese firms in their M&A activities[1]. For example, we have previously mentioned how the repayment of the target firm's debt is a uniquely Chinese mode of consideration in M&A activities. However, there is also the free transfer of state owned shares which can be initiated by the Chinese government at any time of its choosing. The free transfer of state owned shares occurs when the Chinese government transfers the controlling rights of a state-owned firm from one Chinese entity to another without the payment of compensation to the former controlling entity. The free transfer of state-owned shares in Chinese M&A activities normally occurs when the Chinese government attempts to improve the performance of an

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[1] Since the implementation of the shareholding structure reforms (Guquan Fenzhi Gaige) in 2005, the proportion of mergers and acquisitions where stock is used as the (sole or partial) mode of consideration has been steadily increasing. However, even after 2005 it still remains the case that cash is the predominant mode of consideration in Chinese M&A activities.

unlisted state owned firm which, under its present controlling entity, has run into financial difficulties or is facing bankruptcy. The objective of this procedure is to transfer the controlling rights of the state-owned firm from its current controlling entity to an alternative controlling entity which in the view of the Chinese government will be able to address the state-owned firm's poor financial position and then improve its performance. However, here it is important to emphasise that the free transfer of state-owned shares is purely an act of the Chinese government without any involvement of natural market forces. This free transfer of state owned shares is unique to China and has no direct equivalent in western economies.

Ding and Yang (2008) note that in Chinese M&A activities there are three major modes of consideration; namely, cash, shares and the combination of cash and shares. Even though using shares as the mode of consideration in Chinese M&A activities has the advantage of both deferring the incidence of capital gains tax and reducing takeover costs, yet the majority of Chinese firms have a preference for employing cash as the mode of consideration in their M&A activities. Ding and Yang (2008) note that this is a unique characteristic of Chinese M&A activities as in western economies, shares, cash and a combination of cash and shares are all widely used modes of consideration in M&A activities. Ding and Yang (2008) argue that in Chinese M&A activities using cash as a mode of consideration can have the effect of signaling to the market that the acquiring firm has sufficient cash resources to improve the performance of the target firm after the consummation of the merger and/or acquisition. Ding and Yang (2008) also argue that this ability of the acquiring firm to invest cash resources in the target firm will have the secondary effect of opening up a new cash flow stream from the target firm as its performance improves. Moreover, an acquiring firm can only use its shares as the mode of consideration when it has the approval of the relevant Department of State Council – normally the China Securities Regulatory Commission (CSRC).

Obtaining the approval of the State Council is a time consuming and often difficult process and so, many firms involved in Chinese M&A activities will use cash rather than shares as the mode of consideration in order to secure the pre-emptive rights associated with a quick takeover.   Another difficulty that arises with using shares as the mode of consideration stems from the fact that if an acquiring firm fails to sell at least 70% of the new shares it plans to issue under the takeover agreement within 90 days of the offer being implemented, then it must cease issuing any new shares and withdraw its offer to acquire the target firm (Ding and Yang, 2008, p. 82).

Zhang, Wang and Meng (2007) also note that using cash as the sole mode of consideration in M&A activities can lead to acquiring firms securing pre-emptive rights in the form of a quick takeover.   They note that this is the reason why in hostile tender offers especially, cash is typically employed as the mode of consideration.   Given the potential delays and difficulties noted earlier with seasoned share issues in China, it is hardly surprising that most Chinese acquiring firms seek to implement their M&A activities with purely cash offers.   However, Zhang, Wang and Meng (2007) also note that in China most acquiring firms lack the free cash flows which would enable them to internally finance their M&A activities through cash offers.   Hence, whilst share offers occasionally occur in China it is normally the case that acquiring firms raise debt from banks and/or other financial institutions in order that they can finance their M&A activities purely through cash offers.   However, raising the huge amounts of cash necessary to implement a cash offer will usually place a considerable financial burden on an acquiring firm.

It should be clear from our review of the literature that there are very strong reasons why Chinese acquiring firms prefer to use cash as a mode of consideration in their M&A activities.   Foremost amongst these is that acquiring firms can normally only use stock as the mode of consideration with

the approval of the CSRC. However, as previously noted obtaining the approval of the CSRC is a time consuming and often difficult process. Furthermore, firms that use cash rather than shares as the mode of consideration can often secure the pre-emptive rights associated with a quick takeover. This almost exclusive use of cash as the mode of consideration in Chinese M&A activities is in stark contrast with M&A activities in western countries where the consideration is as equally likely to be in the form of shares or a combination of cash and shares as it is to be in cash alone. Moreover, in China the focus of most research is with making theoretical comparisons of the impact that different modes of consideration can have on Chinese M&A activities and there is very little in the way of empirical testing of the theoretical models. Hence, in subsequent chapters we summarise the empirical work we have undertaken which assesses the impact that the mode of consideration can have on Chinese M&A activities. In particular, we compute the abnormal returns that arise around the first public announcement date of M&A activities and make comparisons between them based on whether the mode of consideration was in cash, shares or a combination of cash and shares. My objective here is to investigate the wealth effects for acquiring and target firm shareholders of the differing modes of consideration which are employed in Chinese M&A activities.

2.6 The Impact of Friendly Offers and Hostiles Offers on the shareholders of Acquiring and Target Firms

We now turn our attention to the potential wealth effects for acquiring and target firm shareholders that arise from friendly as against hostile M&A activities. There is a significant strand of the western literature that deals with both the theoretical and empirical issues that arise in this area. Schnitzer (1994), for example, formulates a model which investigates the trade-offs which arise between a potential hostile and a friendly takeover from the standpoint of the bidding (that is, raiding) firm. Importantly, Schnitzer (1994)

notes that the choice which a bidding firm (raider) will make between a hostile and friendly takeover bid hinges crucially on the position taken by the incumbent management of the target firm. In particular, in a hostile takeover, a raider makes a tender offer directly to the shareholders of the target firm without consulting the target's incumbent management. In this case, each shareholder of the target firm decides individually about whether or not to accept the tender offer for their shares. Against this, in a friendly takeover the bidding firm obtains the agreement of the incumbent management of the target firm for the terms and conditions of the takeover and then facilitates the bidding firm's access to the shareholders of the target firm during the takeover process. Thus, Schnitzer (1994) notes that if a raider makes a hostile tender offer, then it only has to deal with the target firm's shareholders in which case both the raider and the target firm shareholders will be operating in an environment of symmetric information; that is, both the raider and the target firm shareholders will evaluate the takeover using identical information. In contrast, with friendly takeovers the incumbent management of the target firm will possess private information which they can use in their negotiations with the bidding firm to increase the price of the takeover and thereby reduce the wealth effects of the takeover for the shareholders of the bidding firm. Schnitzer (1994) concludes that the higher the uncertainty about the potential value increase of the proposed takeover, the more likely that a raider will choose a hostile offer. Moreover, the likelihood of a hostile takeover increases with the preferences for control of the target firm's management (managers of the target firm may find themselves to be unemployed if the takeover is successful) and decreases with the number of shares the management holds in the target firm (thereby reducing the potential wealth effects of private information). On the other hand, an increase in efficiency and synergy gains which are not the exclusive (that is, private) information of management will induce a raider to undertake a friendly takeover. Similarly, the higher the transaction costs of hostile as

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against friendly takeovers, the more likely it is that a raider will seek a friendly takeover.

Baron (1983) also develops a model of a target firm's resistance to a tender offer that is based on the assumption that the management of the target firm has private information on both the intrinsic value of the target firm itself and of its own preferences for control. Baron's (1983) model shows that the management of some target firms may develop a reputation for having such high preferences for control that it actually causes the market value of their shares to fall. He notes, however, that a passivity rule can eliminate both the effect of a preference for control (the target firm's management is prevented from introducing spurious arguments and information into the takeover process) and the externalities that arise in a value-maximising resistance strategy. In addition, a passivity rule results in the first-best market value.

Huang and Walking (1987) employ a sample which includes 326 target firms listed on the CRSP tapes and where the proposed takeovers receive their first public announcement on the front pages (as distinct from the latter pages) of the financial press over the period from 1977 to 1982. One of their objectives is to test the hypothesis that the CAARs surrounding the announcement date of hostile offers for target firms differs from those surrounding friendly offers. Using a standard market methodology they find that even though the CAARs associated with hostile offers is 5.5% higher than is the case with friendly offers, yet the t-statistic for this difference is 1.60 - which is of marginal statistical significance, at best. In other words, hostile offers for target firms earn (marginally) insignificant CAARs when compared to the CAARs of friendly offers. However, Huang and Walking (1987) suggest that it is premature to conclude that hostile as against friendly offers have no impact on the abnormal returns which accrue to the shareholders of target firms.

Martynova, Oosting and Renneboog (2006) employ a sample of 155 European merger and acquisition transactions from the Mergers and Acquisitions Database of Securities Data Company (SDC) and Zephyr which occurred over the period from 1997 until 2001. They also extract accounting data from the Amadeus Extended database for the sampled mergers and acquisitions in order to construct several cash flow measures through which to assess the operating performance of the firms involved in the M&A deals. They find that target firms involved in hostile takeovers have lower post-merger profitability when compared to target firms involved with friendly offers. Nevertheless, the lower post-merger profitability associated with hostile offers is statistically insignificant when compared with friendly offers. Thus, Martynova, Oosting and Renneboog (2006) conclude that there is no clear evidence to suggest that hostile takeovers are able to create high synergistic values when compared with friendly takeovers.

Gregory (1997) utilises a sample of all successful UK domestic takeovers of listed firms with a bid value in excess of £10 million over the period between 1984 and 1992 in order to examine the long run post-acquisition performance of UK acquiring firms. Using a standard market model methodology Gregory (1997) calculates the abnormal returns accruing to acquiring firms under six different benchmarks and concludes that friendly bids earn lower long run abnormal returns than hostile bids, although Gregory's (1997) conclusions hinge crucially on which benchmark is used to measure the abnormal returns.

The literature presented here represents a brief summary of the relevant research undertaken in western economies with regard to the profitability of hostile and friendly takeovers. The literature follows too general strands. The first strand is theoretical and constructs game theory models of the takeover process based on considerations of asymmetric information. These models use the fact that acquiring/target firms have priviliged information

about their operations and values to predict whether a takeover offer will be hostile or friendly. They also predict the mode and size of the consideration (cash, shares or a combination of cash and shares) that will be used in the takeover process according to whether the takeover offer is hostile or friendly. The second strand of research is purely empirical and uses a standard market model methodology, sometimes augmented by particular accounting information, to assess the (short term and/or long term) profitability of target and/or acquiring firms involved in the takeover process. Unfortunately, no clear conclusions emerge from the empirical work conducted in this area about the wealth effects for shareholders of implementing hostile or friendly takeover procedures. Moreover, virtually no empirical research has been conducted about the impact that hostile and friendly takeovers can have on the shareholders of Chinese firms involved in M&A activities.

2.7 Summary and Conclusions

This chapter provides a brief summary of the literature in both western economies and in China on a variety of issues dealing with M&A activities. In particular, we deal with the literature that assesses the impact that the motivation for takeovers can have on the subsequent performance of acquiring and target firms, the effect of the modes of consideration used in the takeover on the abnormal returns that accrue to the shareholders of acquiring and target firms and the impact that hostile and friendly takeovers can have on the long run profitability of target and acquiring firms, etc. The chapter's principal brief is to summarise and compare the research that has been conducted on western M&A activities with the limited Chinese literature that is available in the area. This will enable us to identify any gaps in the Chinese literature and any significant methodological issues which might be addressed by the empirical work conducted for this dissertation.

Through summarising the main literature on the differing aspects of Chinese M&A activities, I discover that most Chinese research conducted in this area is normally restricted to a theoretical consideration of the different issues that arise in Chinese M&A activities. In other words, there are very few papers that have undertaken empirical tests of the important issues that arise with Chinese mergers and acquisitions. Thus, in order to fill this gap in the Chinese literature, I undertake a series of empirical tests on a range of important issues that arise in Chinese M&A activities. Issues considered at an empirical level in this dissertation include: the wealth effects of takeovers on the shareholders of Chinese acquiring firms in comparison to the wealth effects that accrue to the shareholders of target firms; the wealth effects of takeovers for shareholders of different classes of shares (e.g. A shares, B shares, H shares, state owned shares, etc) [2]; the impact that different modes of consideration can have on shareholder wealth for both acquiring and target firms, etc. Furthermore, I also note that it is often the case that empirical tests conducted on Chinese M&A activities employ an accounting (book) based methodology rather than the market model methodology which is invariably used in western empirical work. In addition, I find that empirical research conducted on Chinese M&A activities is often plagued by methodological errors. For example, the few empirical studies conducted on Chinese M&A activities are generally based on the discrete calculation of returns (the price "today" less the price "yesterday" divided by the price "yesterday") rather than the continuously compounded (or logarithmic) return. Our empirical work on Chinese M&A activities is based exclusively on the continuously compounded return[3]. Most importantly, I will employ an hitherto unused non-parametric testing procedure to assess the significance of the abnormal returns which

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[2] See section 3.2.3 of chapter 3 of this dissertation for a detailed discussion of the distinction between A shares, B shares, H shares and state owned shares.

[3] For a detailed exposition of the dangers that can arise from basing empirical analysis on discretely calculated returns see chapter one of the text by Davidson and Tippett (2012).

accrue to the shareholders of acquiring and target firms involved in Chinese M&A activities.

CHAPTER THREE

LAWS AND REGULATIONS RELATING TO MERGERS AND ACQUISITIONS IN CHINA

3.1 Introduction

China's recent admission to the World Trade Organisation (WTO) and its generally vibrant economy has meant that merger and acquisition (M&A) activities in China have increased considerably over the last several years. The Chinese government has responded to this increased volume of M&A activities by seeking to establish a legal framework which, on the one hand, is in line with best international practice but also, meets the unique political and socio-economic factors that have characterised the People's Republic of China since its formation in 1949. Hence, on 31 July 2006 China's principal securities market regulator, the China Securities Regulatory Commission (CSRC), promulgated the Takeover Measures, 2006.[1] The Takeover Measures, 2006 is a revised version of the original Takeover Measures, 2002 and is designed to fill gaps and loopholes which experience had shown existed in the laws and regulations covering Chinese M&A activities. The Takeover Measures, 2006 also aim to make Chinese laws in the area more compatible with best international practices. Furthermore, in order to address the anti-trust issues associated with mergers and acquisitions, the Standing Committee of the Tenth National People's Congress of China promulgated a new Anti-Monopoly Law which came into force on 1 August 2008. It is important to familiarise ourselves with the laws regulating M&A activities in China in order that we might obtain a better understanding of the empirical results obtained from the data we employ on Chinese mergers and acquisitions as summarised in later chapters of this dissertation.

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[1] In many ways the Takeover Measures, 2006 copycats the U.S. regulations under the Williams Act amendments to the Securities and Exchange Act of 1934.

The remainder of this chapter is structured as follows: Section 3.2 briefly summarises the development of China's securities markets, including an introduction to China's main stock exchanges together with their listing rules and distinctive characteristics. Next, Section 3.3 discusses the legal framework for M&A activities in China. The most important of these are China's Securities Law, the Takeover Measures, 2006 and the Anti-Monopoly Law, 2008. Our consideration of the Takeover Measures, 2006 centres principally on the mandated bid rules, the disclosure of substantial shareholdings, the tender offer rules and the defence mechanisms which may be used in merger and acquisition transactions. Section 3.4 then goes on to discuss China's Anti-Monopoly Laws and the Regulations on the Notification Thresholds of Concentration of Undertakings. These laws address issues of anti-trust and declaration thresholds in M&A activities in China. The laws and regulations affecting cross-border mergers and acquisitions are dealt with in Section 3.5. This section provides a detailed description of the legal framework affecting mergers and acquisitions of domestic enterprises by foreign investors. In particular, this section deals with issues of share swaps, the important provisions affecting special purpose companies (SPC) and the national economic securities review. Finally, Section 3.6 provides a brief summary of the chapter, along with some concluding remarks about the important issues affecting M&A activities in China.

3.2 History of China's Main Securities Markets

3.2.1 Principal Chinese Stock Exchanges

Over the last fifty years, China's economy has been transformed from the centrally planned economy (CPE) that was introduced in 1949, to a market orientated economy (MOE). The movement towards a market orientated economy began in 1978 when the Chinese government implemented a programme of reforms which encouraged the formation of private rural enterprises and businesses, lifted many restrictions on foreign trade and investment, abolished controls over the prices of some basic commodities and

outputs, and boosted investment in industrial production and the education of its workforce. As part of the reform process, in 1981 China's State Council created a national bond market by issuing national treasure bonds for the first time. Subsequent to this, several other kinds of national bonds were issued; for example, those issued by the Ministry of Finance to finance key construction projects. According to Huang (2003), however, the new bond market only satisfied the liquidity requirements of the central government, leaving the needs of private and many state-owned enterprises unaddressed. Hence, in order to solve the financial difficulties faced by private and state-owned enterprises, the People's Bank of China (PBC) authorised the establishment of two nationwide stock exchanges; namely, the Shanghai Stock Exchange which began operations in 1990 and the Shenzhen Stock Exchange which began operations in 1991 (Wei, 2008).

Initially, a variety of organisations, including the People's Bank of China (PBC), the State Council, the Ministry of Finance and local government bore responsibility for regulating these two stock exchanges (Wei, 2008). But the need for a different regulatory framework became clear after a number of regulatory failures of which the 810 incident on the Shenzhen Stock Exchange is probably the best known example. This incident occurred on 10 August, 1992 when some 700,000 "would be" investors packed into the Shenzhen Stock Exchange to subscribe for a new issue of bonds by the Chinese Government. The prescribed five million subscription forms were used up within a few hours. Violent rioting resulted, as it was clear that the officials of the PBC had corrupted the process of handling the subscription forms. The government restored order by distributing another five million forms the next day. The incident, to a large extent, was caused by the fact that too many organisations claimed regulatory authority over the Chinese securities markets and their operations. It was inevitable that a regulatory framework like this would lead to confusion and corruption – as indeed it did (Walter and Howie, 2003). Incidents like this necessitated the State Council to remove the ambiguity which had arisen in the regulation and administration of

China's securities markets. Consequently, in 1992 the State Council created the China Security Regulatory Commission (CSRC) as the sole regulator of China's stock exchanges, although it took the CSRC quite a long time to rest regulatory control of securities markets in China away from the PBC, the Ministry of Finance and local government agencies. Under China's Securities Law, the CSRC has "authority to implement a centralised and unified regulation of the nationwide securities market in order to ensure their lawful operation."[2] Its powers include responsibility for regulating and supervising the issue of securities, as well as the investigation and imposition of penalties for, "illegal activities related to securities and futures." [3] Its role is broadly similar to that of the Securities and Exchange Commission (SEC) in the United States.

Between them, at the end of 2008 the Shanghai and Shenzhen Stock Exchanges had more than 1,500 listed firms with a combined market capitalisation of $US2,658.2 billion. Moreover, at the end of December 2007 the Hong Kong Stock Exchange, which operates under a different regulatory framework to the Shanghai and Shenzhen Stock Exchanges, had 1,241 listed firms with a combined market capitalisation of $US2.7 trillion. The Hong Kong Stock exchange is regulated by a statutory authority called the Securities and Futures Commission (SFC). The SFC has a wide brief and operates independently of the CRSC. Its main responsibilities include the maintenance and promotion of fairness and efficiency in Hong Kong's securities markets; encouraging competitiveness, transparency and orderliness in the operations of the securities markets; minimising crime and misconduct in the securities markets and to assist the Financial Secretary (who is responsible for delivering the annual budget in Hong Kong's Legislative Council) to maintain the financial stability of Hong Kong by taking such measures as are necessary to insure the smooth operation of

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[2] See http://en.wikipedia.org/wiki/China_Securities_Regulatory_Commission, the Wikipedia website:

[3] See http://en.wikipedia.org/wiki/China_Securities_Regulatory_Commission, on the Wikipedia website.

Hong Kong's securities markets. Hong Kong's legal and regulatory framework is more in line with international standards and practices than is the case with the Shanghai and Shenzhen Stock Exchanges. Moreover, the Hong Kong Stock Exchange has a more active and liquid secondary market than either the Shanghai and Shenzhen Stock Exchanges, and so more and more enterprises from the mainland of China as well as international investors, are tending to list their securities on the Hong Kong Stock Exchange.

3.2.2. Listing Rules of Main Stock Exchanges in China

In this section we outline the listing requirements of the three main stock exchanges in China. We begin with the Shanghai Stock Exchange. Firms applying to list their shares on the Shanghai Stock Exchange must conform with its listing requirements which are largely based on the "Securities Law of the People's Republic of China" and the "Company Law of the People's Republic of China" [4] When a firm plans a public issue of shares for the first time it must seek the approval of the China Securities Regulatory Commission (CSRC). Once the CSRC has approved a public issue of shares then the affected firm may apply to have its shares listed on the Shanghai Stock Exchange. A second requirement is that after the public issue of shares the firm's total share capital must not be less than RMB 50 million (Yuan). Moreover, the firm must have been in business for more than 3 years and have been profitable over the last three consecutive years. In the case of former large and medium sized state owned enterprises re-established as private or public firms in accordance with the "Securities Law of the People's Republic of China" and "Company Law of the People's Republic of China", the profitability requirement can be calculated consecutively; that is, profits from the period when the firm was state owned can be included as a component of the three year profitability calculation. There must also be at least 1,000 individual shareholders whose investment in the shares of the firm exceeds RMB 1,000. Furthermore, publicly offered shares must be more than 25% of the

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[4] See the official website of Shanghai Stock Exchange: www.sse.com.cn.

firm's total share capital. When the firm's total share capital exceeds RMB 400 million, the minimum percentage of shares that must be issued to the public is reduced from 25% to 10%. Finally, the firm must not have been involved in any major illegal activities or false accounting practices in the three years prior to its listing on the Shanghai Stock Exchange.

The Shenzhen Stock Exchange is the smaller of the two stock exchanges operating in mainland China. Its listing requirements are broadly similar to those of the Shanghai Stock Exchange. [5] In particular, when a firm plans a public issue of shares for the first time it must seek the approval of the China Security Regulatory Commission (CSRC). Once the CSRC has approved a public issue of shares then the affected firm may apply to have its shares listed on the Shenzhen Stock Exchange. Public listing on the Shenzhen Stock Exchange is only available to firms with an issued share capital in excess of RMB 30 million (Yuan). The comparable figure on the Shanghai Stock Exchange is RMB 50 million and so it is not surprising that there is a preponderance of small and medium sized firms listed on the Shenzhen Stock Exchange when compared to the Shanghai Stock Exchange. Furthermore, publicly offered shares must be more than 25% of the firm's total share capital (there is provision for firms with share capital in excess of RMB 400 million to reduce this figure as in the case of the Shanghai Stock Exchange). Finally, firms listing on the Shenzhen Stock Exchange must have a good credit record for the three years prior to listing. This latter requirement also applies for firms listing on the Shanghai Stock Exchange, although it is stated in a slightly different way.

As previously noted, the Hong Kong Stock is the most actively traded and liquid of the three stock exchanges which exist in China. Moreover, it operates under a regulatory framework which is more attuned with international standards and practices than is the case with the Shanghai and Shenzhen Stock Exchanges. Given this, it is hardly surprising that it has slightly different listing requirements

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[5] See http://www.szse.cn/main/en/aboutsse/listingqualifications/, the official website of Shenzhen Stock Exchange:

when compared to those for both the Shanghai and Shenzhen Stock Exchanges. [6] In particular, only firms with an expected market capitalisation of HK$200 million or more can apply for listing on the Hong Kong Stock Exchange. In general, at least 25% of the securities must be held by the public (a rule which is broadly compatible with the listing requirements of both the Shanghai and Shenzhen Stock Exchanges). Firms must also have been conducting their commercial and/or business activities for a period of not less than three consecutive years prior to the application for listing and must also have traded under the same management for the prior three years. Finally the firm must have total profits of at least HK$50 million over the last 3 years (including a profit of at least HK$20 million in the most recent year and an aggregate profit of at least HK$30 million in the two preceding years). If the firm does not satisfy this requirement it can still seek a listing on the Hong Kong Stock Exchange if it meets either a market capitalisation/revenue test or a revenue/cash flow test.

3.2.3 Unique and Distinctive Characteristics of Chinese Stock Markets

China's currency, the RMB (Yuan), is not completely and freely convertible into foreign currencies. This is because the Chinese government has implemented a policy which restricts the amount of RMB (Yuan) that can leave the country in order to preserve the nation's foreign currency reserves. This policy has had a stabilising effect on the rate at which the RMB (Yuan) trades against most foreign currencies and this in turn has created a degree of certainty for firms and other organisations which operate in export and/or import oriented markets. However, this policy of restricted trading in the RMB (Yuan) means that a distinction has had to be made between foreign investors and investors who are Chinese nationals. Chinese nationals (including individuals, legal persons and the state) will normally purchase "A" shares which are shares whose principal (that is, prices) and dividends are denominated in the RMB (Yuan) and which are exclusively traded on the stock market in terms of the Yuan. Foreign investors

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[6] Refer to the official website of Hong Kong Stock Exchange: www.hkex.com.hk.

usually have only very limited access to A shares. However, foreign investors (including investors from Taiwan, Hong Kong and Macao) who wish to invest in mainland Chinese firms will normally do so by purchasing so called "B" shares. Whilst both the principal and dividends of B shares are normally denominated in the RMB (Yuan), trading on the stock market in B shares normally occurs in either the US dollar or the Hong Kong dollar and not the Yuan. Foreign investors who buy and sell B shares must commission an authorised Chinese securities institution to deal with the transaction. The authorised institutions may then enter into proxy agreements with approved securities institutions outside of China in buying and selling B shares. Dividends, bonuses and trading earnings from B shares may be remitted outside of China after the deduction of relevant taxes (Campbell, 2006). In summary, A shares are the main body of shares traded on the Shanghai and Shenzhen Stock Exchanges; B shares account for less than 1% (in terms of market capitalisation) of all shares traded on these two stock exchanges. This in turn means that B shares normally have only a very limited impact on the mainland Chinese stock markets.

However, one potential caveat that applies to this conclusion stems from the fact that the prices of the B shares for a particular firm often trade at a significant discount in comparison to the A shares in the same firm. This is despite the fact that B shares carry essentially the same rights and privileges as A shares. This opens up the potential for riskless hedging opportunities a theme that has been developed in some detail by Bergstrom and Tang (2001). However, if the Chinese government moves to a situation under which the RMB (Yuan) is allowed to trade freely without restrictions - and some predict that this will eventually be the case (Yam, 2005) - then the distinction between A shares and B shares will no longer exist on the mainland Chinese stock markets. Evidence that this will eventually transpire arises from the fact that after China's admission to the World Trade Organisation (WTO) in 2001, domestic investors were allowed to participate in purchasing B shares and rules were introduced which allowed

qualified foreign institutional investors to purchase A shares in Chinese mainland firms in certain circumstances.

Another unique feature of the mainland Chinese stock markets is that not all the A shares issued by firms are tradable, and this constitutes a significant difference from the stock markets in western countries like the USA and UK. A shares can be sub-divided into three groups which are "state owned" shares, "legal person" shares and "public individual" shares in terms of the strictly defined groups of shareholdings in China.   State owned shares are those owned by the state, including the central government and local governments. Legal person shares are those held by domestic legal entities and institutions such as state-private mixed enterprises and non-bank financial institutions (Qi and Wu, 2000).   An important point that needs to be stressed here is that only public individual shares are freely tradable on mainland stock markets; that is, state shares and legal person shares cannot be traded on these markets.   Furthermore, non-tradable A shares (that is, state shares and legal person shares) account for a majority of the A shares issued by most listed firms. Li and Zhang (2007) quote statistics which show that in 2004, Chinese firms had 712 RMB (Yuan) billion of A shares on issue. However, 454.3 RMB (Yuan) billion or 64% of these A shares were non-tradable. In particular, state owned shares accounted for 74% of the non-tradable shares or slightly less than half of the A shares issued by Chinese firms. The tradability restrictions which apply to state owned shares and legal person shares can act as a deterrent for takeover and merger activities and hence, the overall allocative efficiency of the Chinese economy.   The only way that non-tradable shares can be transferred is to reach a private takeover agreement.   This and the other factors considered above are of crucial importance to the research we are conducting with regard to M&A activities in China.

The principal reason for the existence of such a large proportion of non-tradable A shares is to prevent state owned assets from falling into the hands of private or foreign parties.   In other words, if state owned shares were allowed to be

transferred to private owners, then the socialist economy on which the Chinese political system is founded might be threatened (Huang, 2006, p. 14). It also guards against the possibility of fraud and misappropriation by private firms and individuals. However, we have previously observed how the existence of a significant block of non-tradable shares is detrimental to the long run development and health of the Chinese economy. In particular, it leads to a divergence in the values of the traded as against the non-traded A shares and weakens the stock market's price discovery function. This in turn leads to a lowering of allocative efficiency in the Chinese economy as a whole (Huang, 2006, p. 14). The problems caused by this dichotomy between traded and non-traded A shares became so acute that beginning in 2000, the Chinese government began implementing a reform programme under which it eventually aims to remove all restrictions in the trading of state owned shares (Jin and Yu, 2009).

According to Huang (2008, pp. 157-158), prior to 2005 the Chinese government made several attempts to remove the trading restrictions which applied to state owned shares. However, these reforms were generally unsuccessful and along with some other factors, contributed to the "bear" market on Chinese stock markets which lasted for four years around the turn of the century[7]. In April, 2005, the CSRC issued a new plan for shareholding structure reform called 'Guquan Fenzhi Gaige', under which market-based processes are gradually being implemented for the transfer of share ownership rather than the government-imposed processes which had prevailed up until that point in time. Under the Guquan Fenzhi Gaige reform programme, representatives of the group of shareholders with tradable A shares (that is, public shareholders) agree terms and conditions for the conversion of non-tradable A shares into tradable A shares with representatives of the group of shareholders who hold the non-tradable A shares. These terms and conditions not only include the rate at which the non-tradable shares are to be converted into tradable shares but also, any other

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[7] See the official website of Shanghai Stock Exchange and Shenzhen Stock Exchange.

forms of compensation which are to be paid to the previously existing tradable shareholders. Since the non-tradable shareholders are granted a new and valuable trading privilege, the Guquan Fenzhi Gaige reform measures allow the compensation given to previously existing tradable shareholders to take a variety of forms, including the issue of new tradable shares, cash payouts and the issue of new warrants, etc. The rate at which non-tradable shares are converted into tradable shares varies from one firm to another because the terms are absolutely negotiable between the holders of the non-tradable shares and the holders of tradable (that is, public) shares. In addition, the Guquan Fenzhi Gaige reform measures stipulate that a certain proportion of the non-tradable shares which are converted into tradable shares cannot be sold in the first few years after being transferred into tradable shares.

The first firm to successfully convert its non-tradable A shares into tradable A shares under the Guquan Fenzhi Gaige reform measures was the Sany Heavy Industry Company. The public (that is, tradable) shareholders in Sany Heavy Industry Company received 3.5 new shares and RMB 8 (Yuan) cash for every 10 tradable shares that they already held. Furthermore, non-tradable shareholders undertook not to sell any of their newly created tradable shares on the stock market for the first two years after conversion and no more than 10% of their newly created tradable shares in the third year after conversion. Firms that have successfully been through the process of converting their non-tradable shares into tradable shares use the prefix 'G' as part of their stock market names. All together there are 1,333 A-share enterprises listed on either the Shanghai Stock Exchange or the Shenzhen Stock Exchange with non-tradable shares that need to implement the Guquan Fenzhi Gaige reform measures. As of July 2007, 1,229 of these enterprises had begun the process of implementing the Guquan Fenzhi Gaige reform measures (Jin and Yu, 2009).

The impact of the Guquan Fenzhi Gaige reform measures on the stock market can be divided into short-term and long-term effects. Initially, in the short-term, there has been an increase in the volatility of Chinese stock markets due to

speculative investors "treasure-hunting" for possible future reform candidates (Yam, 2005).[8] Against this, in the long run, the Guquan Fenzhi Gaige reform measures involve positive and multiple benefits for investors. The most obvious benefit arises from the fact that state-owned shares will ultimately be tradable with all the liquidity advantages that this entails. Moreover, shareholders will be able to make "direct" (market based) assessments about the performance of enterprise managers, instead of using "indirect" (accounting based) measures, such as the return on net asset value (NAV), which had to be used before the state-owned shares were converted into tradable shares. Secondly, whilst the Qualified Foreign Institutional Investor (QFII) measures which were introduced in November, 2002 by the CSRC, allowed a small number of foreign investors to purchase A shares in domestic Chinese enterprises, there numbers were so small as to have only a very limited impact on Chinese stock markets and the wider economy. Hence, if the alleged benefits arising from foreign investment are to be realised in the Chinese economy, the QFII laws will have to be liberalised so as to allow a greater number of foreign investors to purchase the A-shares of domestic Chinese firms. It is only then that M&A activities and the efficiencies which arise from them can be expected to increase in China. In other words, liberalisation of the QFII measures should enable Chinese stock markets to be more efficient in recognising and improving strong firms as well as weeding out weak and under-performing firms, thereby resulting in much better returns for investors and improving the overall efficiency of Chinese economy (Yam, 2005).

In addition to the division between A shares and B shares, another unique characteristic of the Chinese stock markets is the existence of H shares which are exclusively traded on the Hong Kong Stock Exchange. H shares are issued by firms incorporated in mainland China and are denominated and traded in Hong Kong dollars. H shares principally cover sectors such as telecommunications, insurance, real estate, airlines, logistics as well as oil and

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[8] Speculative investors are too short-term driven: after the conversion of non tradable shares into tradable shares, they simply dump the newly created tradable shares and shift their attention to other reform candidates.

mining, etc. Here, it is important to note that an increasing number of Chinese firms have their shares listed simultaneously on the Hong Kong Stock Exchange and one of the two mainland Chinese stock exchanges; namely, the Shanghai Stock Exchange or the Shenzhen Stock Exchange. Initially, only international investors were able to buy H shares but from 2007 onwards, the Chinese government has allowed investors from mainland China to invest in H shares as well. This has resulted in a significant increase in the demand for H shares.

3.3 China's Takeover Legal Regime

3.3.1 Framework and Overview of China's Takeover Laws

As discussed earlier in this chapter, following the merger of the local securities regulatory authorities with the China Securities Regulatory Commission (CSRC) in 1997, the CSRC now has exclusive authority for the regulation of securities markets and activities in China. There are two main laws regulating the merger and acquisition (M&A) activities of listed firms in China. The first is the Securities Law of the People's Republic of China (PRC), which came into force in 1999. The stated objectives of the Securities Law is to regulate the issuance, sale and purchase of securities, protect the lawful rights and interests of investors, safeguard the public interest and enhance economic order and promote the growth of the socialist market economy in China.[9] Hence, the Securities Law covers a wide range of regulatory activities, including the public listing of securities and stock exchange regulation, on-going disclosure of information by listed firms, prohibited trading acts and the regulation of mergers and acquisitions by publicly listed firms, etc. The Securities Law of the PRC is comprised of twelve chapters, only one of which - Chapter 4 - contains provisions relating to the regulation of mergers and acquisitions. However, Chapter 4 of the Securities Law lays down only very general provisions relating to M&A activities in China. More detailed regulatory provisions have been promulgated by the CSRC and are to be found in the second important law alluded to earlier; namely, Measures

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[9] Refer to Article one of the Securities Law of People's Republic of China.

for the Administration of the Takeover of Listed Companies (Shangshi Gongsi Ganli Banfa), 2002 as amended in 2006. According to Huang (2008), the Takeover Measures, 2006 set up the most comprehensive and workable legal framework to date for the M&A activities of Chinese listed firms. Furthermore, a number of important changes were incorporated into the 2006 amended Takeover Measures in order to fill gaps and loopholes which experience had shown existed the in the 2002 Takeover Measures. Given this, our primary focus in this chapter will be on the 2006 Takeover Measures which were promulgated on 31 July 2006 and came into force on 1 September 2006.

3.3.2 General Principles of Measures for the Administration of the Takeovers of Listed Companies, 2006.

As previously noted Measures for the Administration of the Takeovers of Listed Companies 2006, which was issued by the CSRC, is the main and most important law associated with the regulation of takeover activities for listed firms in China and is a revised version of the Takeover Measures which came into force in 2002. The Takeover Measures, 2006 aim to regulate takeovers of listed firms and the related alteration of share entitlement, protect the legitimate rights and interests of listed firms and investors, maintain the order and efficient operation of securities markets and promote the optimum distribution of resources throughout the Chinese economy, etc. Moreover, protecting the interests of investors has a very high priority in the 2006 Takeover Measures. The Takeover Measures, 2006 emphasise that mergers and acquisitions shall be conducted in light of the principles of openness (Gong Kai), fairness (Gong Ping) and equity (Gong Zheng).[10] It is these principles which underscore the requirement of the Takeover Measures, 2006 that the information disclosed by firms involved in mergers and acquisitions shall be truthful, accurate and

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[10] See Article 3 of the Takeover Measures, 2006.

complete and must not contain any false record, misleading statement or significant omissions.[11]

Article 4 of the takeover Measures, 2006 stipulates that takeovers involving foreign investors must have the approval of the related Department of State; this will normally be the CSRC but there will be circumstances in which the approval of other Departments of State will be required. For example, in 2008 the Ministry of Commerce (MOFCOM) blocked the U.S. Coca-Cola Company from mounting a successful takeover bid for the Chinese fruit giant, Huiyuan Juice Group Ltd on the grounds that it would have been the biggest foreign takeover of a Chinese firm in Chinese history and that it would have infringed the Chinese Antimonopoly Law. Furthermore, the Huiyuan Juice Group is a famous national Chinese brand closely associated with the Chinese people who would not approve of a well known domestic national brand like this falling into the hands of foreign owners. A detailed consideration of the Chinese Antimonopoly Law will be provided in the subsequent sections of this chapter. Finally, foreign investors must be subject to Chinese laws and ordinances and also, obey the judicial and arbitral system of China. As previously noted one reason MOFCOM blocked Coca Cola's takeover bid for the Huiyuan Juice Group was that it infringed the Chinese Antimonopoly Law. Hence, Article 4 of the Takeover Measures, 2006 represents a significant barrier to foreign firms seeking to use the takeover mechanism to enter potentially profitable Chinese markets, to access the cheap labour force and the wide range of resources that are available in the Chinese economy.

Under some circumstances bidding firms are barred from takeover activities. Hence under Article 6(1) of the Takeover Measures, 2006, a bidding firm will be prevented from using the takeover procedures to acquire another firm if, in the opinion of the CSRC, it has been in a continuous state of high indebtedness (literally, "large debts") and has a history of not being able to meet its debts as they fall due for payment (literally, "has not paid off its due debts"). However, the

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[11] See Article 3 of the Takeover Measures, 2006.

Takeover Measures, 2006 are silent as to what is meant by a continuous state of high indebtedness and has not paid its debts as they fall due. Secondly, under Article 6(2) of the Takeover Measures, 2006 if the bidding firm has ever committed a major illegal act or has ever been suspected of being involved in a major illegal act during the 3 years prior to the takeover, then the CSRC may bar the bidding firm from the takeover of any listed firms. Similarly, under Article 6(3) if the bidding firm has committed any serious credit-breaking act in the securities market during the 3 years preceding the takeover, then the CSRC may also bar the bidding firm from the takeover of any listed firms. There are also a few other circumstances under which the CSRC can refuse to sanction takeover activities by personal individuals. For example under Article 147 of the Chinese Company Law, a person who is without or has limited capacity of civil conduct or a person who has a criminal conviction within 3 years prior to the takeover date will be barred by the CRSC from participating in any takeover activities. As we note above there are several other circumstances under which the CSRC will refuse to sanction takeover activities by individuals or firms; further details are to be found in the Securities Law, the Company Law and the Takeover Measures, 2006.

Article 9 of the Takeover Measures, 2006 also provides that the bidding firm in a takeover must hire a financial consultant who is to make an assessment about whether the proposed takeover is injurious to the legitimate rights and interests of either the target or bidding firms and/or their shareholders. The financial consultant must be a professional institution which is registered in China and has a financial consultancy qualification. Further details of the role and functions of financial consultants in the takeover process are to be found in a later section of this chapter.

3.3.3 Definition of the Concept of Control

The concept of control is important in empirical studies of M&A activities since it has a potentially crucial impact on the way that the data for the study is selected.

Under Article 84 of the Takeover Measures, 2006 a bidding firm is said to acquire control of a listed target firm if:

(1) it successfully purchases more than 50% of the equity shares issued by the listed target firm, or

(2) it can exercise 30% of the voting rights associated with the equity capital of the listed target firm, or

(3) it has the capacity to determine the election of more than half of the membership of the firm's board of directors, or

(4) it has control of sufficient voting rights to either determine or have a "significant" impact on the outcome of resolutions tabled at a general assembly of shareholders.

Hence, under the Takeover Measures, 2006 a bidding firm that satisfies any one of these four stated conditions is said to have gained control over the listed target firm. Unfortunately, the SDC data base from which we obtained most of our takeover data does not contain comprehensive information on the voting rights acquiring firms obtained in the listed target firms. Given this, our empirical analysis of mergers and acquisitions in China is based on Article 84(1) of the Takeover Measures, 2006; namely, as long as the acquiring firms purchase more than 50% of the equity shares of the listed target firms, a takeover will be deemed to have occurred and will be included in our subsequent empirical analysis.

3.3.4 Mandatory Bid Rule

In accordance with the equality of opportunities principle, a mandatory bid rule sits at the heart of China's takeover laws (Huang, 2008). Hence, both the Securities Law and the Takeover Measures, 2006 have a clear and consistent definition with regard to the mandatory bid rule. Thus, under Article 61 and Articles 23, 24, 25 and 83 of the Takeover Measures, 2006 an investor who by

himself or who in conjunction with other "concerted parties" controls 30% or more of the equity shares issued by the listed target firm are required to make either a general or partial tender offer for the remaining shares in the affected listed firm. Article 83 defines concerted parties as those with whom the primary investor is acting in concert by means of private agreement or any other arrangement in order to boost their joint voting power in the listed target firm. For example, the mandatory bid rule will apply to an investor himself or who in conjunction with other "concerted parties" jointly controls 30% or more of the shares in the listed target firm not only by means of co-jointly acquiring shares, but also by investment relationship, agreement, partnership cooperation, joint venture, simultaneously acting as directors, etc. Hence, not only the acquirer's own shareholdings, but also the shareholdings of its concerted parties acting in concert (so-called Yizhi Xingdongren) will be counted when calculating an investor's shareholding in a listed target firm (Huang, 2008). This is a great improvement in the means of calculating investors' shareholdings for takeover purposes in comparison to the old version; that is, the 2002 version of the Takeover Measures.

Here it is important to note that the mandatory bid rule provides protection for shareholders of the target firm by ensuring that the control premium paid by the acquiring firm is shared amongst all the shareholders of the target firm. But on the other hand, this kind of protection may come at the expense of the contestability of takeovers since the cost of the takeover may rise and some potential bidders may be dissuaded from being involved in the takeover because of it (Huang, 2008).

Moreover, under certain circumstances the CSRC can exempt bidding firms and concerted parties from the mandatory tender provisions of the Takeover Measures, 2006. The exact conditions under which the exemption applies are given detailed consideration in a subsequent section of this chapter.

3.3.5. Disclosure of Substantial Shareholdings

Article 13 of the Takeover Measures, 2006 taken in conjunction with Article 86 of the Securities Law requires the disclosure of substantial shareholdings in listed firms (5% or more of the equity stock) and is meant to provide the market with an early warning of possible takeovers (Jennings, et. Al., 1992). Article 22 of the Takeover Measures, 2006 provide that a substantial shareholding in a listed firm shall include not only the shares registered under the investor's name but also shares held in conjunction with other concerted parties as well as those shares not registered under the investor's name but for which the voting rights are actually controlled by the given investor.

Articles 13, 14 and 15 of the Takeover Measure, 2006 require that if an investor coupled with his or her concerted parties come to hold 5% of the shares issued by a listed firm by means of transactions in the stock exchange, transfer agreement, as well as administrative transfer or alternation, implementation of court ruling, inheritance or donation, etc. then they must disclose their position to the market by submitting a written report which summarises the information specified in Article 16 of the Takeover Measures, 2006 to the Head Office of the CSRC in Beijing as well as to the relevant stock exchange. They must also send a copy of the written report to the CSRC representative office in the locality of the listed firm (hereinafter referred to as the representative office) and at the same time formally notify the listed firm that it has submitted a report to the CSRC and the stock exchange. The acquiring investor/s must also make a formal announcement to the general public within three business days from the date when the substantial shareholding occurs. Furthermore, the investor cannot continue to buy or sell the shares in the listed firm until it has satisfied the provisions of Articles 13, 14 and 15 of the Takeover Measures, 2006; that is, until the market has been fully informed of its substantial shareholding in the listed firm (Huang, 2008). Equally, Article 13 and Article 14 of the Takeover Measures, 2006 provide that if a substantial shareholder along with their concerted parties increase or decrease their shareholding in the listed firm by 5% by means of

transactions in the stock exchange or transfer agreements, etc. (that is, by 5% to 10%, 10% to 15% and so on) they again must send a copy of the written report specified by Article 16 to the CSRC and the stock exchange and they must also notify the listed target firm and the general public. During the disclosure period and for two days thereafter, the investor/s cannot continue to buy or sell any shares in the listed target firm.

Here it is important to note that there are two categories of disclosure for substantial shareholdings under Article 16 of the Takeover Measures, 2006. Specifically, if the investor and their concerted parties are not the largest shareholder or the actual controlling shareholder of the listed firm (as defined in Article 84 of the Takeover Measures, 2006) and their collective shareholding is in excess of 5% but less than 20%, then only the simplified disclosure system as specified in Article 16 is required; namely:

(1) The names and domiciles of the investor and their concerted parties as well as the names, places of registration and legal representatives of the investor and their concerted parties if the investor and concerted parties are legal persons;

(2) The purpose of holding shares and whether or not the investor and their concerted parties intend to continuously increase their shareholdings of the listed firm over the following twelve months;

(3) The name of the listed company and also the type, quantity and proportion of shares held;

(4) The timing and the method used by the investor and their concerted parties to acquire or decrease their shareholding in the listed firm by 5%;

(5) A brief summary of the shares in the listed target firm purchased and sold on the Stock Exchange in the 6 months' period immediately preceding the acquisition or disposal of the 5% shareholding in the listed firm.

The second category is when the substantial shareholding of the investor and their concerted parties exceeds 20% but is less than 30% of the total issued shares of the listed firm. In this circumstance Article 17 of the Takeover Measures, 2006 require that a very detailed report must be submitted to the Head Office of the CSRC in Beijing and the stock exchange. A copy of the Report must also be filed with the CSRC representative office in the locality of the listed target firm and the listed target firm and general public must also be notified within three business days from the date when the variation in the substantial shareholding occurs. In addition to the contents required by the simplified report as specified in Article 16 of the Takeover Measures, 2006 as given above, the following information must also be provided:

(1) The controlling shareholders of the investor and their concerted parties and a structural chart of the relationship between the shareholdings of the investor and their concerted parties in the listed target firm;

(2) The price, the total amount of capital required and the source of the capital or other payment arrangements used to acquire the additional shares in the listed target firm;

(3) Whether or not there exists intra-industry competition or potential intra-industry competition or continuous affiliated transactions between the business of the investor and their concerted parties (and their controlling shareholders) and the business of the listed target firm. If the intra-industry competition or continuous affiliated transactions do exist, whether related arrangements have been made to encourage the intra-industry competition and also, to maintain the independence of the listed target firm;

(4) The plans the investor and their concerted parties have for redeploying the assets, business, personnel, organisational structure, etc. of the listed target firm;

(5) The primary and important transactions which have occurred between the

investor and their concerted parties and the listed target firm over the two years preceding the variation of the substantial shareholding in the listed target firm.

The substantial shareholding disclosure threshold and regulations in China are broadly similar to those which apply in most advanced industrialised countries (Huang, 2008).   In determining the threshold at which the market and other participants must be informed of a substantial shareholding, regulators must strike a balance across a variety of competing considerations.   For example, lower thresholds provide more protection for the shareholders of the target firm. Against this lower thresholds will make it difficult for the acquiring firm to obtain the "toehold" necessary to launch a successful takeover bid.   It will also more than likely increase the price which the acquiring firm will have to pay in order to mount a successful takeover bid (Huang, 2008, p. 166).   In other words, lower thresholds lead to a better informed market; but against this, it may make the takeover more costly, since if the acquirer must disclose their intentions too early, the share price of the target firm will tend to rise earlier than it otherwise would have (Fischel, 1978).

3.3.6. Tender Offer Rules

In section 3.2.4 we note that Articles, 23, 24, 25 and 83 of the Takeover Measures, 2006 provide that an investor who by himself or in conjunction with other concerted parties controls 30% or more of the equity shares issued by a listed target firm must make either a general or partial tender offer for the remaining shares in the affected listed firm. A general offer is an offer made to all shareholders in the listed target firm to acquire the shares that is does not presently own. Thus, if the acquiring firm owns 30% of the shares it will make a general tender offer to acquire the remaining 70% of shares that it does not presently own. A partial offer is an offer made to all the shareholders of the listed target firm for part of the shares they hold; subject to the requirement that the minimum tender offer must be for at least 5% of all the shares issued by the

listed target firm. Thus, if the acquiring firm owns 30% of the target firm, the minimum partial tender offer will be to acquire 5% of the total issued capital thereby increasing the acquirer's interest in the target firm from 30% to 35% of the total issued shares.

Here it is important to note, however, that Article 62 of the Takeover Measures, 2006 provides that under certain circumstances acquiring firms may be exempted by the CSRC from the mandated tender offer requirements. The specific circumstances under which acquiring firms can apply for exemption are given detailed treatment in section 3.3.9 of this chapter of the dissertation. The partial tender offer, which was not available before 2006 (only general tender offers existed prior to this date) represents a significant improvement in comparison to the takeover regimes previously available as it effectively provides more flexibility for potential acquirers and thus reduces the transaction costs associated with takeovers (Baker and McKenzie International, 2006).

Articles 36 of the Takeover Measures, 2006 specifies that the acquirer may pay the consideration for a takeover in cash, securities, a combination of cash and securities or any other lawful means. However, where the securities used as consideration for a takeover are not listed on a stock exchange the acquiring firm must offer a cash alternative to the shareholders of the listed target firm. Here it is important to note that prior to 2006 the consideration for all takeovers had to be in cash. This often caused difficulties for acquirers both in terms of financing and post-takeover integration (Huang, 2008, p. 162). There are, however, several exceptions to this rule. For example, Article 27 of the Takeover Measures, 2006 provides that if the acquirer has to make a general tender offer to all shareholders of a target firm, and thereafter seeks to delist the target firm, or because the acquirer failed to obtain an exemption from making a general tender offer from the CSRC, then the takeover consideration has to be paid completely by cash.

Furthermore, if the consideration for the takeover is to be paid in cash there must be a public announcement to that effect and the acquirer must deposit not less than 20% of the total amount of the takeover consideration with a bank designated by the China Securities Depository and Clearing Corporation as the performance guarantee. On the other hand, if the acquirer pays the takeover consideration by means of securities, the audited financial statements of the issuer of the said securities, as well as the valuation report prepared under Article 67(5) of the Takeover Measures, 2006, must be made available to the listed target firm's shareholders, the CSRC and the Stock Exchange amongst others. The valuation report and other regulations take a slightly different form according to whether the securities used as consideration for the takeover are bonds or shares and whether or not they are listed on a stock exchange. For example, if the takeover consideration paid by the acquirer is comprised wholly or partly of bonds not listed on the stock exchange, then Article 36 of the Takeover Measures, 2006 provides that the shareholders of the target firm must be offered a cash alternative to the bonds. Article 36 also requires that the acquirer should cooperate and assist with the due-diligence investigations of the independent financial consultant employed by the listed target firm.

It is also important to note that Article 35 of the Takeover Measures, 2006 places a lower limit on the offer price which the acquirer makes for the listed target firm's shares. Hence, the price the acquirer pays under a tender offer must not be less than the maximum price the acquirer has paid for any of the shares of the listed target firm over the six months preceding the announcement of the tender offer. Article 35 also provides that if the offer price is below the arithmetic average value of the daily weighted average prices during the thirty trading days prior to the announcement of the tender offer, a financial consultant must be hired by the acquirer to produce a report on issues such as whether there is manipulation of stock prices, whether the bidder has failed to disclose its concerted parties, whether there has been any other arrangement for the bidder to obtain the shares of the target firm during the previous six months and finally, whether the

offer price is "reasonable" taking account of all the circumstances and events surrounding the acquisition process. However, prior to the promulgation of the Takeover Measures, 2006, two offer prices had to be set; one offer price for the tradable shares in the target listed firm and another price for the non-tradable shares. The offer price for the tradable shares of the listed target firm was determined by reference to the market price of those shares whilst the offer price for the non-tradable shares was based on the net asset value of the target firm as summarised in the latest audited financial statements for the firm. If the price offered by the acquirer was obviously unfair, then under Article 34 of the Takeover Measures, 2002 the CSRC could intervene and demand that the acquirer makes an adjustment to the offer price. In more recent years, the problems arising from the distinction between tradable and non-tradable shares has eased following the Guquan Fenzhi Gaige (shareholding structure) reforms which were implemented in 2005[12]. Importantly, Article 34 of the Takeover Measures, 2002 also provided that the offer price for tradable shares could not be lower than 90% of the arithmetic average value of the daily weighted average prices during the 30 trading days prior to the announcement date of the tender offer. Unfortunately, more often than not this latter price turned out to be the price offered by the acquiring firm for the tradable shares of the listed target firm. This often meant that the takeover was rejected by the shareholders of the target listed firm because the offer price turned out to be lower than the current market price of the tradable shares of the target firm at the time of the takeover offer (Huang, 2008).

Under article 28 of the Takeover Measures, 2006, if the shares of the target listed firm are purchased by means of a tender offer, then the acquiring firm shall employ a financial consultant who must submit a written report to the head office of the CSRC in Beijing as well as to the relevant stock exchange. The financial consultant must also send a copy of the report to the local representative office of

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[12] See Section 3.1.3 supra for a brief discussion of the 2005 Guquan Fenzhi Gaige (shareholding structure) reforms.

the CSRC, inform the target listed firm about the pending tender offer and at the same time make a public announcement summarising the contents of the tender offer report. In addition, Article 29 of the Takeover Measures, 2006 provides that the tender offer report prepared by the acquiring firm should contain the following information:

(1) The names and domicile of the investor and their concerted parties as well as the names, places of registration and legal representatives of the investor and their concerted parties if the investor and concerted parties are legal persons;

(2) The reasons why and the purposes for the acquirer making the takeover offer and whether or not the acquirer will continue to increase their shareholding in the target listed firm during the following 12 months;

(3) The name of the target listed firm and the category of the shares to be purchased;

(4) The quantity and proportion of the shares to be purchased;

(5) The price the acquirer will pay for the shares purchased under the tender offer;

(6) The amount of capital required for the takeover, the sources from which the capital will be obtained, the guarantees or other payment arrangements made by the acquirer to meet its financial commitments under the tender offer;

(7) Conditions (partial, general or other) stipulated in the tender offer;

(8) The terms of the tender offer;

(9) The number and proportion of shares held by the acquirer in the target listed firm at the time when the tender offer report is submitted;

(10) Whether or not there exists intra-industry competition or potential intra-industry competition or continuous affiliated transactions between the business of the investor and their concerted parties (and their controlling shareholders) and the business of the listed firm.   If the intra-industry competition or continuous affiliated transactions do exist, whether related arrangements have been made to encourage the intra-industry competition and also, to maintain the independence of the listed firm;

(11) The plans the investor and their concerted parties have for redeploying the assets, business, personnel, organisational structure, etc. of the listed firm over the ensuing twelve months;

(12) The primary and important transactions which have occurred between the investor and their concerted parties and the listed firm over the two years preceding the announcement of the tender offer, and

(13)   A brief summary of the shares in the listed firm purchased and sold on the Stock Exchange in the six months' period immediately preceding the announcement of the tender offer.

As previously noted the acquiring firm must make a public announcement summarising the contents of the tender offer report. The opinions of the financial consultant and lawyers hired by the acquiring firm under Article 28 of the Takeover Measures, 2006 must be made public fifteen days after submission of the tender offer report to the CSRC. During this 15 day period the CRSC may object to the contents of the tender offer report if it is inconsistent with laws, administrative regulations or any other related provisions. If such circumstances arise the CSRC shall notify the acquirer that the tender offer violates the laws, administrative regulations or other related provisions and the acquirer may not make a public announcement of the tender offer. If, however, no objections are made by the CSRC then the tender offer report may be announced to the public after this fifteen day period. Under Article 31 of the Takeover Measures, 2006

after the submission of the tender offer documents to the CSRC and during this 15 day period the acquirer may make an application to the CSRC to cancel the tender offer by submitting a document to the CSRC summarising the reasons and explanations for the proposed cancellation. If the CSRC agrees to allow the acquirer to cancel the tender offer then the acquirer may not make a tender offer for the same firm over the ensuing twelve months and the cancellation of the tender offer must be announced to the public.

The Takeover Measures, 2006 also place specific reporting and other responsibilities on the directors of the target firm. In particular, Article 32 of the Takeover Measures, 2006 provides that the board of directors of the target firm must make an investigation into the capacity, credit status and purpose of the takeover by the acquirer and analyse the conditions of the tender offer. Moreover, the board of directors of the target firm must bring forward suggestions about whether or not the shareholders of the target firm should accept the offer and they must also hire an independent financial consultant to provide a professional opinion about each of the above issues. Within 20 days following the announcement of the tender offer report from the acquirer, the board of directors of the target firm must submit a report to the Beijing office of the CSRC which summarises all of the above information (and includes the professional opinions from the independent financial consultant). The report must also be filed with the local office of the CSRC and the stock exchange on which the target firm is listed. A public announcement about the report must be made at the same time. Moreover, if the acquirer makes any major alterations to the conditions of the tender offer, the board of directors of the target firm shall submit the supplementary opinions of the board of directors and of the independent financial consultant on the alterations to the CSRC and the stock exchange. A public announcement about the alterations must also be made at the same time.

Moreover, Article 37 of the Takeover Measures, 2006 provides a safeguard to protect the shareholders of the target firm by specifying the minimum time period over which shareholders of the target firm may consider the terms and conditions

of the tender offer. Thus, the term stipulated for acceptance of the tender offer should not be less than 30 days and not be more than 60 days, except where there is a contested offer. The CSRC has adjudged that this period allows shareholders of the target firm sufficient time to make a rational decision about whether to accept the tender offer without prejudicing the interests of the acquiring firm. Further, under Article 38 of the Takeover Measures, 2006 the acquirer cannot sell any shares in the target firm following the announcement of the tender offer, nor can the acquirer buy other shares of the target firm by any other means not stipulated in the tender offer or that go beyond the conditions stipulated in the tender offer. To some extent, the interests of the shareholders of the target firm are protected through this provision since it negates the pressure that would otherwise arise on the target firm's shareholders to make a quick and potentially, irrational decision about whether to accept the terms and conditions of the tender offer. Moreover, under Article 41 of the Takeover Measures, 2006 if the acquirer wants to vary or change the terms and conditions of the tender offer, the approval of CSRC is required.[13] Importantly, the variation of the tender offer cannot be made 15 days prior to the expiration of the bid unless a competing bid occurs.

Under Article 42 of the Takeover Measures, 2006 shareholders of the target listed firm who accept the tender offer must entrust a securities firm to go through the related procedures for preliminary acceptance of the tender offer. The securities firm must apply to the China Securities Depository and Clearing Corporation for temporary custody of the shares under the preliminarily accepted tender offer. Shares under temporary custody of the China Securities Depository and Clearing Corporation are held in escrow over the 30 day to 60 day period during which shareholders of the target firm are required to make a decision about whether or not to accept the tender offer. However, here it is important to

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[13] The acquirer should submit a written report to the Beijing office of the CSRC within two business days after the major alteration, and simultaneously send a copy to the representative office of the CRSC and the stock exchange. It must also notify the target listed company and make a public announcement about the change or variation in the terms and conditions of the tender offer.

note that preliminary accepting shareholders can withdraw their acceptance within three trading days before the expiration of the bid by entrusting a securities firm to go through the procedures of revoking the preliminarily accepted tender offer.

The Takeover Measures, 2006 pay particular attention to the interests of minority shareholders after the takeover has been consummated. If the tender offer expires and the acquirer has sufficient acceptances (normally at least 75 percent of all outstanding shares), then the acquirer may initiate proceedings to delist the target firm (Huang, 2008). In this circumstance, Article 44 of the Takeover Measures, 2006 provides that the remaining shareholders in the target firm have the right to enforce the sale of their shares on the same terms and conditions as shareholders who have accepted the tender offer before the expiration date. This means that the remaining minority shareholders are protected from a "freeze-out" takeover on terms and conditions less favourable than those shareholders who have alreday accepted the tender offer before the expiration date (Huang, 2008).

3.3.7 Defence Mechanisms

In section 3.1.3 of this chapter we noted how in April, 2005, the CSRC issued the shareholding structure reform called 'Guquan Fenzhi Gaige'. Guquan Fenzhi Gaige required shareholders with tradable shares in a particular firm to agree terms and conditions under which the non-tradable shares in that firm will be converted into tradable shares.[14] Importantly, prior to 2005 the large majority of A shares were non-tradable and were mainly held by stated-owned controlled entities. This in turn made tender offers and hostile takeovers extraordinarily difficult. However, the gradual conversion of non-tradable shares into tradable shares after 2005 has facilitated an expansion in merger and acquisition activities

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[14] Here it will be recalled that shares in the mainland Chinese capital market are divided into A shares and B shares. Further, A shares fall into two categories: tradable shares and non-tradable shares. Importantly, prior to 2005 the large majority of A shares were non-tradable and were mainly held by stated-owned entities. This in turn made tender offers and hostile takeovers extraordinarily difficult.

with a consequent increase in the number of tender offers and hostile takeovers occurring in China. This in turn required that significant reforms be made to the takeover defence measures available to Chinese target firms. In response to this, the CSRC incorporated some important improvements into the defence mechanisms available to target firms under the Takeover Measures, 2006; though as Huang (2008) notes, the changes made are not perfect and indeed, are often problematic.

Firstly, Article 8 of the Takeover Measures, 2006 provides that when the board of directors of a target firm implement defensive measures against a potential takeover they must do so in such a way as to satisfy the fiduciary duties owed to the target firm and its shareholders. In particular, the defensive measures should be beneficial to the target firm and its shareholders and must not pose an inappropriate obstacle to the attempted takeover. Moreover, the board of directors of the target firm must not provide financial assistance either directly or indirectly to the bidding firm by making use of the resources of the target firm and nor may they damage the legitimate rights and interests of the target firm and its shareholders.

Secondly, under Article 33 of the Takeover Measures, 2006 once the acquiring firm has filed the provisional tender offer documents with the CSRC and before the completion of the tender offer, the board of directors of the target firm must not take any defensive measures which might have a significant effect on the composition or value of the target firm's assets, its liabilities, other entitlements or its business performance. In other words, when the board of directors of the target firm become aware of the pending tender offer they must not dispose of any of the target firm's assets, make any significant external investments or adjust in any way, the main business of the target firm or give guarantees or loans on behalf of the target firm, etc. without the approval of the shareholders in general meeting. This requirement prevents the target firm from initiating activities which might frustrate the acquiring firm in its efforts to consummate the tender offer and also, from implementing any other activities which may not be in

the best interests of the shareholders of the target firm (Huang, 2008). In other words, it implies that the catalogue of defensive measures taken by the target firm in the takeover is determined by the shareholders, and not the directors, which is quite similar to the "shareholder-based" model which underscores the City Code on Takeovers and Mergers in the United Kingdom (Huang, 2008). Here it is important to note that Article 33 of the Takeover Measures, 2006 overlaps with and in some areas conflicts with Article 8 of the Takeover Measures, 2006 which is based more on U.S. law and practice. This raises the general issue of whether laws based on a melange of foreign regulations in relation to the selection and application of the defensive measures available to Chinese target firms will work in China because of the very significant differences in culture and social norms which exist between western countries and China (Huang, 2008).

3.3.8 Agreement Takeovers

As noted previously in section 3.1.3 of this chapter, a significant characteristic of the Chinese securities markets is that not all the shares of listed firms are tradable on the stock exchange due to the division of A shares into state owned shares, legal person shares and public individual shares. In particular, before 2005 state-owned and legal person A shares were not allowed to be traded on organised securities markets. However, we have previously noted that in April, 2005, the CSRC implemented the Guquan Fenzhi Gaige reform programme under which listed firms with non-tradable A shares were obliged to convert these shares into fully tradable A shares. By July, 2007, 1,229 of the 1,333 firms with non-tradable A shares listed on the Shanghai and Shenzhen Stock Exchanges had begun the process of implementing the reform measures. However, experience has shown that for most firms it takes a considerable time to reach agreement on the terms and conditions of the conversion process and even when agreement is reached, there is often a provision which restricts trading on the stock exchange in the formerly non-traded A shares for several years into the future. Moreover, because of the the socialist principles upon which the Chinese

state is organised there are certain strategic industries where it is in the best interests of the Chinese economy for firms to remain predominantly under state control. In these industries whilst some shares may be traded by private individuals most shares will remain under the control of the state and will not be available for trading on the stock market. As a result of these factors it is occasionally the case that it is impracticable for prospective acquiring firms to make tender offers for firms which operate in industries that are of strategic importance to the socialist principles upon which the Chinese state is organised. In such circumstances the only way a prospective acquirer can make a takeover offer for the target firm is to reach an agreement with the Chinese government. Here, the Takeover Measures, 2006 lay down detailed rules governing the way in which an agreement for takeover is to be reached between the prospective acquiring company and the non-tradable shareholders.

First, if an acquiring firm intends to reach an agreement to purchase more than 30% of the issued shares of the target firm, then the shares that exceed the aforementioned 30% threshold must be acquired by means of a tender offer unless the acquiring firm applies for an exemption under Article 61 of the Takeover Measures, 2006. Second, the period between the signing of the agreement and the transfer of the related shares is called the transitional period. Article 52 of the Takeover Measures, 2006 provides that it is only in exceptional circumstances that the acquiring firm can change the composition of the board of directors of the target firm during the transitional period. However, in such exceptional circumstances the directors from the acquiring firm must not exceed one third of the total number of all directors of the target firm. Furthermore, article 52 also provides that the target firm must not give any guarantee (financial or otherwise) to the acquiring firm or any of its affiliated parties during the transitional period. In addition, unless the target firm is experiencing serious financial difficulties, it must not publicly issue shares for the raising of capital or conduct significant purchases or sales of assets or involve itself in any major

investment or any other affiliated transactions with the acquiring firm or its affiliated parties during the transitional period.

Third, where there is a controlling shareholder of the target firm who transfers their shareholdings to the acquirer by means of agreement, then an investigation as to the capacity, credit status and the purpose of the takeover by the acquirer must be conducted and the information obtained from the investigation must be disclosed in the report of the modification of entitlements provided to the CSRC under Article 50 of the Takeover Measures, 2006. On the other hand, if the controlling shareholder or any of its affiliated (concerted) parties has not paid off its debts to the target firm, or has not removed any guarantees that the target firm has provided for its debts, or is associated with any other circumstances that may damage the interests of the acquiring firm, then under Article 53 of the Takeover Measures, 2006 the board of directors of the acquiring firm must disclose the aforementioned circumstances and also take effective measures to protect the interests of its shareholders. These two provisions of the Takeover Measures, 2006 are designed to protect the shareholders of the acquiring firm from any conflicts of interest that may influence the motives of the controlling shareholder of the target firm.

Finally, under Articles 54 and 55 of the Takeover Measures, 2006 related parties involved in the takeover agreement must appoint a securities firm to apply to the China Securities Depository and Clearing Corporation for temporary custody of the shares to be transferred under the takeover agreement. They must also deposit the consideration for the purchase of the shares in the bank designated by the China Securities Depository and Clearing Corporation. Moreover, in accordance with the business operation rules of the stock exchange and the China Securities Depository and Clearing Corporation, after the related parties have agreed to go through with the takeover, the shares are removed from the temporary custody of the securities firm and transferred to the acquiring firm and the target shareholders receive the consideration deposited with the bank designated by the China Securities Depository and Clearing Corporation.

3.3.9 Application of Waiver

We have previously noted that under the Takeover Measures, 2006 a bidding firm that controls 30% or more of the equity shares of a listed target firm is required to make either a general or partial tender offer for the remaining shares in the affected target firm. However, under certain circumstances bidding firms are able to apply to the China Security Regulation Committee (CSRC) for an exemption from the requirement to make a tender offer. Hence, Article 62 of the Takeover Measures, 2006 provides that a bidding firm may apply for an exemption from the requirement to make either a general or partial tender offer under the following circumstances:

(1) The bidding firm and the target firm can prove that the transfer of shares would not affect the ultimate overall control of the target firm;

(2) The listed target firm is suffering from serious financial difficulties and the scheme for helping out the target firm which is brought forward by the bidding firm has obtained approval from the general assembly of shareholders of the target firm. Moreover, the bidding firm promises not to transfer the shareholdings and entitlements gained in the target firm within 3 years;

(3) The bidding firm has obtained new shares issued to them with the approval of the non-related shareholders of the general assembly of shareholders of the target firm and these newly issued shares have resulted in the bidding firm's overall interest in the target firm rising above the 30% threshold. Moreover, the bidding firm promises not to transfer its shareholding gained in the target firm for the following 3 years.

Parties other than the bidding firm may also apply for an exemption from the requirement for the bidding firm to make a tender offer. The exact circumstances under which this may be done are summarised in Article 63 of the Takeover Measures, 2006. Broadly the provisions summarised in Article 63 exempt a

bidding firm from making a tender offer when the actions of a third party unintentionally lead to the bidding firm's overall interest in the target firm rising above the 30% threshold.

3.3.10. Financial Consultant

We have previously noted that firms involved in takeover activities in China, including both target and acquiring firms, are required to appoint professional financial consultants to assist them in undertaking takeovers in an organised and efficient manner. Hence, the Takeover Measures, 2006 outline detailed obligations and responsibilities that must be followed by the financial consultants appointed by the target and acquiring firms. First, when a financial consultant appointed by the acquiring firm issues a "financial consultation" report, Article 66 of the Takeover Measures, 2006 require that the report should clearly analyse and explain each of the following issues:

(1) Whether or not the contents disclosed in the takeover report prepared by the target firm under the provisions of Article 32 of the Takeover Measures, 2006 or the tender offer report prepared by the acquiring firm under Article 29 of the Takeover Measures, 2006 are true, accurate and complete;

(2) The purposes for the takeover as given by the acquiring firm;

(3) Whether or not the acquiring firm has provided all the necessary certification documents and made all appropriate statements on the strengths, viability and future profitability of its core business operations. The financial consultant must also analyse and explain the financial status and credit situation of the acquiring firm and identify its controlling shareholders. The financial consultant must also assess whether or not the acquiring firm has the economic wherewithal to implement the takeover and the managerial ability to operate the target firm effectually if the takeover comes to fruition. Finally, the financial consultant must assess whether or not the acquiring firm needs to assume any additional obligations in relation to the takeover;

(4) Whether or not the directors, supervisors and senior managers of the acquiring firm are familiar with the securities and other laws relating to takeovers, the administrative regulations and provisions of the CSRC and are fully aware of their obligations and liabilities to file all appropriate reports, to make all appropriate public announcements and to fulfil all relevant statutory obligations;

(5) The major shareholders and the related percentage of shares they own in the acquiring firm and a structural chart of the relationship between these shareholders that indicates whether they can control the acquiring firm as concerted parties;

(6) Sources of capital that the acquiring firm intends to use for the takeover consideration and its legality, and whether or not the acquiring firm has made use of shares purchased in the takeover to obtain capital financing from a bank or any other financial institutions by means of pledge;

(7) If the acquiring firm pays the consideration for the takeover in securities, a statement about whether or not the information disclosed by the issuer of those securities is true, accurate and complete. The financial consultant is also responsible for assessing the liquidity of the securities offered as consideration for the takeover.

(8) Whether or not the acquiring firm has obtained permission from the CSRC to implement the takeover;

(9) Whether or not arrangements have been made for the stable operation of the target firm over the transitional period of the takeover as defined in Article 52 of Takeover Measures, 2006, and whether the arrangements satisfy all related legal provisions;

(10) If there is intra-industry competition or continuous affiliated transactions

between the acquiring and target firms, to assess the arrangements that have been made to resolve any conflicts which might arise between the acquiring and target firms and also to evaluate the arrangements which have been made to maintain the operational independence of the target firm:

(11) Whether any party (other than the acquirer) has a right of claim on the takeover target, and whether the acquirer has made supplementary arrangements with the target firm other than the consideration for the takeover specified in the tender documents;

(12) Whether or not there is any business relationship between the acquiring firm or any of its affiliated parties and the listed target firm, and whether or not there is any agreement on the future employment of directors, supervisors and senior managers between the acquiring firm and the listed target firm;

(13) Whether or not the original controlling shareholder or actual controller of the listed target firm has not paid off its debts to the target firm, or has not removed any guarantees that the target firm has provided for its debts, or is associated with any other circumstances that may damage the interests of the acquiring firm. If any of the above circumstances do exist, whether or not practicable solutions have been brought forward by the parties concerned.

(14) In the case that the acquiring firm intends to file for an exemption to make a tender offer for the target firm, then the financial consultant must make a statement about whether the exemption satisfies any of the circumstances specified under Articles 62 and/or Article 63 of the Takeover Measures, 2006 and whether or not the acquiring firm is capable of fulfilling any related commitments made under these provisions.

Secondly, the independent financial consultant employed by the board of directors of a target firm must not simultaneously act as the financial consultant of the acquiring firm or have any affiliated relationship with the financial

consultant of the acquiring firm. Furthermore, the independent financial consultant of the target firm should conduct a due diligence investigation and issue a professional opinion about the fairness and legality of the takeover. Under Article 67 of the Takeover Measures, 2006 the independent financial consultant's report for the target firm should explain and analyse the following issues and also give clear opinions on all of them:

(1) Whether or not the acquiring firm has the financial wherewithal to purchase the target firm;

(2) The possible effects of the takeover on the business independence and continuous development of the listed target firm;

(3) Whether or not the acquiring firm intends to use (or pledge) the assets of or other forms of capital obtained from the target firm to raise the consideration necessary to finance the takeover;

(4) If a tender offer is involved, the financial consultant must provide an analysis of the financial status of the target firm, must evaluate whether or not the takeover price fully reflects the value of the target firm and whether or not the tender offer is fair and rational. The financial consultant must also make a recommendation about whether the shareholders of the target firm should accept the tender offer;

(5) If the consideration to be paid for the takeover by the acquiring firm is in the form of securities, then the financial consultant must conduct a valuation analysis of the related securities in terms of their asset backing and their business and profit-making potential. The financial consultant must then use the assessed value of the securities to determine whether or not the conditions of takeover are fair and sensible to the public shareholders of the target firm and whether or not the conditions for takeover put forward by the acquiring firm should be accepted;

(6) If the takeover involves a management buy-out, the financial consultant must provide a valuation analysis of the target firm. The financial consultant must also provide an assessment of the price set for the management buy-out, the method of payment, the sources of financing for the buy-out and the associated repayment plans, and the feasibility of the management buy-out in light of all the aforementioned factors. A summary assessment must also be provided about the business relationships which exist between the target firm's management, their lineal relatives and the target firm itself within the prior 24 months. Finally, the financial consultant must also provide an independent assessment of the information disclosed in the takeover report prepared by the target firm under the provisions of Article 32 of the Takeover Measures, 2006.

3.4 China's Anti-Monopoly Law, 2008 and Regulation on Notification Threshold of Concentration of Undertakings.

3.4.1 General Introduction to the Anti-Monopoly Law in China and Notification Threshold of Concentration of Undertakings

As noted in section 3.2.2 of this chapter, the Anti-Monopoly Law, 2008 is another significant strand of Chinese Law which regulates mergers and acquisitions in China. The Anti-Monopoly Law became effective on 1 August 2008 and soon after attracted world wide attention when China-MOFCOM (that is, the Ministry of Commerce) blocked the U.S. Coca-Cola Company from mounting a successful takeover bid for the Chinese fruit giant, Huiyuan Juice Group Ltd. Article 1 of the Anti-Monopoly Law provides that the objectives of the law are to prevent and restrain monopolistic practices, protect fair competition in the market, enhance economic efficiency, safeguard the interests of consumers and the general public and promote the healthy development of the socialist market economy in China. The Anti-Monopoly Law is a wide ranging law that covers antitrust legislation, the prohibition of horizontal agreements, the prohibition of abuse of market power and includes provisions on the special status of State-Owned-Enterprises (SOE) and the so-called "administrative monopolies", etc. amongst many other matters.

The Anti-Monopoly Law has had and will continue to have a significant impact on foreign investment in China, particularly in relation to foreign firms who wish to make takeover offers for domestic Chinese firms.   Hence, the primary focus of this section will be on the parts of the Anti-Monopoly Law that affect mergers and acquisitions (M&A) in China; in particular, Chapter IV of the Anti-Monopoly Law which is entitled "Concentration of Business Operators".

Under Article 10 of the Anti-Monopoly Law, 2008 there are in total three enforcement agencies; namely, the Ministry of Commerce (MOFCOM), the Fair Trade Bureau under the State Administration for Industry and Commerce (SAIC) and the National Development and Reform Commission (NDRC). MOFCOM is responsible for examining all proposed M&A transactions in China so as to determine whether or not those transactions will result in the elimination or restriction of competition within Chinese markets.   In this regard, the SAIC has responsibility for carrying out investigations of any potential or reported cases of monopoly agreements; for example, cases of abuse of dominant market position by undertakings.   The SAIC also has authority to impose administrative sanctions as appropriate. Finally, the NDRC bears responsibility for investigating all price-related monopoly cases.   These cases may arise, for example, from price fixing agreements or abuse of dominant market position by undertakings.   However, with regard to domestic and international mergers and acquisitions, the Ministry of Commerce (MOFCOM) is the main agency responsible for examining proposed M&A activities.

The Anti-Monopoly Law does not specify detailed financial and other notification thresholds for the reporting of proposed mergers and acquisitions to MOFCOM, and so on 3 August, 2008 the State Council issued the "Regulation on the Notification Threshold of Concentration of Undertakings" (from hereon in referred to as the Notification Regulations) to supplement the M&A rules under the Anti-Monopoly Law.   Article 1 of the Notification Regulations indicates that it aims to clarify the concentration thresholds which if exceeded would require the parties involved in proposed M&A activities to notify MOFCOM under the Anti-Monopoly

Law. This Notification Regulation, along with the new Chinese Anti-Monopoly Law that became effective on 1 August, 2008 opens a new era in China's M&A control regime (Hastings, 2008).

3.4.2 The Mandatory Pre-Merger Notification Process under the Anti-Monopoly Law, 2008 and Notification Threshold

Chapter IV of the Anti-Monopoly Law which is comprised of Articles 20 through 31, details the mandatory pre-merger notification process, the investigation process to be followed by MOFCOM on notification of a proposed M&A activities, the procedures MOFCOM is to use for promulgating its decisions and the appeals process to be followed by dissident parties. Article 21 of the Anti-Monopoly Law provides that where concentration levels in M&A activities exceed given thresholds a declaration must be lodged with MOFCOM and the merger and/or acquisition must be placed in abeyance until such time as approval is obtained from MOFCOM for the merger and/or acquisition to proceed. As previously noted, however, the affected concentration levels are only vaguely articulated in the Ant-Monopoly Law. Given this, the State Council issued the Notification Regulations which incorporate more detailed and specific concentration thresholds. In particular, Article 3 of the Notification Regulations provide that a mandatory pre-merger notification must be filed with MOFCOM by the parties involved in a merger and/or acquisition when:

(1) the total global revenues in the preceding fiscal year of all undertakings involved in the merger and/or acquisition exceed RMB 10 billion and the China revenues of at least two of the undertakings each exceed RMB 400 million in the preceding fiscal year; or

(2) the total China revenues in the preceding fiscal year of all undertakings involved in the merger and/or acquisition exceed RMB 2 billion and the China revenues of at least two of the undertakings each exceed RMB 400 million.

The notification thresholds under the Notification Regulations represent a huge improvement over the vaguely defined thresholds of the Ant-Monopoly Law and the thresholds defined in the 2006 Foreign Merger and Acquisition Regulations. These latter thresholds were based on market share criteria and were often difficult and even impossible to interpret, let alone implement in any practical sense. Hence, the notification thresholds specified under Article 3 of the Notification Regulations provide clear guidance and enable the affected firms to evaluate whether or not a merger and acquisition filing needs to be provided to MOFCOM for a given transaction; and the evaluation is based on the objective standard of worldwide or China-wide turnover, rather than market share which experience under the 2006 Foreign Merger and Acquisition Regulations has shown is difficult to assess (Wang, 2008).

When a proposed merger and/or acquisition satisfies the threshold conditions specified in Article 3 of the Notification Regulations, then Article 23 of the Anti-Monopoly Law provides that the documents and materials required to be submitted to MOFCOM must include a declaration paper, an explanation of the merger and/or acquisition's effect on market competition, a detailed summary of the agreed terms and conditions under which the merger and/or acquisition will occur and the financial reports and accounting reports of the preceding accounting year of the business operator. Furthermore, the declaration paper must include the name, domicile and business scope of the parties involved in the merger and/or acquisition and a precise timetable under which the merger and/or acquisition will be consummated. If needed, MOFCOM is also authorised to demand any other documents and materials which in its opinion, will facilitate its investigations into the proposed merger and/or acquisition. Here it is important to note, however, that Article 22 of the Anti-Monopoly Law provides that an exemption from filing can be obtained if the proposed M&A transaction satisfies the concentration provisions of Article 20 of the Anti-Monopoly Law, but does not result in the acquiring firm obtaining majority control of the target firm. Specifically, if an acquiring firm already holds in excess of 50% of the voting

rights of the target firm (through previous acquisitions of the equity or assets of the target firm) or if another totally independent firm which is not taking part in the M&A transaction already holds in excess of 50% of the voting rights of the target firm, then the acquiring firm may apply for an exemption from filing the documents required under Article 23 of the Anti-Monopoly Law.

3.4.3 Factors Employed to Evaluate the Concentration of Business Operators

Article 27 of the Anti-Monopoly Law outlines the issues which will be considered by MOFCOM in reviewing proposed M&A transactions. These mainly relate to the protection of the interests of consumers, competitors and other market participants. Specifically, Article 27, provides that there are five relevant elements involved in evaluating M&A activities; namely, the market share and controlling power in the relevant markets of the merging firms, the degree of concentration in the relevant markets, the effects of the concentration for market access by new firms and the potential impact on technological progress in the relevant industries/markets, the influences of the market concentration on consumers and competitors and the impact of the market concentration on national economic development. However, some argue that MOFCOM may use Article 27 of the Anti-Monopoly Law to advance macroeconomic or even protectionist goals since this provision mandates that consideration must be given to the impact that a particular merger and/or acquisition might have on the development of the national economy and/or public interest. Moreover, the Chinese Government has recently expressed a strong desire to protect the intellectual property (IP) rights of Chinese firms and citizens. Given this, concern has been raised that MOFCOM could use the provisions of Article 27 (for example, the effects of the concentration for market access by new firms) as an "excuse" to block proposed mergers and/or acquisitions which it considers will have an adverse impact on the IP rights of Chinese firms and citizens (Zhang, et. al., 2007). A significant difficulty with Article 27, however, is that it is vaguely worded. In particular, clarification needs to be provided about several important

terms; for example, relevant market, market participants, how the calculation of market concentration is to be made, how the influence of market concentration on consumers and competitors and the impact of the market concentration on national economic development is to be measured, etc. (Farmer, 2009).

In addition, Article 28 of the Anti-Monopoly Law further emphasises that where the proposed merger and/or acquisition might eliminate or restrict competition, MOFCOM shall make a decision to block the proposed M&A activities. Moreover, Article 4 of the Notification Regulations provides that where M&A activities do not reach the thresholds specified in Article 3 of the Notification Regulations, then MOFCOM shall nonetheless be obliged to investigate the proposed M&A activities in accordance with the Anti-Monopoly Law if the facts and evidence collected through due process demonstrate that the M&A activities might result in exclusion or restriction of competition. Article 28 of the Anti-Monopoly Law in conjunction with Article 4 of the Notification Regulations suggest that M&A activities shall be prohibited as long as the M&A activities have the effect of eliminating or restricting competition, no matter if they are conducted in or outside of China. Hence, to a certain extent, the Anti-Monopoly Law has an extra-territorial effect in the sense that M&A activities which occur outside of China but will or may eliminate or restrict competition are caught by the Anti-Monopoly Law (Seto and Chow, 2009). More importantly, Article 28 of the Anti-Monopoly Law provides that if the affected firms can show that the proposed M&A activities will have more positive effects than negative effects on competition or the proposed M&A activities are in harmony with the public interest, then MOFCOM may decide not to block the affected M&A activities. Thus, MOFCOM imposes the burden on the parties involved with the proposed M&A activities to prove that the favourable impacts on competition arising from the M&A activities will exceed any adverse impacts, even though it is often not clear how these so-called benefits and adverse impacts are to be assessed or measured.

Moreover, Article 31 of the Anti-Monopoly Law provides that where a foreign investor acquires or merges with a domestic enterprise or acquires the assets, equity or enters into contracts with a domestic Chinese firm in such a way as to have implications for the national security of China, then in addition to the examination of the concentration conducted under Article 27 of the Anti-Monopoly Law, MOFCOM shall also carry out an investigation with the relevant Department of State of the implications of the concentration for national security. Whilst considerations of national security also probably play an important role in assessments of M&A activities in western countries, Chinese law is unique in that it incorporates national security issues explicitly into the laws affecting mergers and acquisitions in China. In western countries national security issues associated with M&A activities are considered more covertly. Thus, in China national security issues receive separate and detailed consideration from the economic issues affecting M&A activities (Farmer, 2009).

3.4.4. Investigation Procedures for the review of Concentration of Business Operators

As specified in section 3.2.2 of this chapter, once the required notification documents dealing with the notification threshold as required under Article 27 of the Anti-Monopoly Law have been filed with MOFCOM by the relevant M&A parties, then in accordance with Article 25 of Anti-Monopoly Law MOFCOM will spend 30 days conducting a preliminary investigation of the proposed merger and/or acquisition. This preliminary investigation aims to make a decision about whether to carry out a further review of the proposed merger and/or acquisition transactions. Within 30 days of submission of the notification documents MOFCOM must inform the parties involved in the M&A transactions in written form about whether a more detailed review will be commissioned under Article 26 of the Anti-Monopoly Law. If MOFCOM rules that no further review is required, then the M&A activities can proceed. Moreover, Article 25 of the Anti-Monopoly Law implies that if MOFCOM has not made a decision on the necessity for a further review within the 30-day time period, then the merger transactions are

effectively deemed not to be prohibited and the parties concerned are allowed to complete the necessary transactions to consummate the M&A transactions. Hence, in this area, Chinese law is consistent with practices in the Untied States (Farmer, 2009). If, however, MOFCOM deems a further review to be necessary, then the review must be completed and a decision about whether or not to prohibit the proposed M&A transactions must be communicated to the affected parties in writing within 90 days from the date of the decision about the requirement for a further investigation. After the second more detailed review, if MOFCOM elects to block the proposed M&A activities, then in addition to the written notification required under the first review, it must also provide a written summary of the reasons behind its decision.

Furthermore, Article 26 of Anti-Monopoly Law allows for the possibility of a third review of the proposed M&A transactions which must be completed within 60 days of notification of the result of the second more detailed review. Article 26 provides that MOFCOM may conduct a third round review if any one of the following conditions is satisfied:

(1) MOFCOM informs the parties involved in the proposed M&A activities that the second review has been inconclusive and the parties involved in the proposed M&A activities agree to allow a third round review which must be completed within 60 days, or

(2) the documents or materials submitted to MOFCOM are inaccurate and thus require further verification. Again, the review must be completed within 60 days, or

(3) the circumstances and events surrounding the proposed M&A activities have significantly altered after the submission of the declaration paper required under Article 23 of the Anti-Monopoly Law.

Unfortunately, the circumstances which justify a third round review are not very well articulated and this has led to difficulties for the parties involved in identifying

the precise situations under which a third round review may be conducted. Moreover, Article 26 of the Anti-Monopoly Law provides that if the time in either the 90-day (second) review or 60-day (third) review expires without any action by MOFCOM, then the parties concerned may implement the transactions necessary to consummate the merger and/or acquisition. Again, in this area, Chinese law is in line with practices in the Untied States (Farmer, 2009).

3.4.5. Procedures for Promulgating Determinants of Concentration of Business Operators

In general, under the Anti-Monopoly Law there are three different determinations on a pre-merger notification of affected concentration made by MOFCOM, which as previously noted, is the enforcement agency of the Anti-Monopoly Law in China. These three determinations are as follows:

(1) issuing a permit to proceed with the proposed merger and/or acquisition transactions; or

(2) issuing a permit to proceed with the proposed merger and/or acquisition transactions under specified restrictive conditions, or

(3) blocking the proposed merger and/or acquisition transactions.

In particular, if markets in the area of the proposed merger and/or acquisition will show an unacceptably high level of concentration after the transactions, thereby eliminating or restricting competition, then under Article 29 of the Anti-Monopoly Law, MOFCOM may prohibit the affected M&A transactions from taking place or may impose such conditions as are necessary to reduce the adverse impact of the increased concentration on competition in the relevant markets. Moreover, Article 31 of the Anti-Monopoly Law provides that if MOFCOM decides to prohibit or impose restrictive conditions on concentration, it must publicise such decisions to the general public in a timely manner (Seto and Chow, 2009). Farmer (2009) makes the important point that the publicity requirements associated with Article

31 impose an accountability requirement on MOFCOM and it also adds transparency to the M&A review process.

Seto and Chow (2009) note that before the Anti-Monopoly Law, 2008 came into force it was very rare for MOFCOM to block proposed M&A activities. The first determination of a conditional approval under Article 31 of the Anti-Monopoly Law occurred in November 2008 when Anheuser-Busch Inc. made a takeover offer for InBev N. MOFCOM approved the proposed takeover but only on the condition that Anheuser-Busch Inc. did not increase its shareholding in its competitor beer company, Tsingdao Brewery and also, InBev N. was prohibited from increasing its shareholding in Zhujiang Brewery. MOFCOM imposed these conditions because it was likely that if the shareholdings in Tsingdao Brewery and Zhujiang Brewery were increased, it might intensify concentration in the brewing industry, thereby having an adverse impact on competition (Zhang and Zhang, 2009). MOFCOM published their decision on the above proposed transaction (conditional approval) to the general public at the end of December, 2008. Soon after this in March, 2009 MOFCOM blocked Coca-Cola's proposed acquisition of China Huiyuan Juice Group Limited. As noted in Section 3.2.2 of this chapter Huiyuan Juice is a Hong Kong Listed firm that is a famous national Chinese brand closely associated with the Chinese culture and its people. This was the first merger blocked by MOFCOM after the Anti-Monopoly Law, 2008 came into force. Bachrack, Huang and Modrall (2009) give the following reasons as to why MOFCOM blocked the proposed acquisition of Huiyuan Juice by the Coca Cola Company:

(1) Coca-Cola would be able to leverage its dominant position in the carbonated soft-drink market into the fruit-juice drink market, thus eliminating and restricting competition from currently existing fruit juice manufacturers and in turn, damaging the lawful interests of fruit juice consumers. Although the decision did not indicate how Coca-Cola could leverage its position from carbonated soft drinks into the fruit juice drink market, MOFCOM's press release referred to the possibility that Coca-Cola could engage in "bundling"

or other forms of exclusive dealing;

(2) Coca-Cola's market power in the fruit juice market would be markedly enhanced by controlling two famous juice brands, MeiZhiYuan (Minute Maid) and Huiyuan.   The transaction would therefore significantly raise entry barriers for potential competitors in the fruit-juice drink market;

(3) The transaction would reduce the "space" available to domestic small and medium-sized fruit juice manufacturers and negatively impact the ability of domestic enterprises to compete and innovate independently in the fruit-juice drink market; and

(4) The transaction would have adverse impacts on the competitive landscape of China's fruit-juice drink market and the sustainable and healthy development of the domestic fruit juice industry.

3.5. Provisions on Mergers and Acquisitions of a Domestic Enterprise by Foreign Investors

On 22 June, 2009, MOFCOM revised several provisions of the Merger and Acquisition of Domestic Enterprises by Foreign Investors Law ("M&A Provisions 2009"), which was originally promulgated on 8 August, 2006. As noted in Section 3.3 of this chapter, the revisions aim to bring the M&A Provisions into compliance with the Anti-Monopoly Law which came into force on 1 August, 2008 and the Regulation on the Notification Threshold of Concentration of Undertakings which came into force on 3 August, 2008.   Here we need to note that the M&A Provisions 2009 lay particular emphasis on takeover activities that involve foreign investors acquiring domestic Chinese enterprises.   The reasons behind the promulgation of the revised M&A Provisions are that since China's admission to the World Trade Organisation in 2001 there has been a steadily increasing number of international firms that have sought to invest in China by acquiring and/or merging with Chinese domestic firms. This has provided foreign firms with immediate market access with minimal business risk.   In addition, foreign investors who acquire Chinese domestic firms are able to convert the acquired

firms into Foreign-Invested Enterprises (FIE). FIE's receive preferential treatment in a number of areas, including under the Chinese taxation system [15]. In the following sections we highlight issues from the M&A Provisions, 2009 which are of practical importance for foreign firms that wish to acquire domestic Chinese firms.

3.5.1 Share Swaps in the M &A Provisions, 2009

Article 2 of the M&A Provisions, 2009 provides that foreign investors can merge with or acquire a Chinese domestic firm by means of purchasing assets or acquiring shares. Moreover, since 2006 share swaps began to be allowed for foreign investors that wished to merge with or acquire Chinese domestic firms. In other words, before 2006 only a cash consideration was allowed in transactions involving foreign investors merging with or acquiring Chinese domestic firms. Further, Article 27 of the M&A Provisions, 2009 provides that, with regard to share swaps, foreign investors can use currently issued shares or a new share issue of the acquiring firm to purchase an equity interest in a Chinese domestic firm. Similarly, the equity interest in the Chinese domestic firm may be acquired from existing shareholders or through a new share issue by the Chinese domestic firm. After the merger and/or acquisition, the acquired Chinese firm can be converted into an FIE. Thus, Article 2 of the M&A Provisions, 2009 provides that foreign investors can employ disposable foreign-listed shares, cash or a combination of both to merge with or acquire Chinese domestic firms, although this is subject to certain conditions and government approval (Huang, 2007).

Articles 28 and 29 of M&A Provisions, 2009 provide that if a foreign investor intends to merge with or acquire a Chinese domestic firm using a share swap, it must satisfy the following conditions:

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[15] The Chinese Government has a low and preferential tax policy for FIEs in certain specified regions (e.g. special economic zones in China) and industries (e.g. high-advanced technology) where it strongly encourages foreign investment.

(1) The foreign firm must be legally established and its registration domicile must have a sound legal system of company administration;

(2) The foreign firm and its management must not have been convicted of significant crimes by relevant regulatory authorities over the prior three years;

(3) The foreign firm must be a public listed firm and the listing place must have a sound management system of security exchanges;

(4) The equity of foreign firms must be listed on an open and lawful securities exchange market (excluding the OTC market); and

(5) The price at which the foreign firm's securities have traded over the previous year must be relatively stable.

Furthermore, there are an additional two conditions applicable for both the equity of the foreign firms and Chinese domestic firms in the case of share swap transactions. First, the equity of foreign firms and Chinese domestic firms must be lawfully held by shareholders and may be assigned according to the law. Secondly, there must be no outstanding disputes or pending legal proceedings about the ownership of the equity of both the foreign and domestic firms.

In cross-boarder (that is, international) share swap transactions, Article 30 of the M&A Provisions, 2009 require that the Chinese domestic firm must appoint an intermediary who is established and registered in China, such as a law firm, accounting firm or investment firm, to act as its consultant to perform the due diligence procedures pertaining to the proposed acquisition. Specifically, the intermediary employed by the Chinese domestic firm is responsible for reviewing and verifying relevant documents and the financial status of foreign firms and also, ensuring that the proposed acquisition conforms to the requirements of the M&A Provisions, 2009. Moreover, another responsibility of the aforementioned

intermediary is that they must issue an advisory report that gives clear and professional advice on the above mentioned issues on an item by item basis.

An editorial in the Illinois Business Law Journal (2006) argues that, allowing for share swaps in across-boarder mergers and acquisitions gives foreign investors increased flexibility in choosing the mode of payment for the transactions and also, brings China, in relation to M&A regulations, into line with best international practice. However, the restrictions imposed on cross-boarder share swap merger and acquisitions (as, for example, under Articles 28, 29 and 30 of the M&A Provisions, 2009) result in an increased level of regulatory scrutiny by the relevant authorities. The ultimate consequence of this is that the regulations are so strict and often so difficult to satisfy, that cash rather than share swaps is the preferred mode of consideration for most cross-boarder mergers and/or acquisitions in China.

All cross-boarder share swap M&A transactions are subject to examination and approval by MOFCOM. With regard to cross-boarder share swap transactions, the declaration procedures to MOFCOM under the M&A Provisions, 2009 are broadly similar to those specified in the Takeover Measures, 2006. There are, however, a few minor differences and one major difference between the declaration procedures under the two laws. The major difference is that, under Article 25 of the M&A Provisions, 2009, MOFCOM has to make a decision about whether or not to grant approval for the proposed M&A transactions to proceed within thirty days following the receipt of all required documents. More importantly, once MOFCOM approves the proposed M&A activities, a certificate of approval will be issued. At the same time, MOFCOM has to make copies of the relevant approval documents separately to the foreign exchange administrative authority at the equity transfer's locality. After this, the foreign exchange administrative authority must issue the relevant certificate of registration of share transference of foreign exchange earnings and foreign exchange from foreign investment, which is the documentation necessary to

prove that the foreign investor(s) has paid the consideration for equity subscription and/or purchase.

3.5.2 Special Provisions on Special Purpose Companies

Article 39 of the M&A Provisions, 2009 defines a Special Purpose Company (SPC) as an overseas firm directly or indirectly controlled by a Chinese domestic firm or a Chinese natural person and importantly, the SPC is specifically established for the purpose of an overseas listing of the interests of a Chinese domestic firm. Moreover, the main assets of an SPC are the rights and interests in a Chinese domestic firm.

According to Chao and Xu (2008), in the past ten years, a huge number of Chinese domestic firms have employed "round trip investment" procedures to facilitate private equity investments in Chinese domestic firms and have firms listed on overseas stock markets, such as the UK, the US, etc. A "round trip investment" occurs when a domestic firm establishes or controls an offshore holding firm and uses this offshore holding firm to control a Chinese domestic firm either by direct acquisition or by a captive contractual arrangement. It was previously very common for Chinese domestic firms to use funds raised through overseas offshore holding firms to re-invest the proceeds in Chinese domestic firms as Foreign-investment Enterprises (FIEs), thereby accessing the tax benefits and other preferential treatments that the Chinese government has made available to certain manufacturing FIEs. Recently, however, the Chinese government has become increasingly uncomfortable with the round trip investment mechanism and has tightened the regulations relating to it, particularly in regard to provisions incorporated into the M&A Provisions, 2009. A specific example is provided by Article 9 of the M&A Provisions, 2009 which stipulates that if any Chinese domestic firm or natural person merges with or acquires an affiliated domestic firm in the name of a firm legally established or controlled by the aforesaid domestic firm or natural person in a foreign country or region, then it must be subject to the approval of MOFCOM in Beijing, regardless

of the size of the affected transactions. Further, Article 9 also specifies that if the purchase of a domestic firm by a foreign investor exceeds 25% of the domestic firm's total registered capital, then the FIE is eligible for tax benefits and other favourable treatments. It is important to note here that the M&A Provisions, 2009 consider the beneficial owner, rather than the registered investor in determining eligibility for favourable treatment of the FIEs (Huang, 2007). Hence, if the domestic firm is merged with or acquired by an overseas firm which is established or controlled by a domestic firm or natural person and is thus affiliated with the acquired domestic firm, then in this circumstance such a merger or acquisition is not entitled to FIE tax benefits and other preferential treatments unless the overseas firm purchases any increased capital of the domestic firm, or the enterprise established after the merger or acquisition by the overseas firm increases its proportionate investment to 25% or more of its registered capital.

Moreover, Article 42 of the M&A Provisions, 2009 also requires that a Chinese domestic firm intending to establish a special purpose company (SPC) overseas must seek the approval of MOFCOM before doing so. In addition, Article 44 of the M&A Provisions, 2009 provides that when an SPC is employed as a merging or acquiring vehicle in order to get a Chinese domestic firm listed overseas, then the total value of the shares of the SPC to be issued overseas cannot be lower than the value of the share rights of the merged or acquired domestic firm as evaluated by a corresponding asset valuation institution in China. Furthermore, the share swap also requires the approval from MOFCOM. Also, Article 40 of the M&A Provisions, 2009 provides that where an SPC seeks an overseas listing, then it is subject to approval from the China Securities Regulatory Commission (CSRC). Importantly, Article 47 of the M&A Provisions, 2009 provides that within 30 days of the completion of an SPC listing on an overseas stock exchange, the Chinese domestic firm must report the situation relating to the overseas listing to MOFCOM, including the repatriation proposal of funds raised abroad, and it must also apply for an FIE approval certificate. After this, the domestic firm must

apply to the State Administration for Industry and Commerce (SAIC) for an FIE business licence and to the State Administration of Foreign Exchange (SAFE) for a foreign exchange registration certificate. Finally, the shares of the SPC can be used in share swap transactions to acquire further Chinese domestic firms, provided only that the SPC is successfully listed on an overseas stock exchange. Here we need to note that, in accordance with Article 49 of M&A Provisions 2009, if the SPC fails to consummate the listing abroad within one year of the issuance of the FIE business licence, or if the SPC fails to fulfil its reporting duties to MOFCOM, then MOFCOM will require the share swap to be reversed.

3.5.3 National Economic Security Review

The assessment of the impact of cross-boarder mergers or acquisitions on the national economic security of China plays an important role in the M&A Provisions, 2009. For instance, Article 12 of the M&A Provisions, 2009 provides that if foreign investors merge with or acquire a Chinese domestic enterprise and intend to obtain actual control over the enterprise, and if such merger or acquisition involves any "critical industry" and/or will have an adverse or potential adverse impact on the security of the national economy and/or results in transfer of actual control over a domestic enterprise owning a "renowned trademark" or a Chinese "time-honoured" brand (though in this circumstance it may not have an impact on any major industry or the economic security of China), then the parties involved with the merger or acquisition must apply to MOFCOM for approval of the proposed merger and/or acquisition. Moreover, Article 12 also stipulates that in the case where any of the aforesaid circumstances arise, but the parties concerned in the merger or acquisition fail to report the related merger or acquisition transactions to MOFCOM, then MOFCOM may, in conjunction with other relevant government agencies, demand that the parties concerned delay the M&A transactions, re-assign relevant equity or assets, or put any other effective actions into place to eliminate the adverse effects of the merger or acquisition on the security of the national economy. Here, it is important to note that the regulations dealing with the impact of cross-border M&A activities on

national economic security in the M&A Provisions, 2009 are closely related to Article 31 of Anti-Monopoly Law which was the subject of discussion in section 3.3.3 of this chapter.

A recent report of the Organisation for Economic Cooperation and Development (2006) (OECD) has reviewed the latest developments in China's policies towards cross-border mergers and acquisitions. The OECD agues that that the M&A Provisions, 2009 increase transparency by demanding that parties associated with mergers and/or acquisitions disclose whether or not they are affiliated with each other and also, establishes specific and detailed provisions regarding the use of Special Purpose Companies (SPC) by Chinese domestic firms that acquire overseas owned enterprises in China. However, terms and phrases included in the M&A Provisions, 2009, such as "critical industry", "impact on national economic security", "renowned trademarks"[16] and "time-honoured brand" often lack clarity and lead to potential uncertainties in the application of the relevant articles of the M&A Provisions, 2009. Consequently, foreign investors intending to merge with and/or acquire Chinese domestic firms, Chinese domestic firms that have been targeted for takeover by foreign firms and even Chinese government agencies may find it difficult to apply some of the articles of the M&A Provisions, 2009 that contain these terms. In addition, they OECD suggests that requiring Chinese government agencies to consider the impact of cross-border mergers and acquisitions on national economic security may lead to over zealousness in the review process as government officials place excessive weight on the political consequences of the decisions they make. This in turn raises issues about the compatibility of the M&A Provisions, 2009 with best international practices in the area.

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[16] The OECD notes that the Trademark Office of the State Administration for Industry and Commerce bears the principal responsibility for certifying "renowned trademarks" in China. However, the People's Court of China is the ultimate authority in these matters in the case of legal disputes. The legal uncertainties surrounding the certification of "renowned trademarks" in China makes it difficult for foreign investors involved in proposed M&A activities to make assessments about whether or not a trademark will fall into the category of a "renowned trademark". A good example of this is provided by the U.S. Coca Cola Company's proposed takeover of the Huiyuan Juice Group Ltd which was blocked under the "renowned trademark" provisions of the M&A Provisions, 2009 (See section 3.3.2 of this chapter for further details).

3.5.4 Reporting Thresholds for Cross-border Mergers and Acquisitions in M &A Provisions, 2009

We have already noted in section 3.4 of this chapter that in 2009 the Ministry of Commerce (MOFCOM) amended the M&A Provisions, 2006 in order to bring these Provisions into compliance with the Anti-Monopoly Law and the Regulation on the Notification Threshold of Concentration of Undertakings. Both the Anti-Monopoly Law and Notification Regulations are considered in detail in section 3.3 of this chapter. In particular, chapter 5 of M&A Provisions, 2006 was replaced with a new provision, namely Article 51 in the M&A Provisions, 2009. Article 51 provides that when the merger and/or acquisition of a Chinese domestic enterprise by a foreign investor reaches the thresholds summarised in the Notification Regulations, then the foreign investor must make a declaration to MOFCOM and must not proceed with the M&A transactions without this prior reporting. It implies that the declaration thresholds brought forward in the Notification Regulations are not only applicable to Chinese domestic mergers and/or acquisitions (as noted in Section 3.3.2 of this chapter), but also are applicable to foreign investors merging with or acquiring Chinese domestic firms. It will be recalled from section 3.3.2 of this chapter that the Notification Regulations require that the relevant parties involved in a merger and/or acquisition must report the proposed transactions in advance to MOFCOM, if:

(1) the total global revenues in the preceding fiscal year of all undertakings involved in the merger and/or acquisition exceed RMB 10 billion and the China revenues of at least two of the undertakings each exceed RMB 400 million in the preceding fiscal year; or

(2) the total China revenues in the preceding fiscal year of all undertakings involved in the merger and/or acquisition exceed RMB 2 billion and the China revenues of at least two of the undertakings each exceed RMB 400 million.

Huang (2009) notes that reporting thresholds under Chapter 5 of the M&A Provisions, 2006 were vaguely worded and were based on a combination of factors such as business turnover, market share, the number of Chinese enterprises acquired in related industries, and the absolute magnitude of the value of assets in China held by enterprises involved in the proposed merger and/or acquisition. In other words, sometimes market share was used in determining the reporting threshold. On other occasions the absolute magnitude of the value of assets in China held by enterprises involved in the proposed merger and/or acquisition was used. On still other occasions a combination of these two factors was used in determining thresholds. Hence, there was often inconsistency in the reporting threshold that was used by MOFCOM. Under Article 51 of the M&A Provisions, 2009 that replaces Chapter 5 of the M&A Provisions, 2006, however, business turnover has become the dominant factor in determining whether or not the parties involved in proposed M&A activities need to apply to MOFCOM for approval of the merger and acquisition transactions they intend to enter into. Furthermore, it is important to note that, in order to make the Anti-Monopoly Law applicable to financial business operators in China, on 15 July, 2009, MOFCOM and several other financial watchdogs in China - such as the People's Bank of China, China Banking Regulatory Commission, the China Securities Regulatory Commission (CSRC) and the China Insurance Regulatory Commission - have jointly issued Measures for Calculating the Business Turnover of Financial Business Operators for Notification of a Concentration. The Measures for Calculating the Business Turnover of Financial Business Operators for Notification of a Concentration outlines the elements which must be considered in calculations of "business turnover" for banks, securities firms, futures firms, fund management firms, insurance firms and other financial institutions.

3.6 Effects Laws and Regulations on Economic Benefits of Chinese M&A Activities

Our analysis in this chapter shows that there are some unique aspects to the laws and regulations governing M&A activities in China. These, in turn, have a potential impact on the returns that Chinese firms earn from their M&A activities. Whilst we examine this issue at various points in subsequent chapters of the dissertation we now provide a brief summary of some of the more important ways in which Chinese laws and regulations can impact on returns earned from M&A activities.

We have previously noted (as in section 3.2.3) that a unique feature of the mainland Chinese stock markets is that not all the A shares issued by firms are tradable, and that this constitutes a significant difference from the stock markets in western countries like the USA and UK. Moreover, non-tradable A shares account for a majority of the A shares issued by most listed firms. The absence of organised markets for non-tradable shares and the difficulties associated with valuing them means that the shareholders of target firms in M&A activities prefer to receive cash as the mode of consideration rather than the non-tradable shares of the bidding company. Moreover, the division of tradable shares into A (normally owned by Chinese nationals) and B (normally owned by foreigners) shares may also have a significant impact on the returns earned by both domestic and foreign shareholders.

It is also needs to be emphasised that Chinese regulatory authorities, such as the CSRC, pay particular attention to the return on equity (ROE) as computed from a firm's balance sheet and profit and loss account in deciding whether to give approval for the new share issues to go ahead. Loss making firms wishing to make a new share issue in order to "shore up" their deteriorating financial position are likely to have a poor history of ROE statistics. Given this, it is unlikely that such firms will gain the approval of the CSRC for any new share issues. Such firms therefore have incentives to manipulate the figures appearing

on their published financial statements and this could lead investors into a false view about the company's future prospects. This in turn could lead to inefficiencies for Chinese M&A activities.

3.7 Summary and Conclusions

This Chapter deals primarily with the laws and regulations governing mergers and acquisition (M&A) transactions in China. We begin our analysis in section 3.2 of this chapter by briefly summarising the development of China's securities markets, including an introduction to China's main stock exchanges together with their listing rules and distinctive characteristics. Probably the most important distinguishing characteristic of mainland Chinese stock markets is that traded shares are comprised of A shares and B shares. The reason behind the division between A shares and B shares is that the Chinese government has implemented a policy of limiting the amount of RMB (Yuan) which can leave the country in order to preserve the nation's foreign currency reserves. This in turn means that a distinction has had to be drawn between foreign investors and Chinese national investors; in particular, with rare exceptions only Chinese citizens can hold A shares whilst foreign investors are generally limited to holding B shares. Another important characteristic of the mainland Chinese stock markets is that the majority of A shares in most listed Chinese firms are controlled by the Chinese government or its instrumentalities. A shares controlled by the Chinese government are called state-owned shares and until recently, could not be traded on any of the Chinese mainland stock exchanges. However, in April, 2005, the Chinese government began implementing a reform programme called "GuQuan Fenzhi Gaige" (Shareholding Structure Reform) under which non-tradable A shares will be gradually converted into tradable shares. But the conversion process will be slow and cumbersome and it will take several years for the conversion process to be fully implemented. Furthermore, this distinction between A and B shares points to some of the unique characteristics that determine the laws regulating M&A activities in China and of how they are different from the "equivalent" laws in most western countries.

The most important laws and regulations governing mergers and acquisitions in China are the Securities Law, the Takeover Measures, 2006, the Anti-monopoly Law, 2008, the Declaration Thresholds which supplement the Anti-Monopoly Law, 2008, and finally, the Provisions on Mergers and Acquisitions of a Domestic Enterprise by Foreign Investors, 2009. Our detailed discussion of these laws and ordinances began in section 3.3 with a consideration of the Takeover Measures, 2006. The Takeover Measures, 2006 cover such areas as the mandated bid rules, tender offer rules, the disclosure of substantial shareholdings and the defence mechanisms which may be mounted against takeovers and mergers, etc. Section 3.4 focuses on the Anti-Monopoly Law, 2008 and the Declaration Thresholds which were brought in soon after as a supplement to this Law. The Anti-Monopoly Law, 2008 details the mandatory pre-merger and acquisition notification process, the investigation procedures that are to be used by MOFCOM and other government agencies and the procedures MOFCOM must use for promulgating its decisions, etc. Since the number of cross-border M&A activities in China has been increasing significantly over the last few years, Section 3.5 of this chapter is specifically dedicated to a consideration of the Provisions on Mergers and Acquisitions of a Domestic Enterprise by Foreign Investors, 2009 (the M&A Provisions, 2009). Importantly, the M&A Provisions, 2009 centre on the regulations affecting share swap transactions by foreign investors merging with or acquiring Chinese domestic firms, and the particular regulations which apply to Special Purpose Companies (SPC). An SPC is an foreign firm directly or indirectly controlled by a Chinese domestic firm or Chinese natural person and is specifically established for the purpose of an overseas listing of the interests of a Chinese domestic firm.

To conclude, the most recently promulgated Anti-Monopoly Law, 2008, the Declaration Thresholds which supplement this Law and the M&A Provisions, 2009, along with the Takeover Measures, 2006 and the Securities Law in China have made China's M&A legal framework more complete, mature and importantly, more in compliance with best international practices and norms.

However, we need to note that, Chinese M&A laws do have their limitations and also, are not immune from criticism. For instance, the M&A Provisions, 2009, lack clarity in the articulation of certain key terms and phrases such as the definition of what constitutes a "critical industry" or what constitutes a "time-honoured" brand. This will inevitably lead to significant difficulties in implementing these new laws pertaining to cross-border M&A activities. Moreover, the defence mechanisms available under the Takeover Measures, 2006 are in many ways a mixture of those available in several different countries. Unfortunately, this gives rise to potential conflicts and overlaps in the defence mechanisms available to Chinese firms involved in the M&A process – as amply demonstrated by Article 8 and Article 31 of the Takeover Measures, 2006[17] – and this can only lead to trouble and confusion in the process of applying this law.

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[17] A detailed summary of the provisions relating to Article 8 of the Takeover Measures, 2006 is to be found in section 3.3.7 of this chapter. The provisions relating to Article 31 of the Takeover Measures, 2006 are to be found in section 3.4.3.

CHAPTER THREE

LAWS AND REGULATIONS RELATING TO MERGERS AND ACQUISITIONS IN CHINA

3.1 Introduction

China's recent admission to the World Trade Organisation (WTO) and its generally vibrant economy has meant that merger and acquisition (M&A) activities in China have increased considerably over the last several years. The Chinese government has responded to this increased volume of M&A activities by seeking to establish a legal framework which, on the one hand, is in line with best international practice but also, meets the unique political and socio-economic factors that have characterised the People's Republic of China since its formation in 1949. Hence, on 31 July 2006 China's principal securities market regulator, the China Securities Regulatory Commission (CSRC), promulgated the Takeover Measures, 2006.[1] The Takeover Measures, 2006 is a revised version of the original Takeover Measures, 2002 and is designed to fill gaps and loopholes which experience had shown existed in the laws and regulations covering Chinese M&A activities. The Takeover Measures, 2006 also aim to make Chinese laws in the area more compatible with best international practices. Furthermore, in order to address the anti-trust issues associated with mergers and acquisitions, the Standing Committee of the Tenth National People's Congress of China promulgated a new Anti-Monopoly Law which came into force on 1 August 2008. It is important to familiarise ourselves with the laws regulating M&A activities in China in order that we might obtain a better understanding of the empirical results obtained from the data we employ on Chinese mergers and acquisitions as summarised in later chapters of this dissertation.

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[1] In many ways the Takeover Measures, 2006 copycats the U.S. regulations under the Williams Act amendments to the Securities and Exchange Act of 1934.

The remainder of this chapter is structured as follows: Section 3.2 briefly summarises the development of China's securities markets, including an introduction to China's main stock exchanges together with their listing rules and distinctive characteristics. Next, Section 3.3 discusses the legal framework for M&A activities in China. The most important of these are China's Securities Law, the Takeover Measures, 2006 and the Anti-Monopoly Law, 2008. Our consideration of the Takeover Measures, 2006 centres principally on the mandated bid rules, the disclosure of substantial shareholdings, the tender offer rules and the defence mechanisms which may be used in merger and acquisition transactions. Section 3.4 then goes on to discuss China's Anti-Monopoly Laws and the Regulations on the Notification Thresholds of Concentration of Undertakings. These laws address issues of anti-trust and declaration thresholds in M&A activities in China. The laws and regulations affecting cross-border mergers and acquisitions are dealt with in Section 3.5. This section provides a detailed description of the legal framework affecting mergers and acquisitions of domestic enterprises by foreign investors. In particular, this section deals with issues of share swaps, the important provisions affecting special purpose companies (SPC) and the national economic securities review. Finally, Section 3.6 provides a brief summary of the chapter, along with some concluding remarks about the important issues affecting M&A activities in China.

3.2 History of China's Main Securities Markets

3.2.1 Principal Chinese Stock Exchanges

Over the last fifty years, China's economy has been transformed from the centrally planned economy (CPE) that was introduced in 1949, to a market orientated economy (MOE). The movement towards a market orientated economy began in 1978 when the Chinese government implemented a programme of reforms which encouraged the formation of private rural enterprises and businesses, lifted many restrictions on foreign trade and investment, abolished controls over the prices of some basic commodities and

outputs, and boosted investment in industrial production and the education of its workforce.   As part of the reform process, in 1981 China's State Council created a national bond market by issuing national treasure bonds for the first time. Subsequent to this, several other kinds of national bonds were issued; for example, those issued by the Ministry of Finance to finance key construction projects.   According to Huang (2003), however, the new bond market only satisfied the liquidity requirements of the central government, leaving the needs of private and many state-owned enterprises unaddressed.   Hence, in order to solve the financial difficulties faced by private and state-owned enterprises, the People's Bank of China (PBC) authorised the establishment of two nationwide stock exchanges; namely, the Shanghai Stock Exchange which began operations in 1990 and the Shenzhen Stock Exchange which began operations in 1991 (Wei, 2008).

Initially, a variety of organisations, including the People's Bank of China (PBC), the State Council, the Ministry of Finance and local government bore responsibility for regulating these two stock exchanges (Wei, 2008). But the need for a different regulatory framework became clear after a number of regulatory failures of which the 810 incident on the Shenzhen Stock Exchange is probably the best known example. This incident occurred on 10 August, 1992 when some 700,000 "would be" investors packed into the Shenzhen Stock Exchange to subscribe for a new issue of bonds by the Chinese Government. The prescribed five million subscription forms were used up within a few hours. Violent rioting resulted, as it was clear that the officials of the PBC had corrupted the process of handling the subscription forms. The government restored order by distributing another five million forms the next day. The incident, to a large extent, was caused by the fact that too many organisations claimed regulatory authority over the Chinese securities markets and their operations. It was inevitable that a regulatory framework like this would lead to confusion and corruption – as indeed it did (Walter and Howie, 2003). Incidents like this necessitated the State Council to remove the ambiguity which had arisen in the regulation and administration of

China's securities markets. Consequently, in 1992 the State Council created the China Security Regulatory Commission (CSRC) as the sole regulator of China's stock exchanges, although it took the CSRC quite a long time to rest regulatory control of securities markets in China away from the PBC, the Ministry of Finance and local government agencies. Under China's Securities Law, the CSRC has "authority to implement a centralised and unified regulation of the nationwide securities market in order to ensure their lawful operation."[2] Its powers include responsibility for regulating and supervising the issue of securities, as well as the investigation and imposition of penalties for, "illegal activities related to securities and futures." [3] Its role is broadly similar to that of the Securities and Exchange Commission (SEC) in the United States.

Between them, at the end of 2008 the Shanghai and Shenzhen Stock Exchanges had more than 1,500 listed firms with a combined market capitalisation of $US2,658.2 billion. Moreover, at the end of December 2007 the Hong Kong Stock Exchange, which operates under a different regulatory framework to the Shanghai and Shenzhen Stock Exchanges, had 1,241 listed firms with a combined market capitalisation of $US2.7 trillion. The Hong Kong Stock exchange is regulated by a statutory authority called the Securities and Futures Commission (SFC). The SFC has a wide brief and operates independently of the CRSC. Its main responsibilities include the maintenance and promotion of fairness and efficiency in Hong Kong's securities markets; encouraging competitiveness, transparency and orderliness in the operations of the securities markets; minimising crime and misconduct in the securities markets and to assist the Financial Secretary (who is responsible for delivering the annual budget in Hong Kong's Legislative Council) to maintain the financial stability of Hong Kong by taking such measures as are necessary to insure the smooth operation of

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[2] See http://en.wikipedia.org/wiki/China_Securities_Regulatory_Commission, the Wikipedia website:

[3] See http://en.wikipedia.org/wiki/China_Securities_Regulatory_Commission, on the Wikipedia website.

Hong Kong's securities markets. Hong Kong's legal and regulatory framework is more in line with international standards and practices than is the case with the Shanghai and Shenzhen Stock Exchanges. Moreover, the Hong Kong Stock Exchange has a more active and liquid secondary market than either the Shanghai and Shenzhen Stock Exchanges, and so more and more enterprises from the mainland of China as well as international investors, are tending to list their securities on the Hong Kong Stock Exchange.

3.2.2. Listing Rules of Main Stock Exchanges in China

In this section we outline the listing requirements of the three main stock exchanges in China. We begin with the Shanghai Stock Exchange. Firms applying to list their shares on the Shanghai Stock Exchange must conform with its listing requirements which are largely based on the "Securities Law of the People's Republic of China" and the "Company Law of the People's Republic of China" [4] When a firm plans a public issue of shares for the first time it must seek the approval of the China Securities Regulatory Commission (CSRC). Once the CSRC has approved a public issue of shares then the affected firm may apply to have its shares listed on the Shanghai Stock Exchange. A second requirement is that after the public issue of shares the firm's total share capital must not be less than RMB 50 million (Yuan). Moreover, the firm must have been in business for more than 3 years and have been profitable over the last three consecutive years. In the case of former large and medium sized state owned enterprises re-established as private or public firms in accordance with the "Securities Law of the People's Republic of China" and "Company Law of the People's Republic of China", the profitability requirement can be calculated consecutively; that is, profits from the period when the firm was state owned can be included as a component of the three year profitability calculation. There must also be at least 1,000 individual shareholders whose investment in the shares of the firm exceeds RMB 1,000. Furthermore, publicly offered shares must be more than 25% of the

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[4] See the official website of Shanghai Stock Exchange: www.sse.com.cn.

firm's total share capital. When the firm's total share capital exceeds RMB 400 million, the minimum percentage of shares that must be issued to the public is reduced from 25% to 10%. Finally, the firm must not have been involved in any major illegal activities or false accounting practices in the three years prior to its listing on the Shanghai Stock Exchange.

The Shenzhen Stock Exchange is the smaller of the two stock exchanges operating in mainland China. Its listing requirements are broadly similar to those of the Shanghai Stock Exchange. [5] In particular, when a firm plans a public issue of shares for the first time it must seek the approval of the China Security Regulatory Commission (CSRC). Once the CSRC has approved a public issue of shares then the affected firm may apply to have its shares listed on the Shenzhen Stock Exchange. Public listing on the Shenzhen Stock Exchange is only available to firms with an issued share capital in excess of RMB 30 million (Yuan). The comparable figure on the Shanghai Stock Exchange is RMB 50 million and so it is not surprising that there is a preponderance of small and medium sized firms listed on the Shenzhen Stock Exchange when compared to the Shanghai Stock Exchange. Furthermore, publicly offered shares must be more than 25% of the firm's total share capital (there is provision for firms with share capital in excess of RMB 400 million to reduce this figure as in the case of the Shanghai Stock Exchange). Finally, firms listing on the Shenzhen Stock Exchange must have a good credit record for the three years prior to listing. This latter requirement also applies for firms listing on the Shanghai Stock Exchange, although it is stated in a slightly different way.

As previously noted, the Hong Kong Stock is the most actively traded and liquid of the three stock exchanges which exist in China. Moreover, it operates under a regulatory framework which is more attuned with international standards and practices than is the case with the Shanghai and Shenzhen Stock Exchanges. Given this, it is hardly surprising that it has slightly different listing requirements

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[5] See http://www.szse.cn/main/en/aboutsse/listingqualifications/, the official website of Shenzhen Stock Exchange:

when compared to those for both the Shanghai and Shenzhen Stock Exchanges. [6] In particular, only firms with an expected market capitalisation of HK$200 million or more can apply for listing on the Hong Kong Stock Exchange. In general, at least 25% of the securities must be held by the public (a rule which is broadly compatible with the listing requirements of both the Shanghai and Shenzhen Stock Exchanges). Firms must also have been conducting their commercial and/or business activities for a period of not less than three consecutive years prior to the application for listing and must also have traded under the same management for the prior three years. Finally the firm must have total profits of at least HK$50 million over the last 3 years (including a profit of at least HK$20 million in the most recent year and an aggregate profit of at least HK$30 million in the two preceding years). If the firm does not satisfy this requirement it can still seek a listing on the Hong Kong Stock Exchange if it meets either a market capitalisation/revenue test or a revenue/cash flow test.

3.2.3 Unique and Distinctive Characteristics of Chinese Stock Markets

China's currency, the RMB (Yuan), is not completely and freely convertible into foreign currencies. This is because the Chinese government has implemented a policy which restricts the amount of RMB (Yuan) that can leave the country in order to preserve the nation's foreign currency reserves. This policy has had a stabilising effect on the rate at which the RMB (Yuan) trades against most foreign currencies and this in turn has created a degree of certainty for firms and other organisations which operate in export and/or import oriented markets. However, this policy of restricted trading in the RMB (Yuan) means that a distinction has had to be made between foreign investors and investors who are Chinese nationals. Chinese nationals (including individuals, legal persons and the state) will normally purchase "A" shares which are shares whose principal (that is, prices) and dividends are denominated in the RMB (Yuan) and which are exclusively traded on the stock market in terms of the Yuan. Foreign investors

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[6] Refer to the official website of Hong Kong Stock Exchange: www.hkex.com.hk.

usually have only very limited access to A shares. However, foreign investors (including investors from Taiwan, Hong Kong and Macao) who wish to invest in mainland Chinese firms will normally do so by purchasing so called "B" shares. Whilst both the principal and dividends of B shares are normally denominated in the RMB (Yuan), trading on the stock market in B shares normally occurs in either the US dollar or the Hong Kong dollar and not the Yuan. Foreign investors who buy and sell B shares must commission an authorised Chinese securities institution to deal with the transaction. The authorised institutions may then enter into proxy agreements with approved securities institutions outside of China in buying and selling B shares. Dividends, bonuses and trading earnings from B shares may be remitted outside of China after the deduction of relevant taxes (Campbell, 2006). In summary, A shares are the main body of shares traded on the Shanghai and Shenzhen Stock Exchanges; B shares account for less than 1% (in terms of market capitalisation) of all shares traded on these two stock exchanges. This in turn means that B shares normally have only a very limited impact on the mainland Chinese stock markets.

However, one potential caveat that applies to this conclusion stems from the fact that the prices of the B shares for a particular firm often trade at a significant discount in comparison to the A shares in the same firm. This is despite the fact that B shares carry essentially the same rights and privileges as A shares. This opens up the potential for riskless hedging opportunities a theme that has been developed in some detail by Bergstrom and Tang (2001). However, if the Chinese government moves to a situation under which the RMB (Yuan) is allowed to trade freely without restrictions - and some predict that this will eventually be the case (Yam, 2005) - then the distinction between A shares and B shares will no longer exist on the mainland Chinese stock markets. Evidence that this will eventually transpire arises from the fact that after China's admission to the World Trade Organisation (WTO) in 2001, domestic investors were allowed to participate in purchasing B shares and rules were introduced which allowed

qualified foreign institutional investors to purchase A shares in Chinese mainland firms in certain circumstances.

Another unique feature of the mainland Chinese stock markets is that not all the A shares issued by firms are tradable, and this constitutes a significant difference from the stock markets in western countries like the USA and UK. A shares can be sub-divided into three groups which are "state owned" shares, "legal person" shares and "public individual" shares in terms of the strictly defined groups of shareholdings in China. State owned shares are those owned by the state, including the central government and local governments. Legal person shares are those held by domestic legal entities and institutions such as state-private mixed enterprises and non-bank financial institutions (Qi and Wu, 2000). An important point that needs to be stressed here is that only public individual shares are freely tradable on mainland stock markets; that is, state shares and legal person shares cannot be traded on these markets. Furthermore, non-tradable A shares (that is, state shares and legal person shares) account for a majority of the A shares issued by most listed firms. Li and Zhang (2007) quote statistics which show that in 2004, Chinese firms had 712 RMB (Yuan) billion of A shares on issue. However, 454.3 RMB (Yuan) billion or 64% of these A shares were non-tradable. In particular, state owned shares accounted for 74% of the non-tradable shares or slightly less than half of the A shares issued by Chinese firms. The tradability restrictions which apply to state owned shares and legal person shares can act as a deterrent for takeover and merger activities and hence, the overall allocative efficiency of the Chinese economy. The only way that non-tradable shares can be transferred is to reach a private takeover agreement. This and the other factors considered above are of crucial importance to the research we are conducting with regard to M&A activities in China.

The principal reason for the existence of such a large proportion of non-tradable A shares is to prevent state owned assets from falling into the hands of private or foreign parties. In other words, if state owned shares were allowed to be

transferred to private owners, then the socialist economy on which the Chinese political system is founded might be threatened (Huang, 2006, p. 14). It also guards against the possibility of fraud and misappropriation by private firms and individuals. However, we have previously observed how the existence of a significant block of non-tradable shares is detrimental to the long run development and health of the Chinese economy. In particular, it leads to a divergence in the values of the traded as against the non-traded A shares and weakens the stock market's price discovery function. This in turn leads to a lowering of allocative efficiency in the Chinese economy as a whole (Huang, 2006, p. 14). The problems caused by this dichotomy between traded and non-traded A shares became so acute that beginning in 2000, the Chinese government began implementing a reform programme under which it eventually aims to remove all restrictions in the trading of state owned shares (Jin and Yu, 2009).

According to Huang (2008, pp. 157-158), prior to 2005 the Chinese government made several attempts to remove the trading restrictions which applied to state owned shares. However, these reforms were generally unsuccessful and along with some other factors, contributed to the "bear" market on Chinese stock markets which lasted for four years around the turn of the century[7]. In April, 2005, the CSRC issued a new plan for shareholding structure reform called 'Guquan Fenzhi Gaige', under which market-based processes are gradually being implemented for the transfer of share ownership rather than the government-imposed processes which had prevailed up until that point in time. Under the Guquan Fenzhi Gaige reform programme, representatives of the group of shareholders with tradable A shares (that is, public shareholders) agree terms and conditions for the conversion of non-tradable A shares into tradable A shares with representatives of the group of shareholders who hold the non-tradable A shares. These terms and conditions not only include the rate at which the non-tradable shares are to be converted into tradable shares but also, any other

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[7] See the official website of Shanghai Stock Exchange and Shenzhen Stock Exchange.

forms of compensation which are to be paid to the previously existing tradable shareholders. Since the non-tradable shareholders are granted a new and valuable trading privilege, the Guquan Fenzhi Gaige reform measures allow the compensation given to previously existing tradable shareholders to take a variety of forms, including the issue of new tradable shares, cash payouts and the issue of new warrants, etc. The rate at which non-tradable shares are converted into tradable shares varies from one firm to another because the terms are absolutely negotiable between the holders of the non-tradable shares and the holders of tradable (that is, public) shares. In addition, the Guquan Fenzhi Gaige reform measures stipulate that a certain proportion of the non-tradable shares which are converted into tradable shares cannot be sold in the first few years after being transferred into tradable shares.

The first firm to successfully convert its non-tradable A shares into tradable A shares under the Guquan Fenzhi Gaige reform measures was the Sany Heavy Industry Company. The public (that is, tradable) shareholders in Sany Heavy Industry Company received 3.5 new shares and RMB 8 (Yuan) cash for every 10 tradable shares that they already held. Furthermore, non-tradable shareholders undertook not to sell any of their newly created tradable shares on the stock market for the first two years after conversion and no more than 10% of their newly created tradable shares in the third year after conversion. Firms that have successfully been through the process of converting their non-tradable shares into tradable shares use the prefix 'G' as part of their stock market names. All together there are 1,333 A-share enterprises listed on either the Shanghai Stock Exchange or the Shenzhen Stock Exchange with non-tradable shares that need to implement the Guquan Fenzhi Gaige reform measures. As of July 2007, 1,229 of these enterprises had begun the process of implementing the Guquan Fenzhi Gaige reform measures (Jin and Yu, 2009).

The impact of the Guquan Fenzhi Gaige reform measures on the stock market can be divided into short-term and long-term effects. Initially, in the short-term, there has been an increase in the volatility of Chinese stock markets due to

speculative investors "treasure-hunting" for possible future reform candidates (Yam, 2005).[8]   Against this, in the long run, the Guquan Fenzhi Gaige reform measures involve positive and multiple benefits for investors. The most obvious benefit arises from the fact that state-owned shares will ultimately be tradable with all the liquidity advantages that this entails. Moreover, shareholders will be able to make "direct" (market based) assessments about the performance of enterprise managers, instead of using "indirect" (accounting based) measures, such as the return on net asset value (NAV), which had to be used before the state-owned shares were converted into tradable shares. Secondly, whilst the Qualified Foreign Institutional Investor (QFII) measures which were introduced in November, 2002 by the CSRC, allowed a small number of foreign investors to purchase A shares in domestic Chinese enterprises, there numbers were so small as to have only a very limited impact on Chinese stock markets and the wider economy. Hence, if the alleged benefits arising from foreign investment are to be realised in the Chinese economy, the QFII laws will have to be liberalised so as to allow a greater number of foreign investors to purchase the A-shares of domestic Chinese firms. It is only then that M&A activities and the efficiencies which arise from them can be expected to increase in China. In other words, liberalisation of the QFII measures should enable Chinese stock markets to be more efficient in recognising and improving strong firms as well as weeding out weak and under-performing firms, thereby resulting in much better returns for investors and improving the overall efficiency of Chinese economy (Yam, 2005).

In addition to the division between A shares and B shares, another unique characteristic of the Chinese stock markets is the existence of H shares which are exclusively traded on the Hong Kong Stock Exchange. H shares are issued by firms incorporated in mainland China and are denominated and traded in Hong Kong dollars.   H shares principally cover sectors such as telecommunications, insurance, real estate, airlines, logistics as well as oil and

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[8] Speculative investors are too short-term driven: after the conversion of non tradable shares into tradable shares, they simply dump the newly created tradable shares and shift their attention to other reform candidates.

mining, etc. Here, it is important to note that an increasing number of Chinese firms have their shares listed simultaneously on the Hong Kong Stock Exchange and one of the two mainland Chinese stock exchanges; namely, the Shanghai Stock Exchange or the Shenzhen Stock Exchange. Initially, only international investors were able to buy H shares but from 2007 onwards, the Chinese government has allowed investors from mainland China to invest in H shares as well. This has resulted in a significant increase in the demand for H shares.

3.3 China's Takeover Legal Regime
3.3.1 Framework and Overview of China's Takeover Laws

As discussed earlier in this chapter, following the merger of the local securities regulatory authorities with the China Securities Regulatory Commission (CSRC) in 1997, the CSRC now has exclusive authority for the regulation of securities markets and activities in China. There are two main laws regulating the merger and acquisition (M&A) activities of listed firms in China. The first is the Securities Law of the People's Republic of China (PRC), which came into force in 1999. The stated objectives of the Securities Law is to regulate the issuance, sale and purchase of securities, protect the lawful rights and interests of investors, safeguard the public interest and enhance economic order and promote the growth of the socialist market economy in China.[9] Hence, the Securities Law covers a wide range of regulatory activities, including the public listing of securities and stock exchange regulation, on-going disclosure of information by listed firms, prohibited trading acts and the regulation of mergers and acquisitions by publicly listed firms, etc. The Securities Law of the PRC is comprised of twelve chapters, only one of which - Chapter 4 - contains provisions relating to the regulation of mergers and acquisitions. However, Chapter 4 of the Securities Law lays down only very general provisions relating to M&A activities in China. More detailed regulatory provisions have been promulgated by the CSRC and are to be found in the second important law alluded to earlier; namely, Measures

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[9] Refer to Article one of the Securities Law of People's Republic of China.

for the Administration of the Takeover of Listed Companies (Shangshi Gongsi Ganli Banfa), 2002 as amended in 2006. According to Huang (2008), the Takeover Measures, 2006 set up the most comprehensive and workable legal framework to date for the M&A activities of Chinese listed firms. Furthermore, a number of important changes were incorporated into the 2006 amended Takeover Measures in order to fill gaps and loopholes which experience had shown existed the in the 2002 Takeover Measures. Given this, our primary focus in this chapter will be on the 2006 Takeover Measures which were promulgated on 31 July 2006 and came into force on 1 September 2006.

3.3.2 General Principles of Measures for the Administration of the Takeovers of Listed Companies, 2006.

As previously noted Measures for the Administration of the Takeovers of Listed Companies 2006, which was issued by the CSRC, is the main and most important law associated with the regulation of takeover activities for listed firms in China and is a revised version of the Takeover Measures which came into force in 2002. The Takeover Measures, 2006 aim to regulate takeovers of listed firms and the related alteration of share entitlement, protect the legitimate rights and interests of listed firms and investors, maintain the order and efficient operation of securities markets and promote the optimum distribution of resources throughout the Chinese economy, etc. Moreover, protecting the interests of investors has a very high priority in the 2006 Takeover Measures. The Takeover Measures, 2006 emphasise that mergers and acquisitions shall be conducted in light of the principles of openness (Gong Kai), fairness (Gong Ping) and equity (Gong Zheng).[10] It is these principles which underscore the requirement of the Takeover Measures, 2006 that the information disclosed by firms involved in mergers and acquisitions shall be truthful, accurate and

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[10] See Article 3 of the Takeover Measures, 2006.

complete and must not contain any false record, misleading statement or significant omissions.[11]

Article 4 of the takeover Measures, 2006 stipulates that takeovers involving foreign investors must have the approval of the related Department of State; this will normally be the CSRC but there will be circumstances in which the approval of other Departments of State will be required. For example, in 2008 the Ministry of Commerce (MOFCOM) blocked the U.S. Coca-Cola Company from mounting a successful takeover bid for the Chinese fruit giant, Huiyuan Juice Group Ltd on the grounds that it would have been the biggest foreign takeover of a Chinese firm in Chinese history and that it would have infringed the Chinese Antimonopoly Law. Furthermore, the Huiyuan Juice Group is a famous national Chinese brand closely associated with the Chinese people who would not approve of a well known domestic national brand like this falling into the hands of foreign owners. A detailed consideration of the Chinese Antimonopoly Law will be provided in the subsequent sections of this chapter.   Finally, foreign investors must be subject to Chinese laws and ordinances and also, obey the judicial and arbitral system of China. As previously noted one reason MOFCOM blocked Coca Cola's takeover bid for the Huiyuan Juice Group was that it infringed the Chinese Antimonopoly Law. Hence, Article 4 of the Takeover Measures, 2006 represents a significant barrier to foreign firms seeking to use the takeover mechanism to enter potentially profitable Chinese markets, to access the cheap labour force and the wide range of resources that are available in the Chinese economy.

Under some circumstances bidding firms are barred from takeover activities. Hence under Article 6(1) of the Takeover Measures, 2006, a bidding firm will be prevented from using the takeover procedures to acquire another firm if, in the opinion of the CSRC, it has been in a continuous state of high indebtedness (literally, "large debts") and has a history of not being able to meet its debts as they fall due for payment (literally, "has not paid off its due debts"). However, the

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[11] See Article 3 of the Takeover Measures, 2006.

Takeover Measures, 2006 are silent as to what is meant by a continuous state of high indebtedness and has not paid its debts as they fall due. Secondly, under Article 6(2) of the Takeover Measures, 2006 if the bidding firm has ever committed a major illegal act or has ever been suspected of being involved in a major illegal act during the 3 years prior to the takeover, then the CSRC may bar the bidding firm from the takeover of any listed firms. Similarly, under Article 6(3) if the bidding firm has committed any serious credit-breaking act in the securities market during the 3 years preceding the takeover, then the CSRC may also bar the bidding firm from the takeover of any listed firms. There are also a few other circumstances under which the CSRC can refuse to sanction takeover activities by personal individuals. For example under Article 147 of the Chinese Company Law, a person who is without or has limited capacity of civil conduct or a person who has a criminal conviction within 3 years prior to the takeover date will be barred by the CRSC from participating in any takeover activities. As we note above there are several other circumstances under which the CSRC will refuse to sanction takeover activities by individuals or firms; further details are to be found in the Securities Law, the Company Law and the Takeover Measures, 2006.

Article 9 of the Takeover Measures, 2006 also provides that the bidding firm in a takeover must hire a financial consultant who is to make an assessment about whether the proposed takeover is injurious to the legitimate rights and interests of either the target or bidding firms and/or their shareholders. The financial consultant must be a professional institution which is registered in China and has a financial consultancy qualification. Further details of the role and functions of financial consultants in the takeover process are to be found in a later section of this chapter.

3.3.3 Definition of the Concept of Control

The concept of control is important in empirical studies of M&A activities since it has a potentially crucial impact on the way that the data for the study is selected.

Under Article 84 of the Takeover Measures, 2006 a bidding firm is said to acquire control of a listed target firm if:

(1) it successfully purchases more than 50% of the equity shares issued by the listed target firm, or

(2) it can exercise 30% of the voting rights associated with the equity capital of the listed target firm, or

(3) it has the capacity to determine the election of more than half of the membership of the firm's board of directors, or

(4) it has control of sufficient voting rights to either determine or have a "significant" impact on the outcome of resolutions tabled at a general assembly of shareholders.

Hence, under the Takeover Measures, 2006 a bidding firm that satisfies any one of these four stated conditions is said to have gained control over the listed target firm. Unfortunately, the SDC data base from which we obtained most of our takeover data does not contain comprehensive information on the voting rights acquiring firms obtained in the listed target firms. Given this, our empirical analysis of mergers and acquisitions in China is based on Article 84(1) of the Takeover Measures, 2006; namely, as long as the acquiring firms purchase more than 50% of the equity shares of the listed target firms, a takeover will be deemed to have occurred and will be included in our subsequent empirical analysis.

3.3.4 Mandatory Bid Rule

In accordance with the equality of opportunities principle, a mandatory bid rule sits at the heart of China's takeover laws (Huang, 2008). Hence, both the Securities Law and the Takeover Measures, 2006 have a clear and consistent definition with regard to the mandatory bid rule. Thus, under Article 61 and Articles 23, 24, 25 and 83 of the Takeover Measures, 2006 an investor who by

himself or who in conjunction with other "concerted parties" controls 30% or more of the equity shares issued by the listed target firm are required to make either a general or partial tender offer for the remaining shares in the affected listed firm. Article 83 defines concerted parties as those with whom the primary investor is acting in concert by means of private agreement or any other arrangement in order to boost their joint voting power in the listed target firm. For example, the mandatory bid rule will apply to an investor himself or who in conjunction with other "concerted parties" jointly controls 30% or more of the shares in the listed target firm not only by means of co-jointly acquiring shares, but also by investment relationship, agreement, partnership cooperation, joint venture, simultaneously acting as directors, etc. Hence, not only the acquirer's own shareholdings, but also the shareholdings of its concerted parties acting in concert (so-called Yizhi Xingdongren) will be counted when calculating an investor's shareholding in a listed target firm (Huang, 2008). This is a great improvement in the means of calculating investors' shareholdings for takeover purposes in comparison to the old version; that is, the 2002 version of the Takeover Measures.

Here it is important to note that the mandatory bid rule provides protection for shareholders of the target firm by ensuring that the control premium paid by the acquiring firm is shared amongst all the shareholders of the target firm. But on the other hand, this kind of protection may come at the expense of the contestability of takeovers since the cost of the takeover may rise and some potential bidders may be dissuaded from being involved in the takeover because of it (Huang, 2008).

Moreover, under certain circumstances the CSRC can exempt bidding firms and concerted parties from the mandatory tender provisions of the Takeover Measures, 2006. The exact conditions under which the exemption applies are given detailed consideration in a subsequent section of this chapter.

3.3.5. Disclosure of Substantial Shareholdings

Article 13 of the Takeover Measures, 2006 taken in conjunction with Article 86 of the Securities Law requires the disclosure of substantial shareholdings in listed firms (5% or more of the equity stock) and is meant to provide the market with an early warning of possible takeovers (Jennings, et. Al., 1992). Article 22 of the Takeover Measures, 2006 provide that a substantial shareholding in a listed firm shall include not only the shares registered under the investor's name but also shares held in conjunction with other concerted parties as well as those shares not registered under the investor's name but for which the voting rights are actually controlled by the given investor.

Articles 13, 14 and 15 of the Takeover Measure, 2006 require that if an investor coupled with his or her concerted parties come to hold 5% of the shares issued by a listed firm by means of transactions in the stock exchange, transfer agreement, as well as administrative transfer or alternation, implementation of court ruling, inheritance or donation, etc. then they must disclose their position to the market by submitting a written report which summarises the information specified in Article 16 of the Takeover Measures, 2006 to the Head Office of the CSRC in Beijing as well as to the relevant stock exchange. They must also send a copy of the written report to the CSRC representative office in the locality of the listed firm (hereinafter referred to as the representative office) and at the same time formally notify the listed firm that it has submitted a report to the CSRC and the stock exchange. The acquiring investor/s must also make a formal announcement to the general public within three business days from the date when the substantial shareholding occurs. Furthermore, the investor cannot continue to buy or sell the shares in the listed firm until it has satisfied the provisions of Articles 13, 14 and 15 of the Takeover Measures, 2006; that is, until the market has been fully informed of its substantial shareholding in the listed firm (Huang, 2008). Equally, Article 13 and Article 14 of the Takeover Measures, 2006 provide that if a substantial shareholder along with their concerted parties increase or decrease their shareholding in the listed firm by 5% by means of

transactions in the stock exchange or transfer agreements, etc. (that is, by 5% to 10%, 10% to 15% and so on) they again must send a copy of the written report specified by Article 16 to the CSRC and the stock exchange and they must also notify the listed target firm and the general public. During the disclosure period and for two days thereafter, the investor/s cannot continue to buy or sell any shares in the listed target firm.

Here it is important to note that there are two categories of disclosure for substantial shareholdings under Article 16 of the Takeover Measures, 2006. Specifically, if the investor and their concerted parties are not the largest shareholder or the actual controlling shareholder of the listed firm (as defined in Article 84 of the Takeover Measures, 2006) and their collective shareholding is in excess of 5% but less than 20%, then only the simplified disclosure system as specified in Article 16 is required; namely:

(1) The names and domiciles of the investor and their concerted parties as well as the names, places of registration and legal representatives of the investor and their concerted parties if the investor and concerted parties are legal persons;

(2) The purpose of holding shares and whether or not the investor and their concerted parties intend to continuously increase their shareholdings of the listed firm over the following twelve months;

(3) The name of the listed company and also the type, quantity and proportion of shares held;

(4) The timing and the method used by the investor and their concerted parties to acquire or decrease their shareholding in the listed firm by 5%;

(5) A brief summary of the shares in the listed target firm purchased and sold on the Stock Exchange in the 6 months' period immediately preceding the acquisition or disposal of the 5% shareholding in the listed firm.

The second category is when the substantial shareholding of the investor and their concerted parties exceeds 20% but is less than 30% of the total issued shares of the listed firm. In this circumstance Article 17 of the Takeover Measures, 2006 require that a very detailed report must be submitted to the Head Office of the CSRC in Beijing and the stock exchange. A copy of the Report must also be filed with the CSRC representative office in the locality of the listed target firm and the listed target firm and general public must also be notified within three business days from the date when the variation in the substantial shareholding occurs. In addition to the contents required by the simplified report as specified in Article 16 of the Takeover Measures, 2006 as given above, the following information must also be provided:

(1) The controlling shareholders of the investor and their concerted parties and a structural chart of the relationship between the shareholdings of the investor and their concerted parties in the listed target firm;

(2) The price, the total amount of capital required and the source of the capital or other payment arrangements used to acquire the additional shares in the listed target firm;

(3) Whether or not there exists intra-industry competition or potential intra-industry competition or continuous affiliated transactions between the business of the investor and their concerted parties (and their controlling shareholders) and the business of the listed target firm. If the intra-industry competition or continuous affiliated transactions do exist, whether related arrangements have been made to encourage the intra-industry competition and also, to maintain the independence of the listed target firm;

(4) The plans the investor and their concerted parties have for redeploying the assets, business, personnel, organisational structure, etc. of the listed target firm;

(5) The primary and important transactions which have occurred between the

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investor and their concerted parties and the listed target firm over the two years preceding the variation of the substantial shareholding in the listed target firm.

The substantial shareholding disclosure threshold and regulations in China are broadly similar to those which apply in most advanced industrialised countries (Huang, 2008).   In determining the threshold at which the market and other participants must be informed of a substantial shareholding, regulators must strike a balance across a variety of competing considerations.   For example, lower thresholds provide more protection for the shareholders of the target firm. Against this lower thresholds will make it difficult for the acquiring firm to obtain the "toehold" necessary to launch a successful takeover bid.   It will also more than likely increase the price which the acquiring firm will have to pay in order to mount a successful takeover bid (Huang, 2008, p. 166).   In other words, lower thresholds lead to a better informed market; but against this, it may make the takeover more costly, since if the acquirer must disclose their intentions too early, the share price of the target firm will tend to rise earlier than it otherwise would have (Fischel, 1978).

3.3.6. Tender Offer Rules

In section 3.2.4 we note that Articles, 23, 24, 25 and 83 of the Takeover Measures, 2006 provide that an investor who by himself or in conjunction with other concerted parties controls 30% or more of the equity shares issued by a listed target firm must make either a general or partial tender offer for the remaining shares in the affected listed firm. A general offer is an offer made to all shareholders in the listed target firm to acquire the shares that is does not presently own. Thus, if the acquiring firm owns 30% of the shares it will make a general tender offer to acquire the remaining 70% of shares that it does not presently own. A partial offer is an offer made to all the shareholders of the listed target firm for part of the shares they hold; subject to the requirement that the minimum tender offer must be for at least 5% of all the shares issued by the

listed target firm. Thus, if the acquiring firm owns 30% of the target firm, the minimum partial tender offer will be to acquire 5% of the total issued capital thereby increasing the acquirer's interest in the target firm from 30% to 35% of the total issued shares.

Here it is important to note, however, that Article 62 of the Takeover Measures, 2006 provides that under certain circumstances acquiring firms may be exempted by the CSRC from the mandated tender offer requirements. The specific circumstances under which acquiring firms can apply for exemption are given detailed treatment in section 3.3.9 of this chapter of the dissertation. The partial tender offer, which was not available before 2006 (only general tender offers existed prior to this date) represents a significant improvement in comparison to the takeover regimes previously available as it effectively provides more flexibility for potential acquirers and thus reduces the transaction costs associated with takeovers (Baker and McKenzie International, 2006).

Articles 36 of the Takeover Measures, 2006 specifies that the acquirer may pay the consideration for a takeover in cash, securities, a combination of cash and securities or any other lawful means. However, where the securities used as consideration for a takeover are not listed on a stock exchange the acquiring firm must offer a cash alternative to the shareholders of the listed target firm. Here it is important to note that prior to 2006 the consideration for all takeovers had to be in cash. This often caused difficulties for acquirers both in terms of financing and post-takeover integration (Huang, 2008, p. 162). There are, however, several exceptions to this rule. For example, Article 27 of the Takeover Measures, 2006 provides that if the acquirer has to make a general tender offer to all shareholders of a target firm, and thereafter seeks to delist the target firm, or because the acquirer failed to obtain an exemption from making a general tender offer from the CSRC, then the takeover consideration has to be paid completely by cash.

Furthermore, if the consideration for the takeover is to be paid in cash there must be a public announcement to that effect and the acquirer must deposit not less than 20% of the total amount of the takeover consideration with a bank designated by the China Securities Depository and Clearing Corporation as the performance guarantee. On the other hand, if the acquirer pays the takeover consideration by means of securities, the audited financial statements of the issuer of the said securities, as well as the valuation report prepared under Article 67(5) of the Takeover Measures, 2006, must be made available to the listed target firm's shareholders, the CSRC and the Stock Exchange amongst others. The valuation report and other regulations take a slightly different form according to whether the securities used as consideration for the takeover are bonds or shares and whether or not they are listed on a stock exchange. For example, if the takeover consideration paid by the acquirer is comprised wholly or partly of bonds not listed on the stock exchange, then Article 36 of the Takeover Measures, 2006 provides that the shareholders of the target firm must be offered a cash alternative to the bonds. Article 36 also requires that the acquirer should cooperate and assist with the due-diligence investigations of the independent financial consultant employed by the listed target firm.

It is also important to note that Article 35 of the Takeover Measures, 2006 places a lower limit on the offer price which the acquirer makes for the listed target firm's shares. Hence, the price the acquirer pays under a tender offer must not be less than the maximum price the acquirer has paid for any of the shares of the listed target firm over the six months preceding the announcement of the tender offer. Article 35 also provides that if the offer price is below the arithmetic average value of the daily weighted average prices during the thirty trading days prior to the announcement of the tender offer, a financial consultant must be hired by the acquirer to produce a report on issues such as whether there is manipulation of stock prices, whether the bidder has failed to disclose its concerted parties, whether there has been any other arrangement for the bidder to obtain the shares of the target firm during the previous six months and finally, whether the

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offer price is "reasonable" taking account of all the circumstances and events surrounding the acquisition process. However, prior to the promulgation of the Takeover Measures, 2006, two offer prices had to be set; one offer price for the tradable shares in the target listed firm and another price for the non-tradable shares. The offer price for the tradable shares of the listed target firm was determined by reference to the market price of those shares whilst the offer price for the non-tradable shares was based on the net asset value of the target firm as summarised in the latest audited financial statements for the firm. If the price offered by the acquirer was obviously unfair, then under Article 34 of the Takeover Measures, 2002 the CSRC could intervene and demand that the acquirer makes an adjustment to the offer price. In more recent years, the problems arising from the distinction between tradable and non-tradable shares has eased following the Guquan Fenzhi Gaige (shareholding structure) reforms which were implemented in 2005[12]. Importantly, Article 34 of the Takeover Measures, 2002 also provided that the offer price for tradable shares could not be lower than 90% of the arithmetic average value of the daily weighted average prices during the 30 trading days prior to the announcement date of the tender offer. Unfortunately, more often than not this latter price turned out to be the price offered by the acquiring firm for the tradable shares of the listed target firm. This often meant that the takeover was rejected by the shareholders of the target listed firm because the offer price turned out to be lower than the current market price of the tradable shares of the target firm at the time of the takeover offer (Huang, 2008).

Under article 28 of the Takeover Measures, 2006, if the shares of the target listed firm are purchased by means of a tender offer, then the acquiring firm shall employ a financial consultant who must submit a written report to the head office of the CSRC in Beijing as well as to the relevant stock exchange. The financial consultant must also send a copy of the report to the local representative office of

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[12] See Section 3.1.3 supra for a brief discussion of the 2005 Guquan Fenzhi Gaige (shareholding structure) reforms.

the CSRC, inform the target listed firm about the pending tender offer and at the same time make a public announcement summarising the contents of the tender offer report. In addition, Article 29 of the Takeover Measures, 2006 provides that the tender offer report prepared by the acquiring firm should contain the following information:

(1) The names and domicile of the investor and their concerted parties as well as the names, places of registration and legal representatives of the investor and their concerted parties if the investor and concerted parties are legal persons;

(2) The reasons why and the purposes for the acquirer making the takeover offer and whether or not the acquirer will continue to increase their shareholding in the target listed firm during the following 12 months;

(3) The name of the target listed firm and the category of the shares to be purchased;

(4) The quantity and proportion of the shares to be purchased;

(5) The price the acquirer will pay for the shares purchased under the tender offer;

(6) The amount of capital required for the takeover, the sources from which the capital will be obtained, the guarantees or other payment arrangements made by the acquirer to meet its financial commitments under the tender offer;

(7) Conditions (partial, general or other) stipulated in the tender offer;

(8) The terms of the tender offer;

(9) The number and proportion of shares held by the acquirer in the target listed firm at the time when the tender offer report is submitted;

(10) Whether or not there exists intra-industry competition or potential intra-industry competition or continuous affiliated transactions between the business of the investor and their concerted parties (and their controlling shareholders) and the business of the listed firm. If the intra-industry competition or continuous affiliated transactions do exist, whether related arrangements have been made to encourage the intra-industry competition and also, to maintain the independence of the listed firm;

(11) The plans the investor and their concerted parties have for redeploying the assets, business, personnel, organisational structure, etc. of the listed firm over the ensuing twelve months;

(12) The primary and important transactions which have occurred between the investor and their concerted parties and the listed firm over the two years preceding the announcement of the tender offer, and

(13)   A brief summary of the shares in the listed firm purchased and sold on the Stock Exchange in the six months' period immediately preceding the announcement of the tender offer.

As previously noted the acquiring firm must make a public announcement summarising the contents of the tender offer report. The opinions of the financial consultant and lawyers hired by the acquiring firm under Article 28 of the Takeover Measures, 2006 must be made public fifteen days after submission of the tender offer report to the CSRC. During this 15 day period the CRSC may object to the contents of the tender offer report if it is inconsistent with laws, administrative regulations or any other related provisions. If such circumstances arise the CSRC shall notify the acquirer that the tender offer violates the laws, administrative regulations or other related provisions and the acquirer may not make a public announcement of the tender offer. If, however, no objections are made by the CSRC then the tender offer report may be announced to the public after this fifteen day period. Under Article 31 of the Takeover Measures, 2006

after the submission of the tender offer documents to the CSRC and during this 15 day period the acquirer may make an application to the CSRC to cancel the tender offer by submitting a document to the CSRC summarising the reasons and explanations for the proposed cancellation. If the CSRC agrees to allow the acquirer to cancel the tender offer then the acquirer may not make a tender offer for the same firm over the ensuing twelve months and the cancellation of the tender offer must be announced to the public.

The Takeover Measures, 2006 also place specific reporting and other responsibilities on the directors of the target firm. In particular, Article 32 of the Takeover Measures, 2006 provides that the board of directors of the target firm must make an investigation into the capacity, credit status and purpose of the takeover by the acquirer and analyse the conditions of the tender offer. Moreover, the board of directors of the target firm must bring forward suggestions about whether or not the shareholders of the target firm should accept the offer and they must also hire an independent financial consultant to provide a professional opinion about each of the above issues. Within 20 days following the announcement of the tender offer report from the acquirer, the board of directors of the target firm must submit a report to the Beijing office of the CSRC which summarises all of the above information (and includes the professional opinions from the independent financial consultant). The report must also be filed with the local office of the CSRC and the stock exchange on which the target firm is listed. A public announcement about the report must be made at the same time. Moreover, if the acquirer makes any major alterations to the conditions of the tender offer, the board of directors of the target firm shall submit the supplementary opinions of the board of directors and of the independent financial consultant on the alterations to the CSRC and the stock exchange. A public announcement about the alterations must also be made at the same time.

Moreover, Article 37 of the Takeover Measures, 2006 provides a safeguard to protect the shareholders of the target firm by specifying the minimum time period over which shareholders of the target firm may consider the terms and conditions

of the tender offer. Thus, the term stipulated for acceptance of the tender offer should not be less than 30 days and not be more than 60 days, except where there is a contested offer. The CSRC has adjudged that this period allows shareholders of the target firm sufficient time to make a rational decision about whether to accept the tender offer without prejudicing the interests of the acquiring firm. Further, under Article 38 of the Takeover Measures, 2006 the acquirer cannot sell any shares in the target firm following the announcement of the tender offer, nor can the acquirer buy other shares of the target firm by any other means not stipulated in the tender offer or that go beyond the conditions stipulated in the tender offer. To some extent, the interests of the shareholders of the target firm are protected through this provision since it negates the pressure that would otherwise arise on the target firm's shareholders to make a quick and potentially, irrational decision about whether to accept the terms and conditions of the tender offer. Moreover, under Article 41 of the Takeover Measures, 2006 if the acquirer wants to vary or change the terms and conditions of the tender offer, the approval of CSRC is required.[13] Importantly, the variation of the tender offer cannot be made 15 days prior to the expiration of the bid unless a competing bid occurs.

Under Article 42 of the Takeover Measures, 2006 shareholders of the target listed firm who accept the tender offer must entrust a securities firm to go through the related procedures for preliminary acceptance of the tender offer. The securities firm must apply to the China Securities Depository and Clearing Corporation for temporary custody of the shares under the preliminarily accepted tender offer. Shares under temporary custody of the China Securities Depository and Clearing Corporation are held in escrow over the 30 day to 60 day period during which shareholders of the target firm are required to make a decision about whether or not to accept the tender offer. However, here it is important to

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[13] The acquirer should submit a written report to the Beijing office of the CSRC within two business days after the major alteration, and simultaneously send a copy to the representative office of the CRSC and the stock exchange. It must also notify the target listed company and make a public announcement about the change or variation in the terms and conditions of the tender offer.

note that preliminary accepting shareholders can withdraw their acceptance within three trading days before the expiration of the bid by entrusting a securities firm to go through the procedures of revoking the preliminarily accepted tender offer.

The Takeover Measures, 2006 pay particular attention to the interests of minority shareholders after the takeover has been consummated. If the tender offer expires and the acquirer has sufficient acceptances (normally at least 75 percent of all outstanding shares), then the acquirer may initiate proceedings to delist the target firm (Huang, 2008). In this circumstance, Article 44 of the Takeover Measures, 2006 provides that the remaining shareholders in the target firm have the right to enforce the sale of their shares on the same terms and conditions as shareholders who have accepted the tender offer before the expiration date. This means that the remaining minority shareholders are protected from a "freeze-out" takeover on terms and conditions less favourable than those shareholders who have alreday accepted the tender offer before the expiration date (Huang, 2008).

3.3.7 Defence Mechanisms

In section 3.1.3 of this chapter we noted how in April, 2005, the CSRC issued the shareholding structure reform called 'Guquan Fenzhi Gaige'. Guquan Fenzhi Gaige required shareholders with tradable shares in a particular firm to agree terms and conditions under which the non-tradable shares in that firm will be converted into tradable shares.[14] Importantly, prior to 2005 the large majority of A shares were non-tradable and were mainly held by stated-owned controlled entities. This in turn made tender offers and hostile takeovers extraordinarily difficult. However, the gradual conversion of non-tradable shares into tradable shares after 2005 has facilitated an expansion in merger and acquisition activities

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[14] Here it will be recalled that shares in the mainland Chinese capital market are divided into A shares and B shares. Further, A shares fall into two categories: tradable shares and non-tradable shares. Importantly, prior to 2005 the large majority of A shares were non-tradable and were mainly held by stated-owned entities. This in turn made tender offers and hostile takeovers extraordinarily difficult.

with a consequent increase in the number of tender offers and hostile takeovers occurring in China. This in turn required that significant reforms be made to the takeover defence measures available to Chinese target firms. In response to this, the CSRC incorporated some important improvements into the defence mechanisms available to target firms under the Takeover Measures, 2006; though as Huang (2008) notes, the changes made are not perfect and indeed, are often problematic.

Firstly, Article 8 of the Takeover Measures, 2006 provides that when the board of directors of a target firm implement defensive measures against a potential takeover they must do so in such a way as to satisfy the fiduciary duties owed to the target firm and its shareholders. In particular, the defensive measures should be beneficial to the target firm and its shareholders and must not pose an inappropriate obstacle to the attempted takeover. Moreover, the board of directors of the target firm must not provide financial assistance either directly or indirectly to the bidding firm by making use of the resources of the target firm and nor may they damage the legitimate rights and interests of the target firm and its shareholders.

Secondly, under Article 33 of the Takeover Measures, 2006 once the acquiring firm has filed the provisional tender offer documents with the CSRC and before the completion of the tender offer, the board of directors of the target firm must not take any defensive measures which might have a significant effect on the composition or value of the target firm's assets, its liabilities, other entitlements or its business performance. In other words, when the board of directors of the target firm become aware of the pending tender offer they must not dispose of any of the target firm's assets, make any significant external investments or adjust in any way, the main business of the target firm or give guarantees or loans on behalf of the target firm, etc. without the approval of the shareholders in general meeting. This requirement prevents the target firm from initiating activities which might frustrate the acquiring firm in its efforts to consummate the tender offer and also, from implementing any other activities which may not be in

the best interests of the shareholders of the target firm (Huang, 2008). In other words, it implies that the catalogue of defensive measures taken by the target firm in the takeover is determined by the shareholders, and not the directors, which is quite similar to the "shareholder-based" model which underscores the City Code on Takeovers and Mergers in the United Kingdom (Huang, 2008). Here it is important to note that Article 33 of the Takeover Measures, 2006 overlaps with and in some areas conflicts with Article 8 of the Takeover Measures, 2006 which is based more on U.S. law and practice. This raises the general issue of whether laws based on a melange of foreign regulations in relation to the selection and application of the defensive measures available to Chinese target firms will work in China because of the very significant differences in culture and social norms which exist between western countries and China (Huang, 2008).

3.3.8 Agreement Takeovers

As noted previously in section 3.1.3 of this chapter, a significant characteristic of the Chinese securities markets is that not all the shares of listed firms are tradable on the stock exchange due to the division of A shares into state owned shares, legal person shares and public individual shares. In particular, before 2005 state-owned and legal person A shares were not allowed to be traded on organised securities markets. However, we have previously noted that in April, 2005, the CSRC implemented the Guquan Fenzhi Gaige reform programme under which listed firms with non-tradable A shares were obliged to convert these shares into fully tradable A shares. By July, 2007, 1,229 of the 1,333 firms with non-tradable A shares listed on the Shanghai and Shenzhen Stock Exchanges had begun the process of implementing the reform measures. However, experience has shown that for most firms it takes a considerable time to reach agreement on the terms and conditions of the conversion process and even when agreement is reached, there is often a provision which restricts trading on the stock exchange in the formerly non-traded A shares for several years into the future. Moreover, because of the the socialist principles upon which the Chinese

state is organised there are certain strategic industries where it is in the best interests of the Chinese economy for firms to remain predominantly under state control. In these industries whilst some shares may be traded by private individuals most shares will remain under the control of the state and will not be available for trading on the stock market. As a result of these factors it is occasionally the case that it is impracticable for prospective acquiring firms to make tender offers for firms which operate in industries that are of strategic importance to the socialist principles upon which the Chinese state is organised. In such circumstances the only way a prospective acquirer can make a takeover offer for the target firm is to reach an agreement with the Chinese government. Here, the Takeover Measures, 2006 lay down detailed rules governing the way in which an agreement for takeover is to be reached between the prospective acquiring company and the non-tradable shareholders.

First, if an acquiring firm intends to reach an agreement to purchase more than 30% of the issued shares of the target firm, then the shares that exceed the aforementioned 30% threshold must be acquired by means of a tender offer unless the acquiring firm applies for an exemption under Article 61 of the Takeover Measures, 2006. Second, the period between the signing of the agreement and the transfer of the related shares is called the transitional period. Article 52 of the Takeover Measures, 2006 provides that it is only in exceptional circumstances that the acquiring firm can change the composition of the board of directors of the target firm during the transitional period. However, in such exceptional circumstances the directors from the acquiring firm must not exceed one third of the total number of all directors of the target firm. Furthermore, article 52 also provides that the target firm must not give any guarantee (financial or otherwise) to the acquiring firm or any of its affiliated parties during the transitional period. In addition, unless the target firm is experiencing serious financial difficulties, it must not publicly issue shares for the raising of capital or conduct significant purchases or sales of assets or involve itself in any major

investment or any other affiliated transactions with the acquiring firm or its affiliated parties during the transitional period.

Third, where there is a controlling shareholder of the target firm who transfers their shareholdings to the acquirer by means of agreement, then an investigation as to the capacity, credit status and the purpose of the takeover by the acquirer must be conducted and the information obtained from the investigation must be disclosed in the report of the modification of entitlements provided to the CSRC under Article 50 of the Takeover Measures, 2006. On the other hand, if the controlling shareholder or any of its affiliated (concerted) parties has not paid off its debts to the target firm, or has not removed any guarantees that the target firm has provided for its debts, or is associated with any other circumstances that may damage the interests of the acquiring firm, then under Article 53 of the Takeover Measures, 2006 the board of directors of the acquiring firm must disclose the aforementioned circumstances and also take effective measures to protect the interests of its shareholders. These two provisions of the Takeover Measures, 2006 are designed to protect the shareholders of the acquiring firm from any conflicts of interest that may influence the motives of the controlling shareholder of the target firm.

Finally, under Articles 54 and 55 of the Takeover Measures, 2006 related parties involved in the takeover agreement must appoint a securities firm to apply to the China Securities Depository and Clearing Corporation for temporary custody of the shares to be transferred under the takeover agreement. They must also deposit the consideration for the purchase of the shares in the bank designated by the China Securities Depository and Clearing Corporation. Moreover, in accordance with the business operation rules of the stock exchange and the China Securities Depository and Clearing Corporation, after the related parties have agreed to go through with the takeover, the shares are removed from the temporary custody of the securities firm and transferred to the acquiring firm and the target shareholders receive the consideration deposited with the bank designated by the China Securities Depository and Clearing Corporation.

3.3.9 Application of Waiver

We have previously noted that under the Takeover Measures, 2006 a bidding firm that controls 30% or more of the equity shares of a listed target firm is required to make either a general or partial tender offer for the remaining shares in the affected target firm. However, under certain circumstances bidding firms are able to apply to the China Security Regulation Committee (CSRC) for an exemption from the requirement to make a tender offer. Hence, Article 62 of the Takeover Measures, 2006 provides that a bidding firm may apply for an exemption from the requirement to make either a general or partial tender offer under the following circumstances:

(1) The bidding firm and the target firm can prove that the transfer of shares would not affect the ultimate overall control of the target firm;

(2) The listed target firm is suffering from serious financial difficulties and the scheme for helping out the target firm which is brought forward by the bidding firm has obtained approval from the general assembly of shareholders of the target firm. Moreover, the bidding firm promises not to transfer the shareholdings and entitlements gained in the target firm within 3 years;

(3) The bidding firm has obtained new shares issued to them with the approval of the non-related shareholders of the general assembly of shareholders of the target firm and these newly issued shares have resulted in the bidding firm's overall interest in the target firm rising above the 30% threshold. Moreover, the bidding firm promises not to transfer its shareholding gained in the target firm for the following 3 years.

Parties other than the bidding firm may also apply for an exemption from the requirement for the bidding firm to make a tender offer. The exact circumstances under which this may be done are summarised in Article 63 of the Takeover Measures, 2006. Broadly the provisions summarised in Article 63 exempt a

bidding firm from making a tender offer when the actions of a third party unintentionally lead to the bidding firm's overall interest in the target firm rising above the 30% threshold.

3.3.10. Financial Consultant

We have previously noted that firms involved in takeover activities in China, including both target and acquiring firms, are required to appoint professional financial consultants to assist them in undertaking takeovers in an organised and efficient manner. Hence, the Takeover Measures, 2006 outline detailed obligations and responsibilities that must be followed by the financial consultants appointed by the target and acquiring firms. First, when a financial consultant appointed by the acquiring firm issues a "financial consultation" report, Article 66 of the Takeover Measures, 2006 require that the report should clearly analyse and explain each of the following issues:

(1) Whether or not the contents disclosed in the takeover report prepared by the target firm under the provisions of Article 32 of the Takeover Measures, 2006 or the tender offer report prepared by the acquiring firm under Article 29 of the Takeover Measures, 2006 are true, accurate and complete;

(2) The purposes for the takeover as given by the acquiring firm;

(3) Whether or not the acquiring firm has provided all the necessary certification documents and made all appropriate statements on the strengths, viability and future profitability of its core business operations. The financial consultant must also analyse and explain the financial status and credit situation of the acquiring firm and identify its controlling shareholders. The financial consultant must also assess whether or not the acquiring firm has the economic wherewithal to implement the takeover and the managerial ability to operate the target firm effectually if the takeover comes to fruition. Finally, the financial consultant must assess whether or not the acquiring firm needs to assume any additional obligations in relation to the takeover;

(4) Whether or not the directors, supervisors and senior managers of the acquiring firm are familiar with the securities and other laws relating to takeovers, the administrative regulations and provisions of the CSRC and are fully aware of their obligations and liabilities to file all appropriate reports, to make all appropriate public announcements and to fulfil all relevant statutory obligations;

(5) The major shareholders and the related percentage of shares they own in the acquiring firm and a structural chart of the relationship between these shareholders that indicates whether they can control the acquiring firm as concerted parties;

(6) Sources of capital that the acquiring firm intends to use for the takeover consideration and its legality, and whether or not the acquiring firm has made use of shares purchased in the takeover to obtain capital financing from a bank or any other financial institutions by means of pledge;

(7) If the acquiring firm pays the consideration for the takeover in securities, a statement about whether or not the information disclosed by the issuer of those securities is true, accurate and complete. The financial consultant is also responsible for assessing the liquidity of the securities offered as consideration for the takeover.

(8) Whether or not the acquiring firm has obtained permission from the CSRC to implement the takeover;

(9) Whether or not arrangements have been made for the stable operation of the target firm over the transitional period of the takeover as defined in Article 52 of Takeover Measures, 2006, and whether the arrangements satisfy all related legal provisions;

(10) If there is intra-industry competition or continuous affiliated transactions

between the acquiring and target firms, to assess the arrangements that have been made to resolve any conflicts which might arise between the acquiring and target firms and also to evaluate the arrangements which have been made to maintain the operational independence of the target firm:

(11) Whether any party (other than the acquirer) has a right of claim on the takeover target, and whether the acquirer has made supplementary arrangements with the target firm other than the consideration for the takeover specified in the tender documents;

(12) Whether or not there is any business relationship between the acquiring firm or any of its affiliated parties and the listed target firm, and whether or not there is any agreement on the future employment of directors, supervisors and senior managers between the acquiring firm and the listed target firm;

(13) Whether or not the original controlling shareholder or actual controller of the listed target firm has not paid off its debts to the target firm, or has not removed any guarantees that the target firm has provided for its debts, or is associated with any other circumstances that may damage the interests of the acquiring firm. If any of the above circumstances do exist, whether or not practicable solutions have been brought forward by the parties concerned.

(14) In the case that the acquiring firm intends to file for an exemption to make a tender offer for the target firm, then the financial consultant must make a statement about whether the exemption satisfies any of the circumstances specified under Articles 62 and/or Article 63 of the Takeover Measures, 2006 and whether or not the acquiring firm is capable of fulfilling any related commitments made under these provisions.

Secondly, the independent financial consultant employed by the board of directors of a target firm must not simultaneously act as the financial consultant of the acquiring firm or have any affiliated relationship with the financial

consultant of the acquiring firm. Furthermore, the independent financial consultant of the target firm should conduct a due diligence investigation and issue a professional opinion about the fairness and legality of the takeover. Under Article 67 of the Takeover Measures, 2006 the independent financial consultant's report for the target firm should explain and analyse the following issues and also give clear opinions on all of them:

(1) Whether or not the acquiring firm has the financial wherewithal to purchase the target firm;

(2) The possible effects of the takeover on the business independence and continuous development of the listed target firm;

(3) Whether or not the acquiring firm intends to use (or pledge) the assets of or other forms of capital obtained from the target firm to raise the consideration necessary to finance the takeover;

(4) If a tender offer is involved, the financial consultant must provide an analysis of the financial status of the target firm, must evaluate whether or not the takeover price fully reflects the value of the target firm and whether or not the tender offer is fair and rational. The financial consultant must also make a recommendation about whether the shareholders of the target firm should accept the tender offer;

(5) If the consideration to be paid for the takeover by the acquiring firm is in the form of securities, then the financial consultant must conduct a valuation analysis of the related securities in terms of their asset backing and their business and profit-making potential. The financial consultant must then use the assessed value of the securities to determine whether or not the conditions of takeover are fair and sensible to the public shareholders of the target firm and whether or not the conditions for takeover put forward by the acquiring firm should be accepted;

(6) If the takeover involves a management buy-out, the financial consultant must provide a valuation analysis of the target firm. The financial consultant must also provide an assessment of the price set for the management buy-out, the method of payment, the sources of financing for the buy-out and the associated repayment plans, and the feasibility of the management buy-out in light of all the aforementioned factors. A summary assessment must also be provided about the business relationships which exist between the target firm's management, their lineal relatives and the target firm itself within the prior 24 months. Finally, the financial consultant must also provide an independent assessment of the information disclosed in the takeover report prepared by the target firm under the provisions of Article 32 of the Takeover Measures, 2006.

3.4 China's Anti-Monopoly Law, 2008 and Regulation on Notification Threshold of Concentration of Undertakings.

3.4.1 General Introduction to the Anti-Monopoly Law in China and Notification Threshold of Concentration of Undertakings

As noted in section 3.2.2 of this chapter, the Anti-Monopoly Law, 2008 is another significant strand of Chinese Law which regulates mergers and acquisitions in China. The Anti-Monopoly Law became effective on 1 August 2008 and soon after attracted world wide attention when China-MOFCOM (that is, the Ministry of Commerce) blocked the U.S. Coca-Cola Company from mounting a successful takeover bid for the Chinese fruit giant, Huiyuan Juice Group Ltd. Article 1 of the Anti-Monopoly Law provides that the objectives of the law are to prevent and restrain monopolistic practices, protect fair competition in the market, enhance economic efficiency, safeguard the interests of consumers and the general public and promote the healthy development of the socialist market economy in China. The Anti-Monopoly Law is a wide ranging law that covers antitrust legislation, the prohibition of horizontal agreements, the prohibition of abuse of market power and includes provisions on the special status of State-Owned-Enterprises (SOE) and the so-called "administrative monopolies", etc. amongst many other matters.

The Anti-Monopoly Law has had and will continue to have a significant impact on foreign investment in China, particularly in relation to foreign firms who wish to make takeover offers for domestic Chinese firms. Hence, the primary focus of this section will be on the parts of the Anti-Monopoly Law that affect mergers and acquisitions (M&A) in China; in particular, Chapter IV of the Anti-Monopoly Law which is entitled "Concentration of Business Operators".

Under Article 10 of the Anti-Monopoly Law, 2008 there are in total three enforcement agencies; namely, the Ministry of Commerce (MOFCOM), the Fair Trade Bureau under the State Administration for Industry and Commerce (SAIC) and the National Development and Reform Commission (NDRC). MOFCOM is responsible for examining all proposed M&A transactions in China so as to determine whether or not those transactions will result in the elimination or restriction of competition within Chinese markets. In this regard, the SAIC has responsibility for carrying out investigations of any potential or reported cases of monopoly agreements; for example, cases of abuse of dominant market position by undertakings. The SAIC also has authority to impose administrative sanctions as appropriate. Finally, the NDRC bears responsibility for investigating all price-related monopoly cases. These cases may arise, for example, from price fixing agreements or abuse of dominant market position by undertakings. However, with regard to domestic and international mergers and acquisitions, the Ministry of Commerce (MOFCOM) is the main agency responsible for examining proposed M&A activities.

The Anti-Monopoly Law does not specify detailed financial and other notification thresholds for the reporting of proposed mergers and acquisitions to MOFCOM, and so on 3 August, 2008 the State Council issued the "Regulation on the Notification Threshold of Concentration of Undertakings" (from hereon in referred to as the Notification Regulations) to supplement the M&A rules under the Anti-Monopoly Law. Article 1 of the Notification Regulations indicates that it aims to clarify the concentration thresholds which if exceeded would require the parties involved in proposed M&A activities to notify MOFCOM under the Anti-Monopoly

Law. This Notification Regulation, along with the new Chinese Anti-Monopoly Law that became effective on 1 August, 2008 opens a new era in China's M&A control regime (Hastings, 2008).

3.4.2 The Mandatory Pre-Merger Notification Process under the Anti-Monopoly Law, 2008 and Notification Threshold

Chapter IV of the Anti-Monopoly Law which is comprised of Articles 20 through 31, details the mandatory pre-merger notification process, the investigation process to be followed by MOFCOM on notification of a proposed M&A activities, the procedures MOFCOM is to use for promulgating its decisions and the appeals process to be followed by dissident parties. Article 21 of the Anti-Monopoly Law provides that where concentration levels in M&A activities exceed given thresholds a declaration must be lodged with MOFCOM and the merger and/or acquisition must be placed in abeyance until such time as approval is obtained from MOFCOM for the merger and/or acquisition to proceed. As previously noted, however, the affected concentration levels are only vaguely articulated in the Ant-Monopoly Law. Given this, the State Council issued the Notification Regulations which incorporate more detailed and specific concentration thresholds. In particular, Article 3 of the Notification Regulations provide that a mandatory pre-merger notification must be filed with MOFCOM by the parties involved in a merger and/or acquisition when:

(1) the total global revenues in the preceding fiscal year of all undertakings involved in the merger and/or acquisition exceed RMB 10 billion and the China revenues of at least two of the undertakings each exceed RMB 400 million in the preceding fiscal year; or

(2) the total China revenues in the preceding fiscal year of all undertakings involved in the merger and/or acquisition exceed RMB 2 billion and the China revenues of at least two of the undertakings each exceed RMB 400 million.

The notification thresholds under the Notification Regulations represent a huge improvement over the vaguely defined thresholds of the Ant-Monopoly Law and the thresholds defined in the 2006 Foreign Merger and Acquisition Regulations. These latter thresholds were based on market share criteria and were often difficult and even impossible to interpret, let alone implement in any practical sense. Hence, the notification thresholds specified under Article 3 of the Notification Regulations provide clear guidance and enable the affected firms to evaluate whether or not a merger and acquisition filing needs to be provided to MOFCOM for a given transaction; and the evaluation is based on the objective standard of worldwide or China-wide turnover, rather than market share which experience under the 2006 Foreign Merger and Acquisition Regulations has shown is difficult to assess (Wang, 2008).

When a proposed merger and/or acquisition satisfies the threshold conditions specified in Article 3 of the Notification Regulations, then Article 23 of the Anti-Monopoly Law provides that the documents and materials required to be submitted to MOFCOM must include a declaration paper, an explanation of the merger and/or acquisition's effect on market competition, a detailed summary of the agreed terms and conditions under which the merger and/or acquisition will occur and the financial reports and accounting reports of the preceding accounting year of the business operator. Furthermore, the declaration paper must include the name, domicile and business scope of the parties involved in the merger and/or acquisition and a precise timetable under which the merger and/or acquisition will be consummated. If needed, MOFCOM is also authorised to demand any other documents and materials which in its opinion, will facilitate its investigations into the proposed merger and/or acquisition. Here it is important to note, however, that Article 22 of the Anti-Monopoly Law provides that an exemption from filing can be obtained if the proposed M&A transaction satisfies the concentration provisions of Article 20 of the Anti-Monopoly Law, but does not result in the acquiring firm obtaining majority control of the target firm. Specifically, if an acquiring firm already holds in excess of 50% of the voting

rights of the target firm (through previous acquisitions of the equity or assets of the target firm) or if another totally independent firm which is not taking part in the M&A transaction already holds in excess of 50% of the voting rights of the target firm, then the acquiring firm may apply for an exemption from filing the documents required under Article 23 of the Anti-Monopoly Law.

3.4.3 Factors Employed to Evaluate the Concentration of Business Operators

Article 27 of the Anti-Monopoly Law outlines the issues which will be considered by MOFCOM in reviewing proposed M&A transactions. These mainly relate to the protection of the interests of consumers, competitors and other market participants. Specifically, Article 27, provides that there are five relevant elements involved in evaluating M&A activities; namely, the market share and controlling power in the relevant markets of the merging firms, the degree of concentration in the relevant markets, the effects of the concentration for market access by new firms and the potential impact on technological progress in the relevant industries/markets, the influences of the market concentration on consumers and competitors and the impact of the market concentration on national economic development. However, some argue that MOFCOM may use Article 27 of the Anti-Monopoly Law to advance macroeconomic or even protectionist goals since this provision mandates that consideration must be given to the impact that a particular merger and/or acquisition might have on the development of the national economy and/or public interest. Moreover, the Chinese Government has recently expressed a strong desire to protect the intellectual property (IP) rights of Chinese firms and citizens. Given this, concern has been raised that MOFCOM could use the provisions of Article 27 (for example, the effects of the concentration for market access by new firms) as an "excuse" to block proposed mergers and/or acquisitions which it considers will have an adverse impact on the IP rights of Chinese firms and citizens (Zhang, et. al., 2007). A significant difficulty with Article 27, however, is that it is vaguely worded. In particular, clarification needs to be provided about several important

terms; for example, relevant market, market participants, how the calculation of market concentration is to be made, how the influence of market concentration on consumers and competitors and the impact of the market concentration on national economic development is to be measured, etc. (Farmer, 2009).

In addition, Article 28 of the Anti-Monopoly Law further emphasises that where the proposed merger and/or acquisition might eliminate or restrict competition, MOFCOM shall make a decision to block the proposed M&A activities. Moreover, Article 4 of the Notification Regulations provides that where M&A activities do not reach the thresholds specified in Article 3 of the Notification Regulations, then MOFCOM shall nonetheless be obliged to investigate the proposed M&A activities in accordance with the Anti-Monopoly Law if the facts and evidence collected through due process demonstrate that the M&A activities might result in exclusion or restriction of competition. Article 28 of the Anti-Monopoly Law in conjunction with Article 4 of the Notification Regulations suggest that M&A activities shall be prohibited as long as the M&A activities have the effect of eliminating or restricting competition, no matter if they are conducted in or outside of China. Hence, to a certain extent, the Anti-Monopoly Law has an extra-territorial effect in the sense that M&A activities which occur outside of China but will or may eliminate or restrict competition are caught by the Anti-Monopoly Law (Seto and Chow, 2009). More importantly, Article 28 of the Anti-Monopoly Law provides that if the affected firms can show that the proposed M&A activities will have more positive effects than negative effects on competition or the proposed M&A activities are in harmony with the public interest, then MOFCOM may decide not to block the affected M&A activities. Thus, MOFCOM imposes the burden on the parties involved with the proposed M&A activities to prove that the favourable impacts on competition arising from the M&A activities will exceed any adverse impacts, even though it is often not clear how these so-called benefits and adverse impacts are to be assessed or measured.

Moreover, Article 31 of the Anti-Monopoly Law provides that where a foreign investor acquires or merges with a domestic enterprise or acquires the assets, equity or enters into contracts with a domestic Chinese firm in such a way as to have implications for the national security of China, then in addition to the examination of the concentration conducted under Article 27 of the Anti-Monopoly Law, MOFCOM shall also carry out an investigation with the relevant Department of State of the implications of the concentration for national security. Whilst considerations of national security also probably play an important role in assessments of M&A activities in western countries, Chinese law is unique in that it incorporates national security issues explicitly into the laws affecting mergers and acquisitions in China.   In western countries national security issues associated with M&A activities are considered more covertly.   Thus, in China national security issues receive separate and detailed consideration from the economic issues affecting M&A activities (Farmer, 2009).

3.4.4. Investigation Procedures for the review of Concentration of Business Operators

As specified in section 3.2.2 of this chapter, once the required notification documents dealing with the notification threshold as required under Article 27 of the Anti-Monopoly Law have been filed with MOFCOM by the relevant M&A parties, then in accordance with Article 25 of Anti-Monopoly Law MOFCOM will spend 30 days conducting a preliminary investigation of the proposed merger and/or acquisition.   This preliminary investigation aims to make a decision about whether to carry out a further review of the proposed merger and/or acquisition transactions.   Within 30 days of submission of the notification documents MOFCOM must inform the parties involved in the M&A transactions in written form about whether a more detailed review will be commissioned under Article 26 of the Anti-Monopoly Law.   If MOFCOM rules that no further review is required, then the M&A activities can proceed.   Moreover, Article 25 of the Anti-Monopoly Law implies that if MOFCOM has not made a decision on the necessity for a further review within the 30-day time period, then the merger transactions are

effectively deemed not to be prohibited and the parties concerned are allowed to complete the necessary transactions to consummate the M&A transactions. Hence, in this area, Chinese law is consistent with practices in the Untied States (Farmer, 2009). If, however, MOFCOM deems a further review to be necessary, then the review must be completed and a decision about whether or not to prohibit the proposed M&A transactions must be communicated to the affected parties in writing within 90 days from the date of the decision about the requirement for a further investigation. After the second more detailed review, if MOFCOM elects to block the proposed M&A activities, then in addition to the written notification required under the first review, it must also provide a written summary of the reasons behind its decision.

Furthermore, Article 26 of Anti-Monopoly Law allows for the possibility of a third review of the proposed M&A transactions which must be completed within 60 days of notification of the result of the second more detailed review. Article 26 provides that MOFCOM may conduct a third round review if any one of the following conditions is satisfied:

(1) MOFCOM informs the parties involved in the proposed M&A activities that the second review has been inconclusive and the parties involved in the proposed M&A activities agree to allow a third round review which must be completed within 60 days, or

(2) the documents or materials submitted to MOFCOM are inaccurate and thus require further verification. Again, the review must be completed within 60 days, or

(3) the circumstances and events surrounding the proposed M&A activities have significantly altered after the submission of the declaration paper required under Article 23 of the Anti-Monopoly Law.

Unfortunately, the circumstances which justify a third round review are not very well articulated and this has led to difficulties for the parties involved in identifying

the precise situations under which a third round review may be conducted. Moreover, Article 26 of the Anti-Monopoly Law provides that if the time in either the 90-day (second) review or 60-day (third) review expires without any action by MOFCOM, then the parties concerned may implement the transactions necessary to consummate the merger and/or acquisition. Again, in this area, Chinese law is in line with practices in the Untied States (Farmer, 2009).

3.4.5. Procedures for Promulgating Determinants of Concentration of Business Operators

In general, under the Anti-Monopoly Law there are three different determinations on a pre-merger notification of affected concentration made by MOFCOM, which as previously noted, is the enforcement agency of the Anti-Monopoly Law in China. These three determinations are as follows:

(1) issuing a permit to proceed with the proposed merger and/or acquisition transactions; or

(2) issuing a permit to proceed with the proposed merger and/or acquisition transactions under specified restrictive conditions, or

(3) blocking the proposed merger and/or acquisition transactions.

In particular, if markets in the area of the proposed merger and/or acquisition will show an unacceptably high level of concentration after the transactions, thereby eliminating or restricting competition, then under Article 29 of the Anti-Monopoly Law, MOFCOM may prohibit the affected M&A transactions from taking place or may impose such conditions as are necessary to reduce the adverse impact of the increased concentration on competition in the relevant markets. Moreover, Article 31 of the Anti-Monopoly Law provides that if MOFCOM decides to prohibit or impose restrictive conditions on concentration, it must publicise such decisions to the general public in a timely manner (Seto and Chow, 2009). Farmer (2009) makes the important point that the publicity requirements associated with Article

31 impose an accountability requirement on MOFCOM and it also adds transparency to the M&A review process.

Seto and Chow (2009) note that before the Anti-Monopoly Law, 2008 came into force it was very rare for MOFCOM to block proposed M&A activities. The first determination of a conditional approval under Article 31 of the Anti-Monopoly Law occurred in November 2008 when Anheuser-Busch Inc. made a takeover offer for InBev N. MOFCOM approved the proposed takeover but only on the condition that Anheuser-Busch Inc. did not increase its shareholding in its competitor beer company, Tsingdao Brewery and also, InBev N. was prohibited from increasing its shareholding in Zhujiang Brewery. MOFCOM imposed these conditions because it was likely that if the shareholdings in Tsingdao Brewery and Zhujiang Brewery were increased, it might intensify concentration in the brewing industry, thereby having an adverse impact on competition (Zhang and Zhang, 2009). MOFCOM published their decision on the above proposed transaction (conditional approval) to the general public at the end of December, 2008. Soon after this in March, 2009 MOFCOM blocked Coca-Cola's proposed acquisition of China Huiyuan Juice Group Limited. As noted in Section 3.2.2 of this chapter Huiyuan Juice is a Hong Kong Listed firm that is a famous national Chinese brand closely associated with the Chinese culture and its people. This was the first merger blocked by MOFCOM after the Anti-Monopoly Law, 2008 came into force. Bachrack, Huang and Modrall (2009) give the following reasons as to why MOFCOM blocked the proposed acquisition of Huiyuan Juice by the Coca Cola Company:

(1) Coca-Cola would be able to leverage its dominant position in the carbonated soft-drink market into the fruit-juice drink market, thus eliminating and restricting competition from currently existing fruit juice manufacturers and in turn, damaging the lawful interests of fruit juice consumers. Although the decision did not indicate how Coca-Cola could leverage its position from carbonated soft drinks into the fruit juice drink market, MOFCOM's press release referred to the possibility that Coca-Cola could engage in "bundling"

or other forms of exclusive dealing;

(2) Coca-Cola's market power in the fruit juice market would be markedly enhanced by controlling two famous juice brands, MeiZhiYuan (Minute Maid) and Huiyuan. The transaction would therefore significantly raise entry barriers for potential competitors in the fruit-juice drink market;

(3) The transaction would reduce the "space" available to domestic small and medium-sized fruit juice manufacturers and negatively impact the ability of domestic enterprises to compete and innovate independently in the fruit-juice drink market; and

(4) The transaction would have adverse impacts on the competitive landscape of China's fruit-juice drink market and the sustainable and healthy development of the domestic fruit juice industry.

3.5. Provisions on Mergers and Acquisitions of a Domestic Enterprise by Foreign Investors

On 22 June, 2009, MOFCOM revised several provisions of the Merger and Acquisition of Domestic Enterprises by Foreign Investors Law ("M&A Provisions 2009"), which was originally promulgated on 8 August, 2006. As noted in Section 3.3 of this chapter, the revisions aim to bring the M&A Provisions into compliance with the Anti-Monopoly Law which came into force on 1 August, 2008 and the Regulation on the Notification Threshold of Concentration of Undertakings which came into force on 3 August, 2008. Here we need to note that the M&A Provisions 2009 lay particular emphasis on takeover activities that involve foreign investors acquiring domestic Chinese enterprises. The reasons behind the promulgation of the revised M&A Provisions are that since China's admission to the World Trade Organisation in 2001 there has been a steadily increasing number of international firms that have sought to invest in China by acquiring and/or merging with Chinese domestic firms. This has provided foreign firms with immediate market access with minimal business risk. In addition, foreign investors who acquire Chinese domestic firms are able to convert the acquired

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firms into Foreign-Invested Enterprises (FIE). FIE's receive preferential treatment in a number of areas, including under the Chinese taxation system [15]. In the following sections we highlight issues from the M&A Provisions, 2009 which are of practical importance for foreign firms that wish to acquire domestic Chinese firms.

3.5.1 Share Swaps in the M &A Provisions, 2009

Article 2 of the M&A Provisions, 2009 provides that foreign investors can merge with or acquire a Chinese domestic firm by means of purchasing assets or acquiring shares. Moreover, since 2006 share swaps began to be allowed for foreign investors that wished to merge with or acquire Chinese domestic firms. In other words, before 2006 only a cash consideration was allowed in transactions involving foreign investors merging with or acquiring Chinese domestic firms. Further, Article 27 of the M&A Provisions, 2009 provides that, with regard to share swaps, foreign investors can use currently issued shares or a new share issue of the acquiring firm to purchase an equity interest in a Chinese domestic firm. Similarly, the equity interest in the Chinese domestic firm may be acquired from existing shareholders or through a new share issue by the Chinese domestic firm. After the merger and/or acquisition, the acquired Chinese firm can be converted into an FIE. Thus, Article 2 of the M&A Provisions, 2009 provides that foreign investors can employ disposable foreign-listed shares, cash or a combination of both to merge with or acquire Chinese domestic firms, although this is subject to certain conditions and government approval (Huang, 2007).

Articles 28 and 29 of M&A Provisions, 2009 provide that if a foreign investor intends to merge with or acquire a Chinese domestic firm using a share swap, it must satisfy the following conditions:

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[15] The Chinese Government has a low and preferential tax policy for FIEs in certain specified regions (e.g. special economic zones in China) and industries (e.g. high-advanced technology) where it strongly encourages foreign investment.

(1) The foreign firm must be legally established and its registration domicile must have a sound legal system of company administration;

(2) The foreign firm and its management must not have been convicted of significant crimes by relevant regulatory authorities over the prior three years;

(3) The foreign firm must be a public listed firm and the listing place must have a sound management system of security exchanges;

(4) The equity of foreign firms must be listed on an open and lawful securities exchange market (excluding the OTC market); and

(5) The price at which the foreign firm's securities have traded over the previous year must be relatively stable.

Furthermore, there are an additional two conditions applicable for both the equity of the foreign firms and Chinese domestic firms in the case of share swap transactions. First, the equity of foreign firms and Chinese domestic firms must be lawfully held by shareholders and may be assigned according to the law. Secondly, there must be no outstanding disputes or pending legal proceedings about the ownership of the equity of both the foreign and domestic firms.

In cross-boarder (that is, international) share swap transactions, Article 30 of the M&A Provisions, 2009 require that the Chinese domestic firm must appoint an intermediary who is established and registered in China, such as a law firm, accounting firm or investment firm, to act as its consultant to perform the due diligence procedures pertaining to the proposed acquisition. Specifically, the intermediary employed by the Chinese domestic firm is responsible for reviewing and verifying relevant documents and the financial status of foreign firms and also, ensuring that the proposed acquisition conforms to the requirements of the M&A Provisions, 2009. Moreover, another responsibility of the aforementioned

intermediary is that they must issue an advisory report that gives clear and professional advice on the above mentioned issues on an item by item basis.

An editorial in the Illinois Business Law Journal (2006) argues that, allowing for share swaps in across-boarder mergers and acquisitions gives foreign investors increased flexibility in choosing the mode of payment for the transactions and also, brings China, in relation to M&A regulations, into line with best international practice.   However, the restrictions imposed on cross-boarder share swap merger and acquisitions (as, for example, under Articles 28, 29 and 30 of the M&A Provisions, 2009) result in an increased level of regulatory scrutiny by the relevant authorities. The ultimate consequence of this is that the regulations are so strict and often so difficult to satisfy, that cash rather than share swaps is the preferred mode of consideration for most cross-boarder mergers and/or acquisitions in China.

All cross-boarder share swap M&A transactions are subject to examination and approval by MOFCOM. With regard to cross-boarder share swap transactions, the declaration procedures to MOFCOM under the M&A Provisions, 2009 are broadly similar to those specified in the Takeover Measures, 2006. There are, however, a few minor differences and one major difference between the declaration procedures under the two laws. The major difference is that, under Article 25 of the M&A Provisions, 2009, MOFCOM has to make a decision about whether or not to grant approval for the proposed M&A transactions to proceed within thirty days following the receipt of all required documents.   More importantly, once MOFCOM approves the proposed M&A activities, a certificate of approval will be issued. At the same time, MOFCOM has to make copies of the relevant approval documents separately to the foreign exchange administrative authority at the equity transfer's locality. After this, the foreign exchange administrative authority must issue the relevant certificate of registration of share transference of foreign exchange earnings and foreign exchange from foreign investment, which is the documentation necessary to

prove that the foreign investor(s) has paid the consideration for equity subscription and/or purchase.

3.5.2 Special Provisions on Special Purpose Companies

Article 39 of the M&A Provisions, 2009 defines a Special Purpose Company (SPC) as an overseas firm directly or indirectly controlled by a Chinese domestic firm or a Chinese natural person and importantly, the SPC is specifically established for the purpose of an overseas listing of the interests of a Chinese domestic firm. Moreover, the main assets of an SPC are the rights and interests in a Chinese domestic firm.

According to Chao and Xu (2008), in the past ten years, a huge number of Chinese domestic firms have employed "round trip investment" procedures to facilitate private equity investments in Chinese domestic firms and have firms listed on overseas stock markets, such as the UK, the US, etc. A "round trip investment" occurs when a domestic firm establishes or controls an offshore holding firm and uses this offshore holding firm to control a Chinese domestic firm either by direct acquisition or by a captive contractual arrangement. It was previously very common for Chinese domestic firms to use funds raised through overseas offshore holding firms to re-invest the proceeds in Chinese domestic firms as Foreign-investment Enterprises (FIEs), thereby accessing the tax benefits and other preferential treatments that the Chinese government has made available to certain manufacturing FIEs. Recently, however, the Chinese government has become increasingly uncomfortable with the round trip investment mechanism and has tightened the regulations relating to it, particularly in regard to provisions incorporated into the M&A Provisions, 2009. A specific example is provided by Article 9 of the M&A Provisions, 2009 which stipulates that if any Chinese domestic firm or natural person merges with or acquires an affiliated domestic firm in the name of a firm legally established or controlled by the aforesaid domestic firm or natural person in a foreign country or region, then it must be subject to the approval of MOFCOM in Beijing, regardless

of the size of the affected transactions. Further, Article 9 also specifies that if the purchase of a domestic firm by a foreign investor exceeds 25% of the domestic firm's total registered capital, then the FIE is eligible for tax benefits and other favourable treatments. It is important to note here that the M&A Provisions, 2009 consider the beneficial owner, rather than the registered investor in determining eligibility for favourable treatment of the FIEs (Huang, 2007). Hence, if the domestic firm is merged with or acquired by an overseas firm which is established or controlled by a domestic firm or natural person and is thus affiliated with the acquired domestic firm, then in this circumstance such a merger or acquisition is not entitled to FIE tax benefits and other preferential treatments unless the overseas firm purchases any increased capital of the domestic firm, or the enterprise established after the merger or acquisition by the overseas firm increases its proportionate investment to 25% or more of its registered capital.

Moreover, Article 42 of the M&A Provisions, 2009 also requires that a Chinese domestic firm intending to establish a special purpose company (SPC) overseas must seek the approval of MOFCOM before doing so. In addition, Article 44 of the M&A Provisions, 2009 provides that when an SPC is employed as a merging or acquiring vehicle in order to get a Chinese domestic firm listed overseas, then the total value of the shares of the SPC to be issued overseas cannot be lower than the value of the share rights of the merged or acquired domestic firm as evaluated by a corresponding asset valuation institution in China.   Furthermore, the share swap also requires the approval from MOFCOM. Also, Article 40 of the M&A Provisions, 2009 provides that where an SPC seeks an overseas listing, then it is subject to approval from the China Securities Regulatory Commission (CSRC). Importantly, Article 47 of the M&A Provisions, 2009 provides that within 30 days of the completion of an SPC listing on an overseas stock exchange, the Chinese domestic firm must report the situation relating to the overseas listing to MOFCOM, including the repatriation proposal of funds raised abroad, and it must also apply for an FIE approval certificate. After this, the domestic firm must

apply to the State Administration for Industry and Commerce (SAIC) for an FIE business licence and to the State Administration of Foreign Exchange (SAFE) for a foreign exchange registration certificate. Finally, the shares of the SPC can be used in share swap transactions to acquire further Chinese domestic firms, provided only that the SPC is successfully listed on an overseas stock exchange. Here we need to note that, in accordance with Article 49 of M&A Provisions 2009, if the SPC fails to consummate the listing abroad within one year of the issuance of the FIE business licence, or if the SPC fails to fulfil its reporting duties to MOFCOM, then MOFCOM will require the share swap to be reversed.

3.5.3 National Economic Security Review

The assessment of the impact of cross-boarder mergers or acquisitions on the national economic security of China plays an important role in the M&A Provisions, 2009. For instance, Article 12 of the M&A Provisions, 2009 provides that if foreign investors merge with or acquire a Chinese domestic enterprise and intend to obtain actual control over the enterprise, and if such merger or acquisition involves any "critical industry" and/or will have an adverse or potential adverse impact on the security of the national economy and/or results in transfer of actual control over a domestic enterprise owning a "renowned trademark" or a Chinese "time-honoured" brand (though in this circumstance it may not have an impact on any major industry or the economic security of China), then the parties involved with the merger or acquisition must apply to MOFCOM for approval of the proposed merger and/or acquisition. Moreover, Article 12 also stipulates that in the case where any of the aforesaid circumstances arise, but the parties concerned in the merger or acquisition fail to report the related merger or acquisition transactions to MOFCOM, then MOFCOM may, in conjunction with other relevant government agencies, demand that the parties concerned delay the M&A transactions, re-assign relevant equity or assets, or put any other effective actions into place to eliminate the adverse effects of the merger or acquisition on the security of the national economy. Here, it is important to note that the regulations dealing with the impact of cross-border M&A activities on

national economic security in the M&A Provisions, 2009 are closely related to Article 31 of Anti-Monopoly Law which was the subject of discussion in section 3.3.3 of this chapter.

A recent report of the Organisation for Economic Cooperation and Development (2006) (OECD) has reviewed the latest developments in China's policies towards cross-border mergers and acquisitions. The OECD agues that that the M&A Provisions, 2009 increase transparency by demanding that parties associated with mergers and/or acquisitions disclose whether or not they are affiliated with each other and also, establishes specific and detailed provisions regarding the use of Special Purpose Companies (SPC) by Chinese domestic firms that acquire overseas owned enterprises in China. However, terms and phrases included in the M&A Provisions, 2009, such as "critical industry", "impact on national economic security", "renowned trademarks"[16] and "time-honoured brand" often lack clarity and lead to potential uncertainties in the application of the relevant articles of the M&A Provisions, 2009. Consequently, foreign investors intending to merge with and/or acquire Chinese domestic firms, Chinese domestic firms that have been targeted for takeover by foreign firms and even Chinese government agencies may find it difficult to apply some of the articles of the M&A Provisions, 2009 that contain these terms. In addition, they OECD suggests that requiring Chinese government agencies to consider the impact of cross-border mergers and acquisitions on national economic security may lead to over zealousness in the review process as government officials place excessive weight on the political consequences of the decisions they make. This in turn raises issues about the compatibility of the M&A Provisions, 2009 with best international practices in the area.

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[16] The OECD notes that the Trademark Office of the State Administration for Industry and Commerce bears the principal responsibility for certifying "renowned trademarks" in China. However, the People's Court of China is the ultimate authority in these matters in the case of legal disputes. The legal uncertainties surrounding the certification of "renowned trademarks" in China makes it difficult for foreign investors involved in proposed M&A activities to make assessments about whether or not a trademark will fall into the category of a "renowned trademark". A good example of this is provided by the U.S. Coca Cola Company's proposed takeover of the Huiyuan Juice Group Ltd which was blocked under the "renowned trademark" provisions of the M&A Provisions, 2009 (See section 3.3.2 of this chapter for further details).

3.5.4 Reporting Thresholds for Cross-border Mergers and Acquisitions in M &A Provisions, 2009

We have already noted in section 3.4 of this chapter that in 2009 the Ministry of Commerce (MOFCOM) amended the M&A Provisions, 2006 in order to bring these Provisions into compliance with the Anti-Monopoly Law and the Regulation on the Notification Threshold of Concentration of Undertakings. Both the Anti-Monopoly Law and Notification Regulations are considered in detail in section 3.3 of this chapter. In particular, chapter 5 of M&A Provisions, 2006 was replaced with a new provision, namely Article 51 in the M&A Provisions, 2009. Article 51 provides that when the merger and/or acquisition of a Chinese domestic enterprise by a foreign investor reaches the thresholds summarised in the Notification Regulations, then the foreign investor must make a declaration to MOFCOM and must not proceed with the M&A transactions without this prior reporting. It implies that the declaration thresholds brought forward in the Notification Regulations are not only applicable to Chinese domestic mergers and/or acquisitions (as noted in Section 3.3.2 of this chapter), but also are applicable to foreign investors merging with or acquiring Chinese domestic firms. It will be recalled from section 3.3.2 of this chapter that the Notification Regulations require that the relevant parties involved in a merger and/or acquisition must report the proposed transactions in advance to MOFCOM, if:

(1) the total global revenues in the preceding fiscal year of all undertakings involved in the merger and/or acquisition exceed RMB 10 billion and the China revenues of at least two of the undertakings each exceed RMB 400 million in the preceding fiscal year; or

(2) the total China revenues in the preceding fiscal year of all undertakings involved in the merger and/or acquisition exceed RMB 2 billion and the China revenues of at least two of the undertakings each exceed RMB 400 million.

Huang (2009) notes that reporting thresholds under Chapter 5 of the M&A Provisions, 2006 were vaguely worded and were based on a combination of factors such as business turnover, market share, the number of Chinese enterprises acquired in related industries, and the absolute magnitude of the value of assets in China held by enterprises involved in the proposed merger and/or acquisition.   In other words, sometimes market share was used in determining the reporting threshold. On other occasions the absolute magnitude of the value of assets in China held by enterprises involved in the proposed merger and/or acquisition was used. On still other occasions a combination of these two factors was used in determining thresholds. Hence, there was often inconsistency in the reporting threshold that was used by MOFCOM. Under Article 51 of the M&A Provisions, 2009 that replaces Chapter 5 of the M&A Provisions, 2006, however, business turnover has become the dominant factor in determining whether or not the parties involved in proposed M&A activities need to apply to MOFCOM for approval of the merger and acquisition transactions they intend to enter into. Furthermore, it is important to note that, in order to make the Anti-Monopoly Law applicable to financial business operators in China, on 15 July, 2009, MOFCOM and several other financial watchdogs in China - such as the People's Bank of China, China Banking Regulatory Commission, the China Securities Regulatory Commission (CSRC) and the China Insurance Regulatory Commission - have jointly issued Measures for Calculating the Business Turnover of Financial Business Operators for Notification of a Concentration. The Measures for Calculating the Business Turnover of Financial Business Operators for Notification of a Concentration outlines the elements which must be considered in calculations of "business turnover" for banks, securities firms, futures firms, fund management firms, insurance firms and other financial institutions.

3.6 Effects Laws and Regulations on Economic Benefits of Chinese M&A Activities

Our analysis in this chapter shows that there are some unique aspects to the laws and regulations governing M&A activities in China. These, in turn, have a potential impact on the returns that Chinese firms earn from their M&A activities. Whilst we examine this issue at various points in subsequent chapters of the dissertation we now provide a brief summary of some of the more important ways in which Chinese laws and regulations can impact on returns earned from M&A activities.

We have previously noted (as in section 3.2.3) that a unique feature of the mainland Chinese stock markets is that not all the A shares issued by firms are tradable, and that this constitutes a significant difference from the stock markets in western countries like the USA and UK. Moreover, non-tradable A shares account for a majority of the A shares issued by most listed firms. The absence of organised markets for non-tradable shares and the difficulties associated with valuing them means that the shareholders of target firms in M&A activities prefer to receive cash as the mode of consideration rather than the non-tradable shares of the bidding company. Moreover, the division of tradable shares into A (normally owned by Chinese nationals) and B (normally owned by foreigners) shares may also have a significant impact on the returns earned by both domestic and foreign shareholders.

It is also needs to be emphasised that Chinese regulatory authorities, such as the CSRC, pay particular attention to the return on equity (ROE) as computed from a firm's balance sheet and profit and loss account in deciding whether to give approval for the new share issues to go ahead. Loss making firms wishing to make a new share issue in order to "shore up" their deteriorating financial position are likely to have a poor history of ROE statistics. Given this, it is unlikely that such firms will gain the approval of the CSRC for any new share issues. Such firms therefore have incentives to manipulate the figures appearing

on their published financial statements and this could lead investors into a false view about the company's future prospects. This in turn could lead to inefficiencies for Chinese M&A activities.

3.7 Summary and Conclusions

This Chapter deals primarily with the laws and regulations governing mergers and acquisition (M&A) transactions in China. We begin our analysis in section 3.2 of this chapter by briefly summarising the development of China's securities markets, including an introduction to China's main stock exchanges together with their listing rules and distinctive characteristics. Probably the most important distinguishing characteristic of mainland Chinese stock markets is that traded shares are comprised of A shares and B shares. The reason behind the division between A shares and B shares is that the Chinese government has implemented a policy of limiting the amount of RMB (Yuan) which can leave the country in order to preserve the nation's foreign currency reserves. This in turn means that a distinction has had to be drawn between foreign investors and Chinese national investors; in particular, with rare exceptions only Chinese citizens can hold A shares whilst foreign investors are generally limited to holding B shares. Another important characteristic of the mainland Chinese stock markets is that the majority of A shares in most listed Chinese firms are controlled by the Chinese government or its instrumentalities. A shares controlled by the Chinese government are called state-owned shares and until recently, could not be traded on any of the Chinese mainland stock exchanges. However, in April, 2005, the Chinese government began implementing a reform programme called "GuQuan Fenzhi Gaige" (Shareholding Structure Reform) under which non-tradable A shares will be gradually converted into tradable shares. But the conversion process will be slow and cumbersome and it will take several years for the conversion process to be fully implemented. Furthermore, this distinction between A and B shares points to some of the unique characteristics that determine the laws regulating M&A activities in China and of how they are different from the "equivalent" laws in most western countries.

The most important laws and regulations governing mergers and acquisitions in China are the Securities Law, the Takeover Measures, 2006, the Anti-monopoly Law, 2008, the Declaration Thresholds which supplement the Anti-Monopoly Law, 2008, and finally, the Provisions on Mergers and Acquisitions of a Domestic Enterprise by Foreign Investors, 2009. Our detailed discussion of these laws and ordinances began in section 3.3 with a consideration of the Takeover Measures, 2006. The Takeover Measures, 2006 cover such areas as the mandated bid rules, tender offer rules, the disclosure of substantial shareholdings and the defence mechanisms which may be mounted against takeovers and mergers, etc. Section 3.4 focuses on the Anti-Monopoly Law, 2008 and the Declaration Thresholds which were brought in soon after as a supplement to this Law. The Anti-Monopoly Law, 2008 details the mandatory pre-merger and acquisition notification process, the investigation procedures that are to be used by MOFCOM and other government agencies and the procedures MOFCOM must use for promulgating its decisions, etc. Since the number of cross-border M&A activities in China has been increasing significantly over the last few years, Section 3.5 of this chapter is specifically dedicated to a consideration of the Provisions on Mergers and Acquisitions of a Domestic Enterprise by Foreign Investors, 2009 (the M&A Provisions, 2009). Importantly, the M&A Provisions, 2009 centre on the regulations affecting share swap transactions by foreign investors merging with or acquiring Chinese domestic firms, and the particular regulations which apply to Special Purpose Companies (SPC). An SPC is an foreign firm directly or indirectly controlled by a Chinese domestic firm or Chinese natural person and is specifically established for the purpose of an overseas listing of the interests of a Chinese domestic firm.

To conclude, the most recently promulgated Anti-Monopoly Law, 2008, the Declaration Thresholds which supplement this Law and the M&A Provisions, 2009, along with the Takeover Measures, 2006 and the Securities Law in China have made China's M&A legal framework more complete, mature and importantly, more in compliance with best international practices and norms.

However, we need to note that, Chinese M&A laws do have their limitations and also, are not immune from criticism. For instance, the M&A Provisions, 2009, lack clarity in the articulation of certain key terms and phrases such as the definition of what constitutes a "critical industry" or what constitutes a "time-honoured" brand. This will inevitably lead to significant difficulties in implementing these new laws pertaining to cross-border M&A activities. Moreover, the defence mechanisms available under the Takeover Measures, 2006 are in many ways a mixture of those available in several different countries. Unfortunately, this gives rise to potential conflicts and overlaps in the defence mechanisms available to Chinese firms involved in the M&A process – as amply demonstrated by Article 8 and Article 31 of the Takeover Measures, 2006[17] – and this can only lead to trouble and confusion in the process of applying this law.

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[17] A detailed summary of the provisions relating to Article 8 of the Takeover Measures, 2006 is to be found in section 3.3.7 of this chapter. The provisions relating to Article 31 of the Takeover Measures, 2006 are to be found in section 3.4.3.

CHAPTER FOUR

THE METHODOLOGY OF ABNORMAL EQUITY RETURNS AS APPLIED TO A SHARES OF TARGET FIRMS INVOLVED IN CHINESE M&A ACTIVITIES[1]

4.1 Introduction

Our principal objective in this chapter is to formulate and then apply procedures for assessing the significance of the abnormal returns earned by target firms involved in Chinese merger and acquisition (M&A) activities. Our analysis is based on a standard market model methodology using both the Dimson (1979) and Ordinary Least Squares (OLS) estimates of equity betas. In particular, we employ nonparametric testing procedures in order to enhance the robustness of our empirical analysis. Here Corrado (1989) has introduced a nonparametric rank test for assessing abnormal security-price performance which, it is claimed, is preferable to the conventional parametric "t" tests that appear in the literature (e.g. Patell, 1976). The Corrado (1989) test is valid when applied to skewed and/or leptokurtic distribution functions and avoids many of the limitations implicit in alternative nonparametric tests of abnormal security-price performance (e.g. the symmetry assumptions on which the Wilcoxon signed rank test is founded). Yet for all its virtues the Corrado (1989) test is computationally cumbersome and lacks power in comparison to the Patell (1976) "t" test which is the traditionally used parametric test in the area. Moreover, little is known about the small sample properties of the Corrado (1989) test. We address these issues by modifying the Corrado (1989) test so as to increase its power relative to the benchmark Patell (1976) "t" test. In particular, we employ a consistent estimator for the variance of the ranks of abnormal security returns and then use this consistent estimator to

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[1] Section 4.2 of this chapter is based on an article entitled "A Modified Corrado Test for Assessing Abnormal Security Returns" jointly written by Ali Ataullah, Xiaojing Song and Mark Tippett that is forthcoming in the European Journal of Finance.

obtain an exact closed form expression for the Corrado (1989) test statistic. This simplifies the computational procedures behind the Corrado (1989) test considerably – to the point where they can be implemented using only a hand held calculator. We also demonstrate how a second order Edgeworth expansion can be employed to determine the small sample properties of the Corrado (1989) test statistic.

Our empirical analysis shows that there are significant abnormal returns around the takeover announcement date for target firms involved in Chinese M&A activities. We also find, however, that a significant proportion of these abnormal returns decay away within a few weeks following the takeover announcement date. Moreover, our modification of the original Corrado (1989) test shows significantly more power in detecting these abnormal returns than the originally specified Corrado (1989) test. Indeed, the modified Corrado test employed in our empirical analysis has almost the same power as the Patell (1976) "t" test but is not based on the assumption of normally distributed returns. Moreover, a question of some significance that often arises in the M&A literature (Goergen and Renneboog, 2004) is what determines the wealth effects that accrue to the shareholders of target firms. In so far as the limited data available on Chinese firms permits, we seek to address this issue by following the methodological procedures laid down in the paper by Goergen and Renneboog (2004). In particular, we regress the abnormal returns that accrue to Chinese target firms over the period surrounding the takeover announcement date against a number of potential determining variables.

The next section of the chapter identifies the "base line" market model methodology employed in our empirical analysis of Chinese target firms. Section 4.3 identifies our data sources and the sampling procedures we employ and then summarises the empirical evidence relating to the abnormal returns identified by our market model methodology. Section 4.4 briefly outlines some important issues relating to the power of our testing procedures. Section 4.5 provides a rudimentary analysis of the potential determinants of the abnormal returns earned by Chinese target firms. Finally,

section 4.6 concludes our analysis. This chapter provides only a brief summary analysis of the wealth effects that M&A activities have on the shareholders of Chinese target firms. A more detailed analysis of the more important issues identified in this chapter is deferred until subsequent chapters of this dissertation.

4.2 Base Line Methodology

The standard hypothesis tested in the literature is that no rents (that is, excess returns) are earned by target firms involved in M&A activities. Hence our "base-line" methodology involves using the "market model" to determine the expected return on target firms around the "announcement date" for the affected takeovers. Here it will be recalled that the Capital Asset Pricing Model (CAPM) takes the following form:

$$E(R_i) = R_f + [E(R_m) - R_f]\beta_i \qquad (4.1)$$

where $E(R_i)$ is the expected return on the ith equity security, $E(R_m)$ is the expected return on the market portfolio, R_f is the risk free rate of return and β_i is the equity security's beta. The Chinese target firms on which our analysis is based were mainly listed on the Shanghai Stock Exchange and/or the Shenzhen Stock Exchange. For these firms the Shanghai SE Composite Index or the Shenzhen SE Composite index was used as a proxy for the market portfolio. The market proxy used for firms listed on other stock exchanges was the most inclusive index available for the particular stock market.[2] Moreover, a little algebra applied to the CAPM shows:

$$E(R_i) = R_f + [E(R_m) - R_f]\beta_i = R_f - R_f\beta_i + E(R_m)\beta_i \qquad (4.2a)$$

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[2] As an example consider the acquisition of a 65.68% stake in Pacific Century Regional Developments Limited by Pacific Century Group Holdings Limited on 21 July, 1995. Pacific Century Regional Developments Limited was a Chinese firm listed on the Singapore Stock Exchange at the time of the takeover offer. The S&P Singapore BMI Index (DS Mnemonic: SBBSNGL(RI)) was used as the proxy for the market portfolio.

or:

$$E(R_i) = R_f(1 - \beta_i) + E(R_m)\beta_i \qquad (4.2b)$$

Now, suppose one uses the OLS or the Dimson (1979) regression procedure to estimate beta, β_i, for a given equity security. The market model then takes the following form:

$$R_{it} = a_i + b_i R_{mt} + e_{it} \qquad (4.3)$$

where R_{it} is the actual return on the equity security during the tth time period (in our case, t^{th} day), R_{mt} is the actual return on the proxy for the market portfolio during the tth time period (in our case, t^{th} day), and e_{it} is an error term with zero mean. Taking expectations across the market model will thus imply:

$$E(R_{it}) = a_i + b_i E(R_{mt}) \qquad (4.4)$$

since $E(e_{it}) = 0$ by assumption. This will also mean that $a_i = R_f(1 - \beta_i)$ and $b_i = \beta_i$ are the estimates of the constant term and the equity security's beta, respectively. One can then determine the "unexpected" or "abnormal" return on the given equity security during the tth time period from the following equation:

$$e_{it} = R_{it} - a_i - b_i R_{mt} \qquad (4.5)$$

That is, the abnormal return, AR_{it}, on the ith security for the tth day is approximated by e_{it}. In other words, $AR_{it} = e_{it}$ is the abnormal return for the ith security during the tth day. Moreover, if there are N target firms with tradable A shares on issue, then the average abnormal return on the tth day across the N target firms in our sample will be $AAR_t = \frac{1}{N} \sum_{i=1}^{N} AR_{it}$. Similarly, the

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cumulative abnormal return, $CAR_{i\tau}$, for the ith security on the τth day is obtained by summing the abnormal returns, AR_{it}, for the given security up to and including the τth day of the event window. Since we use an event window comprised of 24 days (that is, from six days before the takeover announcement date until 17 days after the takeover announcement date) this means that the cumulative abnormal return for the ith security on the τth day will be computed as $CAR_{i\tau} = \sum\limits_{t=1}^{\tau} AR_{it}$. This in turn means that the cumulative average abnormal return on the τth day across the N firms in our sample will be $CAAR_{\tau} = \dfrac{1}{N} \sum\limits_{t=1}^{\tau} \sum\limits_{i=1}^{N} AR_{it} = \sum\limits_{t=1}^{\tau} AAR_{t}$. The abnormal return and cumulative abnormal return as computed here are used in the calculations we make of the Patell (1976) "t" statistics in our subsequent empirical analysis of Chinese target firms.

Now suppose one estimates the above market model and then computes the abnormal returns, AR_{it}, for each of the i = 1, 2, 3, ____, N firms comprising our sample of Chinese mergers and acquisitions across the t = 1, 2, 3, ____, T daily time periods on which our analysis is based. One can then follow Corrado (1989) in letting $1 \leq K(AR_{it}) \leq T$ be the rank for the ith firm of the abnormal return during the tth time period as summarised in the following matrix:

$$
K = \begin{pmatrix}
K(AR_{11}) & K(AR_{12}) & K(AR_{13}) & \rule{1cm}{0.4pt} & K(AR_{1T}) \\
K(AR_{21}) & K(AR_{22}) & K(AR_{23}) & \rule{1cm}{0.4pt} & K(AR_{2T}) \\
| & | & | & | & | \\
| & | & | & | & | \\
K(AR_{N1}) & K(AR_{N2}) & K(AR_{N3}) & \rule{1cm}{0.4pt} & K(AR_{NT})
\end{pmatrix}
$$

We emphasise here that each row summarises the ranks pertaining to the abnormal returns of a given firm only. Thus, the first row contains the ranks from 1 to T of the abnormal returns of the first firm. The second row contains the ranks from 1 to T of the abnormal returns of the second firm. The third row contains the ranks from 1 to T of the abnormal returns of the third firm and

so on. Moreover, we follow Corrado (1989, p. 388) in assuming that the ranks for each firm are randomly allocated across the T elements comprising each row of the above matrix. It then follows that the average of the ranks allocated to each of the i = 1, 2, 3, ____, N rows (or firms) must be (Freund, 1971, p. 421):

$$E[K(AR_{it})] = \frac{1}{T} \sum_{t=1}^{T} K(AR_{it}) = \frac{1}{T} \sum_{t=1}^{T} t = \frac{T+1}{2} \qquad (4.6)$$

where $E(\cdot)$ is the expectations operator.[3]   Likewise, the variance of the ranks allocated to each row must be (Freund, 1971, p. 421):

$$Var[K(AR_{it})] = \frac{1}{T} \sum_{t=1}^{T} [K(AR_{it}) - \frac{T+1}{2}]^2 = \frac{1}{T} \sum_{t=1}^{T} (t - \frac{T+1}{2})^2 = \frac{T^2-1}{12} \quad (4.7)$$

where $Var(\cdot)$ is the variance operator. Next consider the sum of the ranks, $\sum_{i=1}^{N} K(AR_{it})$, allocated to each of the t = 1, 2, 3, ____, T columns of the above matrix; that is, the sum of the ranks across the N firms comprising the sample for a fixed time period (t). It then follows that the variance of the sum of the ranks for this sample of firms will be:

$$Var[\sum_{i=1}^{N} K(AR_{it})] = \sum_{i=1}^{N} Var[K(AR_{it})] + \sum_{i=1}^{N} \sum_{\substack{j=1 \\ i \neq j}}^{N} Cov[K(AR_{it}), K(AR_{jt})] \qquad (4.8)$$

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[3] The important point here is that the elements of the matrix, K, are *not* based on a global ranking across all NT abnormal returns arising on the N firms across the T available periods. Rather each row ranks the abnormal returns from 1 to T for a given firm. Since there are N firms the total of the ranks will thus be $\frac{NT(T+1)}{2}$. The average of these ranks is $\frac{1}{NT} \cdot \frac{NT(T+1)}{2} = \frac{T+1}{2}$ - as captured by equation (4.6) of the text. Against this, using a global ranking across all NT abnormal returns shows that the total of the ranks will be $\frac{NT(NT+1)}{2}$. The average of the ranks based on this global ranking procedure will then be $\frac{1}{NT} \cdot \frac{NT(NT+1)}{2} = \frac{NT+1}{2}$. We emphasise again that our analysis is not based on this global ranking approach.

Here $\text{Cov}[K(AR_{it}),K(AR_{jt})]$ is the covariance between the rank of the abnormal return contained in the ith row of column (t) and the rank of the abnormal return contained in the jth row of column (t). Since the rank allocated to the ith firm during the tth time period is independent of the rank allocated to the jth firm for the same time period it necessarily follows that the covariance between the ranks allocated to the different elements of each column will be $\text{Cov}[K(AR_{it}),K(AR_{jt})] = 0.^{4}$ One can then use equations (4.7) and (4.8) to show that the variance of the sum of ranks across the N firms will be:

$$\text{Var}[\sum_{i=1}^{N} K(AR_{it})] = \sum_{i=1}^{N} \text{Var}[K(AR_{it})] = \frac{N(T^2 - 1)}{12} \qquad (4.9)$$

Now consider the Corrado (1989, p. 388) expression for the variance of the sum of excess ranks across these N firms:

$$S^2(K) = \frac{1}{T} \sum_{t=1}^{T} [\frac{1}{N} \sum_{i=1}^{N} \{K(AR_{it}) - \frac{T + 1}{2}\}]^2 \qquad (4.10)$$

One can use this expression to compute the standardised variable:

$$z_c = \frac{\frac{1}{N} \sum_{i=1}^{N} \{K(AR_{it}) - \frac{T + 1}{2}\}}{S(K)} \qquad (4.11)$$

However, the previously made assumption that the ranks are randomly distributed across the T elements of each row of the above matrix (Corrado, 1989, p. 388) implies that a simpler expression exists for the standardised variable defined by equation (4.11). This can be demonstrated by taking expectations across equation (4.10) in which case it follows that:

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[4] Since by assumption the first T integers (ranks) are randomly allocated to each row of the matrix, summing the columns is equivalent to a random drawing of N of these T integers but with replacement after each drawing is made; that is, after an integer is drawn (for a particular element of a given column) it is replaced before the next random drawing occurs (for the immediately ensuing element of the given column). Freeman (1963, pp. 187-191) shows that the act of replacement means $\text{Cov}[K(AR_{it}),K(AR_{jt})] = 0$ for all $i \neq j$.

$$E[S^2(K)] = \frac{1}{TN^2} \sum_{t=1}^{T} \sum_{i=1}^{N} Var[K(AR_{it})] = \frac{1}{TN^2} \sum_{t=1}^{T} \frac{N(T^2 - 1)}{12} = \frac{(T^2 - 1)}{12N} \quad (4.12)$$

provides a closed form expression for the expected variance of the sum of the excess ranks across the N firms. Moreover, using this result it follows that $S^2(K)$ is a consistent estimator of the population variance, or (Freeman, 1963, pp. 235-36):

$$\plim_{N \to \infty} S^2(K) = \frac{(T^2 - 1)}{12N} = E[S^2(K)] \quad (4.13)$$

Substituting this latter result into equation (4.11) leads to the following computationally more convenient modified Corrado test statistic:

$$z_1 = \frac{\frac{1}{N} \sum_{i=1}^{N} [K(AR_{it}) - \frac{T + 1}{2}]}{\sqrt{\frac{(T^2 - 1)}{12N}}} = \sqrt{\frac{3}{N(T^2 - 1)}} \sum_{i=1}^{N} [2K(AR_{it}) - (T + 1)] \quad (4.14)$$

Note also that one can apply the Central Limit Theorem to show that the distribution function, $F_N(z_1)$, of the random variable, z_1, can be approximated by the standard normal distribution function, $\Phi(z_1) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{z_1} \exp(\frac{-x^2}{2})dx$, as

$N \to \infty$ (Fisz, 1963, p. 197). [5] Moreover, the theorem of Berry (1941) and Esseen (1945) shows that the absolute value of the error associated with approximating $F_N(z_1)$ by the standard normal distribution function, $\Phi(z_1)$, will be:

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[5] If, however, there are different sample sizes for each of the i = 1, 2, 3, ____, N firms then the above result takes the following "equivalent" form:

$$z_1 = \sqrt{\frac{3}{N}} \sum_{i=1}^{N} \frac{[2K(AR_{it}) - (T_i + 1)]}{\sqrt{T_i^2 - 1}}$$

where T_i is the number of abnormal returns computed for the ith firm (Fisz, 1963, p. 203).

$$|F_N(z_1) - \Phi(z_1)| \leq c.\sqrt{\frac{27}{N}(1 - \frac{1}{T^2})} \qquad (4.15)$$

where $0.4097 \leq c \leq 0.7056$ is known as the Berry-Esseen constant (Shevtsova, 2007). Note how this result implies that the rate of convergence of $F_N(z_1)$ towards the standard normal distribution function is of the order of $\frac{1}{\sqrt{N}}$. The Berry-Esseen bound formalised through equation (4.15) will also enable those who use the modified Corrado (1989) test to make assessments about how reliable the normal approximation is likely to be in their empirical work.

4.3 Data and Analysis

It will be recalled, however, that our principal purpose in the above analysis is to lay down testing procedures to assess the significance of the abnormal returns earned by target firms involved in Chinese M&A activities. We use the definition of a takeover laid down in Chapter 3; namely, that under Article 84(1) of the Measures for the Administration of Takeovers of Listed Companies promulgated by the China Securities Regulation Committee (CSRC) in 2006, a takeover is said to have occurred when an acquiring firm successfully purchases more than 50% of the equity shares the listed target firm has on issue. Data on Chinese mergers and acquisitions are available from the Securities Data Company Mergers and Acquisitions [SDC (M&A)] Database. The information summarised on this database includes the announcement date of the given takeover, the date the takeover becomes effective, the date the takeover is declared to be unconditional and the terms (cash, share exchange, etc.) associated with the takeover. Over the period from 1 January, 1990 until 31 December, 2008 there were 198 Chinese target firms on the SDC (M&A) database that satisfied the definition for a takeover under Article 84(1) of the Measures for the Administration of Takeovers of Listed Companies and which were also listed on one or both of the two mainland Chinese stock exchanges (that is, the Shanghai Stock Exchange and the Shenzhen Stock Exchange) or alternatively, an international stock exchange. However, not all of these firms had their share price data available

on the Datastream system and this reduced our final sample size down to 82 Chinese target firms. These 82 target firms cover a wide and randomly chosen spectrum of industries. Here, Table 4.1 provides a summary the industrial classifications of the N = 82 target firms as well as a summary of the years in which the takeovers occurred. Thus, for example, for the Industrial Engineering classification there were two takeovers in 2003, one takeover in 2007 and two takeovers in 2008 - or five takeovers in total. Data for the other industry classifications are to be similarly interpreted. Prices for the A shares (adjusted for rights issues and other stock splits) for these 82 Chinese target firms were downloaded from the Datastream system (B and H shares are analysed separately in chapter 5 of this dissertation).[6] The parameters of the OLS and Dimson (1979) versions of the market model were then estimated for each firm comprising our sample using the continuously compounded share returns from 207 trading days prior to the announcement of the merger and/or acquisition until seven trading days before the announcement date; that is, (-207,-7) trading days.[7] The event window encompasses six trading days prior

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[6] Here we need to note that eleven of these 82 firms were not listed on the two mainland Chinese stock exchanges; that is, they were not listed on either the Shanghai Stock Exchange or the Shenzhen Stock Exchange. Three of these firms were listed on the Singapore Stock Exchange, four were listed on the NASDAQ, three were listed on the Frankfurt Stock Exchange and one was listed on the Hong Kong Stock Exchange. Returns on the equity securities of these eleven firms were first computed in the currency of the stock exchange on which they were listed. The returns were then converted into returns based on the Chinese RMB (Yuan) using the official exchange rate for the affected currency. Our analysis of the abnormal returns for the Chinese target firms was conducted across the entire sample of 82 firms and then across the sample of 71 firms that were listed on either of the two mainland Chinese Stock exchanges (that is, excluding the eleven firms listed on foreign stock exchanges). There were no significant differences between the results based on the entire sample of 82 firms and the sample of 71 firms which excluded the eleven firms listed on foreign stock exchanges. Given this, our analysis in this Chapter reports only the results for the entire sample of 82 firms.

[7] As previously noted, the parameters of the market model were estimated using both Ordinary Least Squares (OLS) and the Dimson (1979) technique. The Dimson (1979) estimate of the betas was based on five observations of the return on the proxy for the market portfolio; namely, the return on the market proxy one and two trading days prior to the current day, the return on the market proxy during the current day and the return on the market proxy one and two days subsequent to the current day. We assessed the robustness of this procedure by estimating Dimson (1979) betas based on seven observations of the return on the market proxy (the current day's return and three forward and three prior returns). There were no significant differences between the betas obtained from this expanded estimation period and those based on only the five trading days reported in the text. Moreover, there were no significant differences between the betas obtained under the OLS procedure and the betas obtained under the Dimson (1979) technique.

Table 4.1 Industrial classifications and Dates of Takeovers for N=82 Chinese Acquiring firms

INDUSTRY	1995	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	TOTAL
AUTOMOBILES & PARTS							1	1	1		1			4
BEVERAGES									1			1	1	3
CHEMICALS								1		1	1		3	6
CONSTRUCTION & MATERIALS							1				3		1	5
ELECTRICITY								1				2	1	4
FINANCIAL SERVICES													1	1
FIXED LINE TELECOMMUNICATIONS	1													1
FOOD & DRUG RETAILERS											1			1
FOOD PRODUCERS													1	1
GENERAL INDUSTRIALS			1											1
GENERAL RETAILERS		1									1		1	3
HOUSEHOLD GOODS & HOME CONSTRUCT											2		1	3
INDUSTRIAL ENGINEERING								2				1	2	5
INDUSTRIAL METALS & MINING									1		1	1	4	7
INDUSTRIAL TRANSPORTATION							1						1	2
LIESURE GOODS										1	1			2
MEDIA								1						1
MINING													1	1
MOBILE TELECOMMUNICATIONS									1			1	1	3
PERSONAL GOODS								1						1
OIL & GAS PRODUCERS												1		1
PHARMACEUTICALS & BIOTECHNOLOGY								2		2			3	7
REAL ESTATE INVESTMENT & SERVICES		1					2	1		2	1	2	1	10
SOFTWARE & COMPUTER SERVICES									1			1	1	3
SUPPORT SERVICES									1					1
TECHNOLOGY, HARDWARE & EQUIPMENT										1	1			2
TRAVEL & LIESURE						1					1		1	3
TOTALS	1	2	1	0	0	1	5	10	6	7	14	10	25	82

to the announcement of the merger and/or acquisition until 17 trading days subsequent to the announcement date; that is (-6,+17) trading days. Thus, our analysis is based on an estimation period of 201 trading days and an event (or test) window of 24 trading days.[8]

We determined the excess average ranks for each trading day over the event window and the Corrado (1989) estimate of the variance of the excess average ranks [equation (4.10)] across the $T = 201 + 24 = 225$ trading days constituting the sum of our event window ($M = 24$ days) and our estimation window ($T - M = 201$ days) based on the $N = 82$ Chinese target firms comprising our sample. The results are summarised in Table 4.2. Thus, the first and second columns of Table 4.2 show that based on Dimson (1979) estimates of beta the average abnormal return across these target firms varies from a high of 2.82% on the first trading day after the takeover announcement (event) day (time period one) to a low of -0.82% eight trading days after the takeover announcement (event) day.[9] Moreover, substituting the affected data into equation (4.11) returns a Corrado (1989) test statistic for the average ranks of the abnormal returns on the announcement date of the takeover of $z_c = 2.0687$ based on the Dimson (1979) estimates of beta and

---

[8] Only daily continuously compounded returns are used in our analysis. However, one problem with the calculation of daily returns is that trading does not occur over weekends. In a typical week, share prices are available at the close of trading on Friday but then no prices are available until trading opens on the following Monday. If the return computed over the period from the close of business on Friday until the close of business on Monday is included in our empirical analysis, then in a typical week our estimation procedures will be based on four daily returns and one three-day return. We addressed this problem by first, including all three-day returns in our estimation procedures and empirical analysis. We then replicated our analysis by excluding all the three-day returns – that is, only the four daily returns occurring in each week were used in our estimation procedures and empirical analysis. There were no significant differences in the results of our empirical analysis when the three-day returns were included and our empirical results when the three-day returns were excluded. As noted earlier the results reported in the text are based only on the daily returns in our sample – that is, the three-day returns have been excluded from both the estimation procedures and our empirical analysis.

[9] A disproportionate number (eleven out of 82) of the Chinese mergers and acquisitions in our sample were announced over the weekend period. Since trading does not occur on the Shanghai and Shenzhen Stock Exchanges on weekends (and indeed on most international stock exchanges), this means that the abnormal returns associated with these takeover announcements will be captured in the trading days following the announcement date (time zero). This provides at least a partial explanation as to why the average abnormal return is highest on the first trading day after the announcement date and not the announcement date itself.

$z_c = 2.0597$ based on the OLS estimates of beta. The "equivalent" figures for the modified Corrado test statistic [equation (4.14)] are $z_1 = 2.1017$ using the Dimson (1979) estimates of beta and $z_1 = 2.2838$ using the OLS estimates of beta. Finally, the conventionally applied Patell (1976, p. 257) "t" test returns a test statistic of $z_p = 2.0957$ based on the Dimson (1979) betas and $z_p = 2.3567$ based on the OLS betas. The reader will be able to confirm that Table 4.2 shows statistically significant positive abnormal returns three trading days before the takeover announcement date, on the takeover date itself and on the trading day immediately after the announcement date. Against this there are statistically significant negative abnormal returns on the eighth, sixteenth and seventeenth trading days after the takeover announcement date. Thus the general picture portrayed by Table 4.2 is that significant positive abnormal returns are earned around the takeover announcement date (time zero) but that these initial abnormal returns gradually decay away in the few weeks following the takeover announcement. Here it is also interesting to note that the modified Corrado statistic performs as well, if not better, than both the Patell (1976) and Corrdao (1989) statistics in identifying significant abnormal returns. For example, when betas are estimated using the Dimson (1979) technique, Table 4.2 shows that the modified Corrado statistic is significant at the 5% level three days before the announcement date, on the announcement date itself and one day after the announcement date. In contrast, both the Patell (1976) and Corrado (1989) tests are significant at the 5% level on only two of these three days; on the third of these three days the Patell (1976) and Corrado (1989) tests are significant at only the 10% level.

The abnormal returns summarised in Table 4.2 are given pictorial representation in Figure 4.1 which shows how the average daily abnormal returns across the N = 82 Chinese target firms on which our analysis is based are predominantly negative from day eight onwards in the event window; and this is so irrespective of whether Dimson (1979) or OLS betas are employed. A point of significance to be taken from Table 4.2 is that the Corrado (1989) test provides generally weaker results than either the modified Corrado test or the Patell (1976) "t" test. Moreover, while the modified Corrado test returns

Table 4.2: Average Abnormal Returns Across N = 82 Chinese Target Firms Covering the Period from 1 January, 1990 until 31 December, 2008

	Dimson Betas					OLS Betas			
Time Relative to Announce Date (0)	Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic	Time Relative to Announce Date (0)	Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic
-6	0.0040	0.9430	0.7101	1.0169	-6	0.0040	0.7981	0.8803	1.0601
-5	0.0024	0.7915	0.7958	0.6438	-5	0.0024	0.9273	0.7847	0.8888
-4	0.0067	1.1395	1.0029	1.1117	-4	0.0065	1.1983	0.8819	0.8256
-3	0.0063	2.5583[#]	1.8650*	2.0169[#]	-3	0.0066	2.5801[$]	1.8213[*]	1.7581[*]
-2	-0.0041	-0.5808	-0.9479	-1.0570	-2	-0.0040	-0.7011	-0.9601	-0.8323
-1	-0.0055	1.1391	-0.0857	0.1762	-1	-0.0047	1.0317	-0.0128	0.1517
0	0.0116	2.0957[#]	2.0687[#]	2.1017[#]	0	0.0117	2.3567[#]	2.0597[#]	2.2838[#]
1	0.0282	1.7850[*]	2.1868[#]	2.1705[#]	1	0.0281	1.7735[*]	1.8962[*]	2.1501[#]
2	-0.0004	0.2240	-1.1986	-1.1011	2	0.0006	0.3809	-1.1945	-1.5484
3	0.0180	1.0798	0.7376	0.3716	3	0.0165	1.0191	0.6443	0.3242
4	0.0013	-0.2531	-1.3069	-0.9052	4	0.0012	-0.1911	-1.2121	-0.9611
5	0.0055	-0.6211	-0.7311	-0.9904	5	0.0056	-0.6421	-0.6188	-0.9031
6	0.0005	-0.0511	0.0356	-0.0212	6	-0.0001	0.0325	0.0989	-0.0627
7	0.0020	-0.7847	-1.6369	-1.3727	7	0.0029	-0.5381	-1.4050	-1.1264
8	-0.0082	-3.0077[$]	-1.1436	-1.9617[#]	8	-0.0105	-3.2209[$]	-1.4561	-1.8023[*]
9	0.0030	0.9655	0.7651	1.2231	9	0.0015	0.7866	0.6284	0.5558
10	-0.0042	0.2791	0.4788	0.4049	10	-0.0052	0.1051	0.2647	0.5814
11	0.0006	-0.6021	-0.1957	-0.2129	11	0.0000	-0.5951	-0.1722	-0.5883
12	-0.0058	-0.7426	0.0712	-0.0908	12	-0.0073	-1.1684	-0.2408	-0.2410

13	0.0022	-0.1698	-0.7052	-0.1712	13	-0.0001	-0.2766	-1.0319	-0.8968
14	-0.0011	1.0913	0.0679	-0.3465	14	0.0007	1.1236	0.2775	0.5961
15	0.0012	0.2386	-0.0032	0.3030	15	0.0021	0.3835	0.0159	-0.2755
16	-0.0054	-1.9730$^{\#}$	-1.5744	-1.9975$^{\#}$	16	-0.0061	-1.9296$^{\#}$	-1.7122*	-2.0811$^{\#}$
17	-0.0019	-1.9662$^{\#}$	-2.5253$^{\#}$	-2.1150$^{\#}$	17	-0.0022	-2.0320$^{\#}$	-2.5024$^{\#}$	-2.5847$^{\$}$

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

slightly less compelling results when compared with those obtained from the Patell (1976) "t" test, it makes no assumptions about the nature of the underlying returns distribution – in particular, the modified Corrado test does not assume the returns process is normally distributed as is the case with the Patell (1976) test. Indeed, we show in a subsequent section that whilst the modified Corrado test will always provide a satisfactory level of efficiency relative to the "t" test, there is no guarantee that the "t" test will always provide

Figure 4.1: Average Abnormal Returns Across N = 82 Chinese Target Firms Covering the Period from 1 January, 1990 until 31 December, 2008
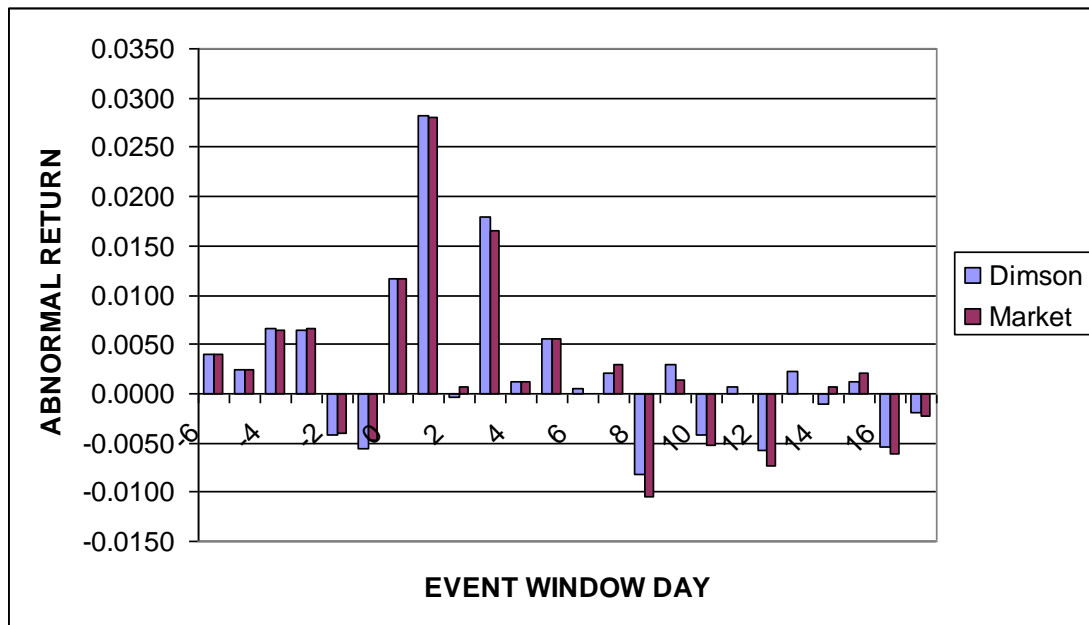
a satisfactory level of efficiency when compared to the modified Corrado test. This in turn will mean it is always "safer" to employ the modified Corrado test over the Patell (1976) "t" test. There is, however, a caveat that must be applied here. Substituting T = 225 and N = 82 into the Berry (1941) and Esseen (1945) theorem as formalised through equation (4.15) shows that the absolute value of the error associated with approximating the distribution

function for the modified Corrado test statistic, $F_N(z_1)$, by the standard normal distribution function, $\Phi(z_1)$, will be:

$$\left| F_N(z_1) - \Phi(z_1) \right| \leq 0.7056 \times 0.5703 = 0.4024$$

This means that the difference between the actual distribution function for the modified Corrado test statistic and its normal approximation could be as high as 40.24%; in other words, there is good reason to believe that the normal approximation for both the modified Corrado and Corrado (1989) test itself might be an unsatisfactory basis for making assessments about the significance of the abnormal returns earned over the event window. Fortunately, our further analysis based on the actual distribution of the modified Corrado test statistic shows that the results summarised in Table 4.2 based on the normal approximation give reliable estimates of the affected probabilities.

We have previously observed how the focus of the testing procedures applied in this area is on whether the sum (or average) of the abnormal returns for a particular sample of firms beyond a particular event period or date is significantly different from zero. We thus define the accumulated abnormal return for the ith firm, CAR_{itM}, for M periods beyond the event period (t) as:

$$CAR_{itM} = \sum_{j=1}^{M} AR_{i(t+j)}$$

where, as previously, AR_{it} is the abnormal return for the ith firm during the tth time period. Under the Corrado (1989) test, however, our concern is not so much with the abnormal return during any particular time period as it is with its rank relative to the other T abnormal returns for the particular firm and period under investigation. Given this, let:

$$K(CAR_{itM}) = \sum_{j=1}^{M} K(AR_{i(t+j)}) \qquad (4.16)$$

be the sum of the ranks of the individual abnormal returns over the M periods beyond the event date (t) for the ith of the N firms on which the empirical analysis is based. Then standard results show that the expected sum of the ranks, $K(CAR_{itM})$, for the abnormal returns arising beyond this event date must be (Freund, 1971, p. 195):

$$E[K(CAR_{itM})] = \sum_{j=1}^{M} E[K(AR_{i(t+j)})] = M.\frac{T+1}{2} \qquad (4.17)$$

Furthermore, the variance of the sum of the ranks, $Var[K(CAR_{itM})] = Var[\sum_{j=1}^{M} K(AR_{i(t+j)})]$, for the particular segment of the row containing the M abnormal returns beyond the event date turns out to be (Freund, 1971, pp. 44-45):

$$Var[\sum_{j=1}^{M} K(AR_{i(t+j)})] = \sum_{j=1}^{M} Var[K(AR_{i(t+j)})] + \sum_{\substack{j=1 \\ j \neq k}}^{M} \sum_{k=1}^{M} Cov[K(AR_{i(t+j)}),K(AR_{i(t+k)})]$$

$$(4.18)$$

Here $Cov[K(AR_{i(t+j)}),K(AR_{i(t+k)})]$ is the covariance between the rank of the abnormal return contained in the $(t+j)^{th}$ element of the ith row and the rank of the abnormal return contained in the $(t+k)^{th}$ element of the the ith row, where i denotes the ith of the N firms on which the empirical analysis is based. However, from equation (4.7) we know $Var[K(AR_{i(t+j)})] = \frac{T^2-1}{12} = \frac{(T+1)(T-1)}{12}$. Moreover, Freeman (1963, p. 190) shows for $(j \neq k)$ that $Cov[K(AR_{i(t+j)}),K(AR_{i(t+k)})] = -\frac{(T+1)}{12}$.[10] Hence substituting these latter two results into equation (4.18) shows that:

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[10] We are here summing the ranks beyond the announcement date for a given firm; that is, we are summing the ranks across a given row. Recall, however, that a given rank can only appear once in each row. Hence, summing the rows is equivalent to a random drawing of M of the T integers (ranks) but without replacement; that is, after an integer is drawn it is not replaced before the next random drawing occurs. Freeman (1963, pp. 187-191) shows that non-replacement induces the negative serial correlation in the sum of ranks across the given row reported here.

$$\text{Var}[K(CAR_{itM})] = M.\frac{(T+1)(T-1)}{12} - M(M-1)\frac{(T+1)}{12} = M.\frac{(T+1)(T-M)}{12}$$

$$(4.19)$$

will be the variance of the sum of the ranks of the individual abnormal returns beyond the event date (t) for the ith of the N firms on which the empirical analysis is based. It then follows that:

$$z_2 = \frac{K(CAR_{itM}) - M.\frac{T+1}{2}}{\sqrt{M.\frac{(T+1)(T-M)}{12}}} = \sqrt{\frac{3}{M(T+1)(T-M)}}[2K(CAR_{itM}) - M(T+1)]$$

$$(4.20)$$

will be a standardised random variable with a mean of zero and unit variance.

It is not hard to show that the third moment of the standardised variable, z_2, given here is zero. However, more complicated algebraic procedures also show that its excess fourth moment will be (Fix and Hodges, 1955, p. 311):

$$E(z_2^4) - 3 = -\frac{6}{5}[\frac{T}{M(T-M)} - \frac{1}{T+1}] \qquad (4.21)$$

Now in most applications the "test window", M, surrounding the event period is relatively "small". In contrast, the market model parameter estimation period, $T - M$, is normally relatively "large". It is readily observed that the limiting value ($T \rightarrow \infty$) of equation (4.21) in such circumstances is $-\frac{6}{5M}$. This shows that it is unlikely that the standardised variate, z_2, can be normally distributed for small values of M. Fortunately, it is not hard to show that for small values of M the approximation to the distribution function, $F_M(z_2)$, of the random variable, z_2, can be improved considerably by employing the second order Edgeworth expansion:

$$F_M(z_2) \approx \Phi(z_2) - \frac{1}{20}[\frac{T}{M(T-M)} - \frac{1}{T+1}]\Phi^{(3)}(z_2) +$$

$$\frac{[(T + 1)^4 - 5(T + 1)^2 + 5(T + 1) + (M^4 + (T - M)^4) - 5M(T - M)(T + 1) + 4]}{210[M(T - M)(T + 1)]^2}\Phi^{(5)}(z_2)$$

$$(4.22)$$

where:

$$\Phi^{(3)}(z_2) = \frac{-1}{\sqrt{2\pi}}(z_2^3 - 3z_2)\exp(\frac{-z_2^2}{2})$$

and:

$$\Phi^{(5)}(z_2) = \frac{-1}{\sqrt{2\pi}}(z_2^5 - 10z_2^3 + 15z_2)\exp(\frac{-z_2^2}{2})$$

are the third and fifth derivatives (in terms of the "Hermite" polynomials) respectively of the standard normal distribution (Fix and Hodges, 1955, p. 312).

One can illustrate the application of this result by considering the acquisition of a majority interest in the Chinese company Beijing C&W Technology Company Limited by the U.S. corporation Lucent Technologies Inc. on 20 December, 2002 (the event date). The parameters of the one factor market model were estimated using the daily continuously compounded returns on Beijing C&W Technology Company Limited "A" ordinary stock and the Shanghai Stock Exchange Composite Price Index over the period from 20 December, 2001 until 6 December, 2002.[11] Abnormal returns were then determined on a daily trading basis over the period from 25 December, 2001 until 20 January, 2003. The event window encompasses six trading days prior to the (takeover announcement) event date and 16 trading days subsequent to the (takeover announcement) event date and covers the period from 11 December, 2002 until 20 January, 2003 – a total of 23 trading days. Moreover, there are T = 224 daily abnormal returns over the period from 20

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[11] Again there were no significant differences between the results obtained using ranks based on the OLS procedure and ranks based on the Dimson (1979) technique.

December, 2001 until 20 January, 2003 and these were ranked from lowest or most negative daily abnormal return (with a rank of 1) to highest or most positive daily abnormal return (with a rank of 224). A detailed summary of the rank test as it applies to the abnormal returns for the Beijing C&W Technology Company Limited is to be found in Table 4. 3.

The first column in this Table represents the trading day relative to the (takeover announcement) event date (20 December, 2002 – time period zero). The second column gives the rank of the abnormal return on the given trading day relative to the $T = 224$ abnormal returns covering the sum of the estimation period and the event window. The third column summarises the standardised sum of the ranks, z_2 [equation (4.20)], corresponding to the given trading day. Column four gives the accumulated probability on the assumption that the standardised sum of ranks in column three is normally distributed. Thus, on the takeover announcement date (time period zero), the normal approximation shows that the probability of a standardised sum of ranks of 2.0828 or less is 0.9814. Column five gives the second order Edgeworth approximation to the accumulated probability, $F_M(z_2)$ [equation (4.22)], for the standardised sum of the ranks (0.9825). Finally, column six gives the exact accumulated probability for the standardised sum of the ranks, $F_M(z_2)$ (0.9823). Note how this Table shows that for this example the probability distribution of the standardised sum of ranks quickly converges towards the normal distribution. Indeed, by the fourth trading day (-3) of the test period ($M = 4$) there is virtually no difference between the normal approximation to the probability distribution for the standardised sum of ranks (0.6714) and the actual probability distribution for the standardised sum of the ranks (0.6648). Indeed, it is only on the first trading day (-6) of the test window ($M = 1$) that there is a significant difference between the normal approximation (0.2129) and the actual probability (0.2723). Fortunately, one can always use the second order Edgeworth approximation to get a much better approximation (0.2602) for the actual probability (0.2723) when the normal approximation returns poor estimates. Indeed, our analysis here shows that the Edgeworth approximation should always be taken whenever

Table 4.3: Rank of Abnormal Returns Surrounding Announcement Date (20 December, 2002) of Takeover of Winsan (Shanghai) Industrial Company Limited by Pacific Concord Holdings Limited

Time Relative to Announce Date (0)	Rank of Abnormal Residual	z_2 Equation (20)	Accum Prob z_2 Normal Approx	Accum Prob z_2 Edge Approx	Accum Prob z_2 Exact
-6	61	-0.7964	0.2129	0.2602	0.2723
-5	172	0.0877	0.5349	0.5311	0.5330
-4	198	0.8386	0.7992	0.7880	0.7886
-3	76	0.4437	0.6714	0.6645	0.6648
-2	212	1.0922	0.8626	0.8579	0.8569
-1	199	1.5517	0.9396	0.9389	0.9382
0	221	2.0828	0.9814	0.9825	0.9823
1	191	2.3889	0.9916	0.9926	0.9926
2	48	1.9189	0.9725	0.9731	0.9729
3	8	1.3030	0.9037	0.9022	0.9018
4	202	1.6723	0.9528	0.9527	0.9523
5	24	1.1996	0.8849	0.8833	0.8831
6	114	1.1619	0.8774	0.8758	0.8752
7	209	1.5333	0.9374	0.9370	0.9365
8	153	1.6519	0.9507	0.9506	0.9502
9	178	1.8655	0.9689	0.9692	0.9694
10	52	1.5786	0.9428	0.9425	0.9422
11	87	1.4412	0.9252	0.9247	0.9252
12	25	1.0824	0.8605	0.8593	0.8591
13	41	0.7990	0.7879	0.7864	0.7867
14	174	0.9992	0.8412	0.8400	0.8395
15	220	1.3511	0.9117	0.9111	0.9110
16	74	1.1939	0.8837	0.8829	0.8823

there is a significant difference between the normal and Edgeworth approximations to the actual probability for the standardised variable, z_2.

Now, suppose one has computed the z_2 statistic defined by equation (4.20) for all i = 1, 2, 3,____, N firms comprising the sample on which the empirical analysis is based. It then follows that the sum of these z_2 statistics will possess a mean of zero and a standard deviation of $\sqrt{N}$. One can then use the Central Limit Theorem to show that for a fixed event window, M, the

distribution function, $F_N(z_3)$, of the standardised random variable:

$$z_3 = \frac{\sqrt{\dfrac{3}{M(T + 1)(T - M)}} \sum\limits_{i=1}^{N} [2K(CAR_{itM}) - M(T + 1)]}{\sqrt{N}} =$$

$$\sqrt{\frac{3}{MN(T + 1)(T - M)}} \sum\limits_{i=1}^{N} [2K(CAR_{itM}) - M(T + 1)]$$

(4.23)

can be approximated by the standard normal distribution function,

$$\Phi(z_3) = \frac{1}{\sqrt{2\pi}} \int\limits_{-\infty}^{z_3} \exp(\tfrac{-x^2}{2})dx,$$ as $N \rightarrow \infty$ (Fisz, 1963, p. 197).[12] Again one can also

apply the theorem of Berry (1941) and Esseen (1945) to show that the rate at which the distribution function, $F_N(z_3)$, converges towards to the standard normal distribution, $\Phi(z_3)$, is of the order of $\dfrac{1}{\sqrt{N}}$. However, since previous analysis shows that for individual firms the standardised random variable defined by equation (4.20) converges quickly towards the normal distribution for quite modest values of M, it necessarily follows that the sum (or average) of these standardised random variables across many firms will converge even more quickly towards the normal distribution.

We demonstrate the implementation of the above result by again considering the abnormal returns arising around the takeover announcement date for Chinese target firms. We begin by determining the excess ranks for the abnormal returns for each of the N = 82 firms across the T = 225 trading days

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[12] If, however, there are different sample sizes for each of the firms then the above result takes the following "equivalent" form:

$$z_3 = \sqrt{\frac{3}{MN}} \sum\limits_{i=1}^{N} \frac{[2K(CAR_{iaM}) - M(T_i + 1)]}{\sqrt{(T_i + 1)(T_i - M)}}$$

where T_i is the number of abnormal returns computed for the ith firm (Fisz, 1963, p. 203).

which constitutes the sum of our estimation and event period windows. We then determine the sum of the excess ranks for the abnormal returns from six trading days before the takeover announcement date ($M = 1$) until seventeen trading days ($M = 24$) after the takeover announcement date. The results are summarised in Table 4.4. Thus, the first and second columns of Table 4.4 show that based on Dimson (1979) estimates of beta the average cumulative abnormal return across the $N = 82$ Chinese target firms comprising our sample rises to a high of 7.65% on the seventh trading day after the takeover announcement date. Moreover, substituting the affected data into equation (4.23) returns the modified Corrado test statistics summarised in Table 4.4. Thus, on the takeover announcement date (time zero or $M = 6$) the modified Corrado test statistic associated with the sum of the ranks for the abnormal returns is $z_3 = 2.4891$ based on the Dimson (1979) estimates of beta and $z_3 = 2.3963$ based on the OLS estimates of beta. The conventionally applied Patell (1976, p. 257) "t" test returns a test statistic of $z_p = 2.5626$ based on Dimson (1979) betas and $z_p = 2.6248$ based on OLS betas. Finally, Campbell and Wasley (1993, p. 85) determine the distributional properties of the Corrado (1989, p. 388) test statistic for multi-period event windows. Applying this test to the accumulated ranks of the abnormal returns at the takeover announcement date (time zero or $M = 6$) shows the Corrado test statistic to be $z_c = 1.6172$ if Dimson (1979) betas are used and $z_c = 1.6225$ if OLS betas are used. The important point here is that the Corrado (1989) test provides much less compelling results when compared to both the modified Corrado and Patell (1976) "t" tests. Of course the Patell (1976) test assumes that abnormal returns are normally distributed. In contrast, the modified Corrado test is a distribution free test which returns results that are significantly better than the original Corrado test and almost as compelling as the Patell (1976) test. Finally, note how Table 4.4 largely confirms conclusions reached on the basis of the average abnormal returns summarised in Table 4.2; namely, that significant positive abnormal returns occur around the takeover announcement date (time zero) but that these initial abnormal returns gradually decay away in the first few weeks following the takeover

Table 4.4: Cumulative Average Abnormal Returns Across N = 82 Chinese Target Firms Covering the Period from 1 January, 1990 until 31 December, 2008

	Dimson Betas					OLS Betas			
Time Relative to Announce Date (0)	Cumulative Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic	Time Relative to Announce Date (0)	Cumulative Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic
-6	0.0040	0.9430	-0.0881	1.0169	-6	0.0040	0.7981	0.0101	1.1165
-5	0.0064	1.3962	0.3876	1.3309	-5	0.0064	1.4135	0.4613	1.6007
-4	0.0131	1.7105	0.8371	1.7337*	-4	0.0129	1.7302*	0.8405	1.8215*
-3	0.0195	2.7738$	1.5827	2.4194#	-3	0.0195	2.7939$	1.5662	2.4799#
-2	0.0153	1.8596*	1.0579	1.6283	-2	0.0155	1.8296*	1.0378	1.7586*
-1	0.0098	2.0725#	0.9470	1.5270	-1	0.0108	2.0359#	0.9560	1.6556*
0	0.0214	2.5626#	1.6172	2.4891#	0	0.0225	2.6248$	1.6225	2.3963#
1	0.0496	2.8344$	2.2537#	2.8108$	1	0.0506	2.8507$	2.1618#	2.8956$
2	0.0492	2.9040$	1.7590*	2.2627#	2	0.0512	2.9651$	1.6731*	2.1511#
3	0.0672	2.9799$	1.8996*	2.2827#	3	0.0677	3.0182$	1.7895*	2.0686#
4	0.0685	2.6844$	1.4414	1.9030*	4	0.0689	2.7322$	1.3634	1.5927
5	0.0740	2.4601#	1.1821	1.5350	5	0.0745	2.4954#	1.1383	1.2703
6	0.0745	2.3970#	1.1486	1.4747	6	0.0744	2.4506#	1.1233	1.2055
7	0.0765	2.2292#	0.6870	1.0464	7	0.0774	2.3197#	0.7225	0.8609
8	0.0684	1.7594*	0.3793	0.4811	8	0.0668	1.8225*	0.3355	0.4043
9	0.0714	1.7763*	0.5535	0.7864	9	0.0683	1.8033*	0.4779	0.5079
10	0.0672	1.7372*	0.6508	0.8596	10	0.0631	1.7422*	0.5268	0.6066
11	0.0678	1.6800*	0.5885	0.7869	11	0.0630	1.6850*	0.4733	0.4788
12	0.0620	1.5561	0.5895	0.7469	12	0.0558	1.5152	0.4074	0.4191
13	0.0642	1.4898	0.4214	0.6923	13	0.0557	1.4386	0.1724	0.2352

14	0.0631	1.6456	0.4262	0.5937	14	0.0564	1.5977	0.2276	0.3490
15	0.0643	1.6715*	0.4162	0.6504	15	0.0585	1.6401	0.2260	0.2928
16	0.0589	1.4119	0.0860	0.2668	16	0.0524	1.3894	-0.1283	-0.1052
17	0.0571	2.0892$^{\#}$	-0.4208	0.2009	17	0.0502	2.0267$^{\#}$	-0.6262	0.0735

* significant at 10%; significant at 5%; $ significant at 1% (two tailed test)

announcement date. The cumulative average abnormal returns (CAARs) summarised in Table 4.4 are given pictorial representation in Figure 4.2 which shows how the CAARs across the N = 82 Chinese target firms on which our empirical analysis is based reach a peak on day seven of the event window (7.65% for Dimson (1979) betas and 7.74% for OLS betas) and then gradually decay away over the remaining nine days of the event window.

4.4   Comparisons with the Parametric "t" Test

The Patell (1976) "t" test is typical of the parametric tests used for assessing the significance of abnormal returns in market type models of the equity pricing process. These tests assume normally distributed random returns in addition to the other assumptions on which the asset pricing models employed in the empirical analysis are based. In contrast, the modified Corrado test is a distribution free (that is, non-parametric) test which is almost as powerful as

Figure 4.2: Cumulative Average Abnormal Returns Across N = 82 Chinese Target Firms Covering the Period from 1 January, 1990 until 31 December, 2008
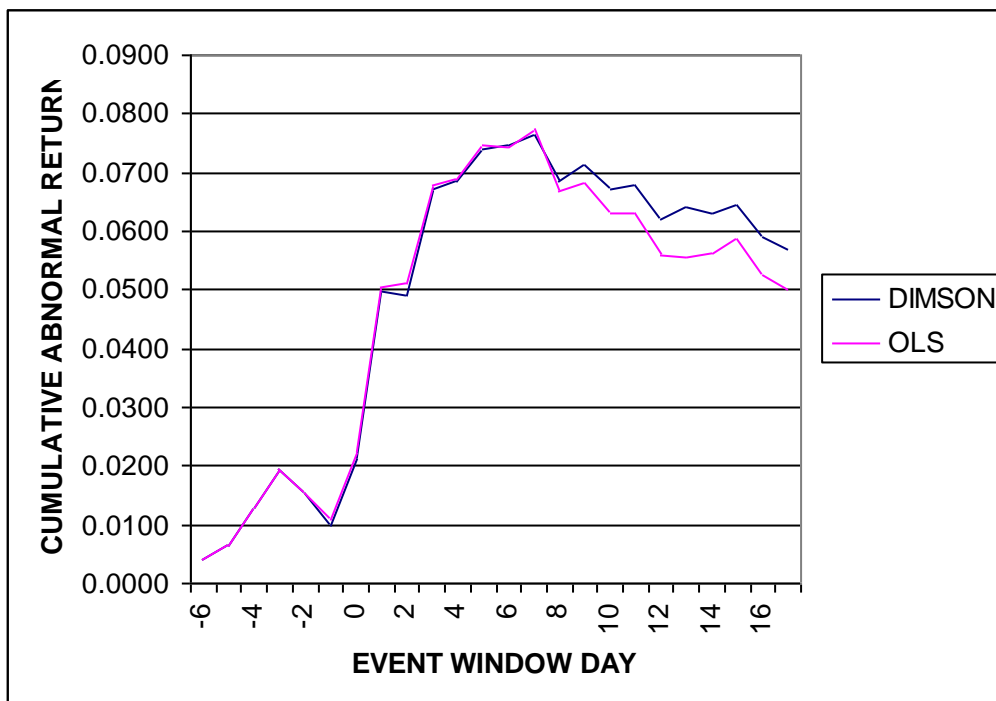
the "t" test when the normality assumption turns out to be true. This is demonstrated by the fact that if the abnormal returns are generated by a normal distribution, then the (Pitman) Asymptotic Relative Efficiency (ARE) [13] of the modified Corrado test is $\frac{3}{\pi} \approx 0.9549$ when compared with the conventional "t" tests applied in the literature (Hodges and Lehmann, 1956).[14] Moreover, the corresponding ARE of the modified Corrado test is at least unity in comparison with several other well known probability distributions (Hodges and Lehmann, 1956). In addition, an important safeguard provided by the modified Corrado test is that its ARE relative to the "t" test can never fall below $\frac{108}{125} = 0.864$. In contrast, the ARE of the "t" test relative to the modified Corrado test may be as small as zero. These considerations mean that the modified Corrado test will always provide a satisfactory level of efficiency relative to the conventional "t" tests. In contrast, there is no guarantee that the "t" test will always provide a satisfactory level of efficiency relative to the modified Corrado test. Thus, based on this (Pitman) ARE criterion it is always preferable to employ the modified Corrado test over parametric tests such as the Patell (1976) "t" test.

4.5 Possible Determinants of Short-Term Wealth Effects

A question of some significance that often arises in the M&A literature is what determines the wealth effects that accrue to the shareholders of target firms. In so far as the limited data available on Chinese firms permits, we seek to address this issue by following the methodological procedures laid down in the paper by Goergen and Renneboog (2004). In particular, we regress the CAARs that accrue to Chinese target firms over the period comprising one

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[13] Suppose n_1 and n_2 are the sample sizes necessary for two tests, T_1 and T_2, to have equivalent power under the same level of significance, α. If the level of significance, α, and the probability of a type II error, β, remain fixed then the limit $\frac{n_1}{n_2}$, as n_1 approaches infinity, is called the asymptotic relative efficiency (A.R.E.) of the first test relative to the second test, if that test is independent of α and β (Nikitin, 1995, p. 15).

[14] Both this result and those which follow assume there is "slippage" in the location parameter on which the two distributions are based (Hodges and Lehmann, 1956, pp. 325-26).

trading day before the takeover announcement date and two trading days after the takeover announcement date (that is [-1, 2]), as well as the period comprising six trading days before the takeover announcement date and two trading days after the announcement date (that is [-6, 2]), against a number of potential determining variables for the CAARs. These determining variables are comprised of the ratio of the target firm's cash reserves to its market capitalisation (Cash/Mark), the market to book ratio for the equity of the target firm (Mark/Book), the accounting rate of return (that is, the return on equity) for the target firm (ROE), the ratio of interest paid to the accounting profit made by the target firm (Int Cover) and finally, a dummy variable which takes a value of one if the takeover consideration is purely in cash and zero if the takeover consideration is other than purely in cash (Consid) (Goergen and Renneboog, 2004). All accounting data was downloaded from Datastream for the affected target firms and is the latest accounting information available to the market given the date on which the takeover offer was first announced. For example, if the takeover offer was announced on 1 June, 2005 and the firm's latest financial statement (balance sheet) date was 31 December, 2004 then the accounting information on which the regressions are based will be that contained in the financial statements for the year ended 31 December, 2004. Unfortunately, for 16 of the 82 firms comprising our sample of Chinese target firms the information for all five independent variables were not available on Datastream. This in turn means that our regression procedures are based on a sample of 66 (rather than 82) Chinese target firms. Summary statistics relating to these 66 target firms on which the empirical analysis of this section is based are given in Table 4.5. Thus from the first row and sixth column of the table, the consideration for 50% of the N = 66 takeovers comprising our sample was purely in cash. Moreover, from column four the average accounting rate of return across the N = 66 target firms comprising our sample was 4.42% (per annum). The standard deviation of the accounting rate of return across these N = 66 firms was 23.43%. The other figures appearing in this table are to be similarly interpreted. [15]

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[15] The average market capitalisation (that is, the market value of equity) on the takeover announcement date across the N = 66 Chinese target firms comprising this table amounts to RMB (Yuan) 7,144,687. The median market capitalisation amounts to RMB (Yuan) 3,262,826.

Table 4.5

SUMMARY STATISTICS OF CAAR DETERMINING VARIABLES FOR

N = 66 CHINESE TARGET FIRMS COVERING THE PERIOD FROM 1

JANUARY, 1990 UNTIL 31 DECEMBER, 2008

	Cash/Mark	**Mark/Book**	**ROE**	**Int Cover**	**Consid**
AVERAGE	0.0932	13.6098	4.42	548.20	0.5000
MEDIAN	0.0495	4.4353	6.57	3.17	
STDEV	0.1103	43.1233	23.43	4409.84	
MAXIMUM	0.5171	341.4523	43.89	35830.62	
MINIMUM	0.0009	0.5744	-158.88	-137.09	

The precise form of the regression equation is as follows:

$$CAAR_j = a_0 + a_1 CASH/MARK_j + a_2 MARK/BOOK_j + a_3 ROE_j + a_4 INTCOVER_j + a_5 CONSID_j + e_j$$

where $j = 1, 2, 3, \_\_\_, 66$ is the sample of target firms comprising our sample, the a_k, for $k = 1, 2, \_\_\_, 5$ are the regression coefficients associated with the independent variables and e_j is the stochastic error term. The results of the above regression are summarised in Table 4.6. Since there are no significant differences in the results obtained from using the OLS or Dimson (1979) betas, we report only the results relating to the OLS betas. These results show that none of the traditional variables employed in the literature have a significant association with the CAARs earned by Chinese target firms. Whilst the regression coefficients associated with the cash to market capitalisation ratio (a_1) and the return on equity (a_3) have relatively high "t" statistics, neither is significant at conventional levels.

There are two potential conclusions that one can draw from these results.

The standard deviation of the market capitalisation across these N = 66 firms amounts to RMB (Yuan) 8,942,771. The largest (maximum) market capitalisation across these N = 66 firms amounts to RMB (Yuan) 46,692,417. The smallest (minimum) market capitalisation amounts to RMB (Yuan) 633,473.

The first is that none of the affected independent variables influence the magnitude of the CAARs. However, here we should note that the results reported in subsequent sections of this dissertation using a much more sophisticated testing procedure show that some of the affected independent variables do appear to have a significant impact on the magnitude of the CAARs earned by Chinese acquiring firms. For example, in chapter 7 we

Table 4.6

DETERMINANTS OF SHORT TERM WEALTH EFFECTS FOR N = 66 CHINESE TARGET FIRMS COVERING THE PERIOD FROM 1 JANUARY, 1990 UNTIL 31 DECEMBER, 2008

Independent Variables	CAAR[-1,2]		CAAR[-6,2]	
	coeff	t value	coeff	t value
Intercept (a_0)	0.0266	0.7512	0.0388	1.0159
Cash to Market Capital (a_1)	0.2167	1.2613	0.1486	0.8034
Market to Book Ratio (a_2)	0.0001	0.1892	0.0004	0.5379
Return on Equity (a_3)	0.0014	1.0141	0.0021	1.4533
Interest Coverage (a_4)	0.0000	-0.6833	0.0000	-0.7633
Consideration (a_5)	-0.0112	-0.6833	-0.0062	-0.1558

show that there are some highly significant differences between the CAARs earned by Chinese target firms when cash is the sole mode of consideration and the CAARs earned by Chinese target firms when the consideration is other than purely in cash. This contrasts with the regression results summarised in Table 4.6 which are generally compatible with the hypothesis that the mode of consideration has no influence on the magnitude of the CAARs earned by Chinese target firms. The probable explanation for the differences in the results summarised in Table 4.6 and those reported in Chapter 7 is that there is no logical reason why the relationship between the CAAR's and the mode of consideration should be linear as is assumed in the regression procedures that underscore the results summarised in Table 4.6 - and indeed we might add, much of the literature in the area (Goergen and Renneboog, 2004). Given this, we defer a more detailed consideration of the

fundamental determinants of the magnitude of the CAARs for target firms to later chapters of this dissertation – and in particular, chapter 7.

4.6.   Summary and Conclusions

Our principal objective in the current chapter has been to assess the significance of the abnormal returns earned by target firms involved in Chinese M&A activities. We employ nonparametric testing procedures in order to enhance the robustness of our analysis. A significant difficulty here, however, is that the standard nonparametric testing procedures in the area – of which Corrado (1989) is probably the best exemplar – have only limited power in comparison to the traditionally employed parametric tests. We address this issue by modifying the Corrado (1989) test so as to increase its power relative to the benchmark Patell (1976) "t" test. In particular, we employ a consistent estimator for the variance of the ranks of the abnormal security returns and then use it to obtain an exact closed form expression for the Corrado (1989) test statistic. This simplifies the computational procedures behind the Corrado (1989) test considerably – to the point where they can be implemented using only a hand held calculator. Moreover, we also extend the original Corrado (1989) analysis by determining the distributional properties of the sum of the ranks of the individual abnormal returns over a given event window. We apply both the original Corrado (1989) test and our modification of it to data on Chinese target firms involved in M&A activities that occurred over the period from 1 January, 1990 until 31 December, 2008. Our empirical analysis of this data shows that there are significant abnormal returns around the takeover announcement date – although a big proportion of these abnormal returns decay away within a few weeks following the takeover announcement date.   Moreover, our modification of the original Corrado (1989) test shows significantly more power in detecting these abnormal returns than the original Corrado (1989) test itself.   Indeed, the modified Corrado test employed in our empirical analysis has almost the same power as the Patell (1976) "t" test but is not based on the potentially false assumption of normally distributed returns (Harris and Küçüközmen, 2001; Ashton and Tippett, 2006).   In this chapter, we also attempted to find the

possible determinants for the CAARs which accrue to the shareholders of Chinese target firms. However, our results show that none of the affected independent variables (the market to book ratio for the equity of the target firm, the ratio of the target firm's cash reserves to its market capitalisation, the accounting rate of return (that is, the return on equity) for the target firm, the ratio of interest paid to the accounting profit made by the target firm and finally, a dummy variable which takes the value one if the takeover consideration is purely in cash and zero if the takeover consideration is other than purely in cash) influences the magnitude of the premium paid to Chinese target firms. A detailed analysis of the wealth effects of M&A activities on the holders of "B" and "H" shares in Chinese target firms occurs in the next chapter (five) of this dissertation. [16]

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[16]   I should also emphasise that I checked whether the results reported in this chapter might be afflicted by a confounding events problem by recourse to the Chinese financial press around the relevant takeover announcement dates (e.g. Business China, China Economic Times, China Securities Journal, the Hong Kong Economic Times, etc). In particular, I checked whether there were any major financial news stories affecting target firms around the relevant takeover announcement date (e.g, a significant increase in the dividend rate paid by the firm). Under the conventional definitions of a confounding event (Huang and Walking, 1987, p. 337) I uncovered only one or two instances where there might have been an confounding event but eliminating these firms from my empirical analysis had an imperceptible effect on the empirical results reported in this chapter. Hence, there is no reason to believe that the abnormal returns on which my empirical analysis is based have been affected in any significant way by a confounding events problem.

CHAPTER FIVE

ANALYSIS OF THE IMPACT OF M&A ACTIVITIES ON SHAREHOLDER WEALTH FOR CHINESE TARGET FIRMS: B SHARES AND H SHARES

5.1 Introduction

We have previously noted, in chapter three of this dissertation, that shares listed on stock exchanges in China fall into three broad categories; namely, A shares which are normally denominated in the Chinese Yuan and normally can only be purchased by Chinese nationals; B shares which are denominated in either the U.S dollar or the Hong Kong dollar and normally can only be purchased by foreign investors; and H shares which are listed exclusively on the Hong Kong Stock Exchange. Moreover, our review of the literature in chapter two shows that most research that deals with Chinese M&A activities is restricted to a consideration of A shares. In other words, M&A activities that involve B shares and H shares have been seriously ignored by Chinese researchers. Since in chapter four of this dissertation we have empirically analysed the wealth effects that M&A activities have on the holders of A shares in Chinese target firms, this chapter will deal primarily with the impact that M&A activities have on the holders of B and H shares in the Chinese target firms comprising the sample on which our analysis in chapter four is based.

The remainder of this chapter is organised as follows: section 5.2 provides a brief summary of the prior literature regarding the wealth effects that M&A activities have for the shareholders of target firms in both western and Chinese economies. Section 5.3 summarises how the data used in our empirical analysis is selected. Next, section 5.4 discusses the methodology employed to compute the abnormal returns which arise on the Chinese target

firms comprising our sample and the statistical methodology used to evaluate the significance of these abnormal returns. Here we need to recall that the statistical methodology upon which our empirical analysis is based was discussed in detail in section 4.2 of chapter four and thus, we give only a brief summary of this material in this section. The primary focus of Section 5.5 is on providing a detailed analysis of the empirical results we obtain on the wealth effects that M&A activities have for the holders of B shares and H shares in Chinese target firms. Finally, Section 5.6 provides a brief summary of this chapter and makes a few concluding comments about the impact that Chinese M&A activities have on the shareholders of Chinese target firms.

5.2 A Brief Summary of Prior Literature

We have previously noted in our review of the literature in chapter two that in western economies like the United States and the United Kingdom, M&A activities result in significant and positive abnormal returns for the shareholders of target firms. This result applies irrespective of the time period in which the study is conducted, the mode of consideration used (shares as against cash) and the exact specification of the event window. For instance, Dodd and Ruback (1977) employ a sample of 172 U.S. target firms involved in M&A activities covering the period from 1958 until 1976. They find that in the month of the announcement of the proposed takeover, shareholders of target firms earn large and significant abnormal returns of 20.58% for successful offers and 18.96% for unsuccessful offers. In other words, shareholders of target firms in both successful and unsuccessful takeovers earn large positive abnormal returns, most of which occur in the month of the offer. Furthermore, Franks, Harris and Titman (1991) study 399 U.S. takeovers completed over the period from 1975 to 1984 to investigate share-price performance following corporate takeovers. They conclude that across the entire sample, the shareholders of target firms experience substantial abnormal gains of 28% on average around the announcement date of the proposed takeover.

Chinese research also shows that shareholders of target firms experience substantial economic benefits from M&A activities. For example, Zhang (2003) studied all 1,216 M&A transactions of firms listed on the two mainland

Chinese stock exchanges over the period between 1993 and 2002 and found that the cumulative average abnormal return (CAAR) that accrued to target firm shareholders over the event window of (-60, 30) days amounts to 29.05%. Moreover, Fei (2004) chooses a sample of 207 Chinese M&A transactions that occurred on the Shanghai stock exchange or the Shenzhen stock exchange between 1997 and 2003 and which involved unlisted bidding firms making takeover offers for listed target firms. He finds that the listed target firms have a positive and highly significant CAAR around the announcement date of 5.28%. Fei (2004) also finds that over the 90 days following the takeover announcement date, the CAAR for target firms gradually becomes negative, indicating that the economic benefits of the takeover for target shareholders gradually decays away.

5.3 Data Selection

In this chapter we continue to use the definition of takeovers which is specified in chapters three and four to obtain the data we need for our empirical analysis of the impact that M&A activities have on the shareholders of Chinese target firms. That is, as given in Article 84(1) of the Measures for the Administration of Takeovers of Listed Companies promulgated by the China Securities Regulation Committee (CSRC) in 2006, a takeover is said to have occurred when an acquiring firm successfully purchases more than 50% of the equity shares the listed target firm has on issue. Data on Chinese mergers and acquisitions are available from the Securities Data Company Mergers and Acquisitions [SDC (M&A)] Database. The information summarised on this database includes the announcement date of the given takeover, the date the takeover becomes effective, the date the takeover is declared to be unconditional and the terms (cash, share exchange, etc.) associated with the takeover. Over the period from 1 January, 1990 until 31 December, 2008 there were 198 Chinese target firms on the SDC database that satisfied our definition for a takeover. However, not all of these firms had share price data available on the Datastream system and this reduced our sample size down to only 13 target firms with B shares on issue and 4 target firms with H shares on issue.

5.4 Methodology

We begin our analysis by downloading daily closing share price data (adjusted for rights issues and other stock splits) from the Datastream system for the 13 target firms with B shares on issue and the 4 target firms with H shares on issue. Here, it is important to recall that B shares are normally denominated in either the U.S or the Hong Kong dollar, whilst H shares are always denominated in the Hong Kong dollar. Given this, the closing daily prices of B and H shares were converted into the Chinese Yuan at the official exchange rate prevailing at the close of business on the relevant date. We then computed the continuously compounded daily returns for the B and H shares equity of all the target firms comprising our analysis. Likewise, closing values for the particular stock exchange index which is used to approximate the return on the market portfolio were also downloaded from the Datastream system. The index used to proxy for the market index was the most inclusive index available for the particular stock market and type of share (B share and H shares) being analysed. For example, the Shanghai Stock Exchange B Share Price Index was employed as a proxy for the return on the market index for B shares listed on the Shanghai Stock Exchange; the Shenzhen Stock Exchange B Share Price Index was employed as a proxy for the return on the market index for B shares listed on the Shenzhen Stock Exchange; the Hong Kong Stock Exchange Composite Index was used as a proxy for the return on the market index for H shares. Where necessary, the values of these indices were converted into the Chinese Yuan at the exchange rate prevailing at the close of business on the relevant date.

Having downloaded all the needed data, we estimated the parameters of the one-factor market model using the Ordinary Least Squares (OLS) and the Dimson (1979) techniques for each target firm comprising our sample. All parameters were estimated using the continuously compounded returns from 207 trading days preceding the announcement of the proposed merger and/or acquisition until seven trading days prior to the announcement date; that is, the estimation period was (-207, -7) trading days. It is important to note that day zero (0) is defined as the first public announcement date of the proposed

merger and/or acquisition as downloaded from the SDC (M&A) data base. Our event window encompasses six trading days prior to the announcement of the merger and/or acquisition until 17 trading days subsequent to the announcement date (-6, +17) trading days. Next, the abnormal returns for each of the firms comprising our sample of Chinese target firms is calculated using the actual daily continuously compounded return on the affected firm's (B or H) shares less the expected daily continuously compounded return on its (B or H) shares. The market model is used to determine the expected daily continuously compounded return on the (B and H) shares comprising our sample. Here it will be recalled that the statistical methodology upon which our empirical analysis is based was discussed in detail in section 4.2 of chapter four. Hence, in this section we provide only a very basic summary of the methodology used in our empirical research; further details of the methodology used to calculate the abnormal returns and the cumulative abnormal returns for Chinese target firms and the statistical methodology employed to test the significance of these abnormal returns are to be found in section 4.2 of chapter four.

5.5 Detailed Analysis of the Empirical Results for Chinese Target Firms

We have previously noted that shares issued by Chinese listed firms are comprised of A shares, B shares and H shares. Moreover, our empirical analysis summarised in section 4.3 of chapter four shows that the holders of A shares in Chinese target firms earn statistically significant positive abnormal returns around the first public announcement of the takeover, but that these positive abnormal returns gradually decay away subsequent to the announcement date. In other words, the holders of A shares in Chinese target firms obtain significant economic benefits from M&A activities. Here it will be recalled that we have already provided a detailed analysis of the impact of M&A activities for the holders of A shares in Chinese target firms in section 4.3 of chapter four. Hence, in the rest of this section our primary focus will be on the wealth effects of M&A activities for the holders of B shares and H shares in Chinese target firms.

5.5.1 Analysis of B Shares for Chinese Target Firms

We begin our analysis of the impact that M&A activities have on the holders of B shares in Chinese target firms by noting that over the period from 1 January, 1990 until 31 December, 2008 there were 198 Chinese target firms on the SDC (M&A) database that satisfied our definition of a takeover. It will be recalled that we base our definition of a takeover on Article 84(1) of the Measures for the Administration of Takeovers of Listed Companies promulgated by the China Securities Regulation Committee (CSRC) in 2006. Under this article a takeover is said to have occurred when an acquiring firm successfully purchases more than 50% of the equity shares issued by the listed target firm. However, only 13 of the 198 Chinese target firms on the SDC (M&A) database had B shares on issue. Table 5.1 provides a summary of our empirical results in relation to the B shares of these 13 Chinese target firms.

Table 5.1 shows that there are marginally significant positive average abnormal returns (AARs) around the takeover announcement date for the holders of B shares in the Chinese target firms comprising our sample. The Patell (1976) test statistic based on Dimson (1979) betas on the day subsequent to the takeover announcement date (that is, time 1) is 2.1085 and is significant at the 5% level. Similarly, the modified Corrado test statistic is 1.7564 and is significant at the 10% level. However, the Corrado (1989) test statistic itself is not significantly different from zero. Likewise, when betas are based on the OLS technique both the Corrado (1989) and modified Corrado test statistics for time 1 abnormal returns are significant at the 10% level. However, the Patell (1976) test statistic based on the OLS technique is insignificant. These results are in stark contrast with those obtained for the holders of A shares in target firms, where Table 4.2 in chapter 4 shows that the Patell (1976), Corrado (1989) and modified Corrado test statistics are all significantly different from zero at the 5% level on the takeover announcement date (that is, time zero), irrespective of whether Dimson (1979) or OLS betas

Table 5.1: Average Abnormal Returns Across N = 13 Chinese Target Firms with B Shares on issue and Covering the Period from 1 January, 1990 until 31 December, 2008

	Dimson Betas					OLS Betas			
Time Relative to Announce Date (0)	Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic	Time Relative to Announce Date (0)	Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic
-6	0.0012	0.0418	-0.1359	-0.0173	-6	0.0004	-0.0497	-0.6579	-0.0657
-5	-0.0008	-0.6840	0.0304	-0.4053	-5	0.0002	-0.1556	-0.3321	-0.3410
-4	0.0008	0.4550	-0.1197	0.0064	-4	0.0000	0.1106	0.0146	0.0150
-3	0.0096	-0.2342	-0.5660	-0.4611	-3	0.0086	-0.0895	-0.5326	-0.5469
-2	0.0052	0.4714	0.8582	0.8900	-2	0.0056	0.1467	0.8208	0.8428
-1	-0.0005	0.5029	-0.4484	-0.3925	-1	0.0001	0.1407	-0.3822	-0.3925
0	0.0020	-0.6254	-1.5926	-1.4219	0	0.0016	-0.1831	-1.2552	-1.2889
1	0.0204	2.1085$^\#$	1.6088	1.7564*	1	0.0198	0.5682	1.6937*	1.7393*
2	0.0064	0.6160	-0.2495	-0.2338	2	0.0064	0.1741	-0.1149	-0.1180
3	0.0135	1.2348	1.5398	1.6063	3	0.0145	0.3560	1.5559	1.5977
4	0.0157	1.3456	1.0894	1.0659	4	0.0154	0.3653	0.9795	1.0058
5	-0.0001	0.0229	-0.5295	-0.6155	5	-0.0007	-0.0085	-0.7581	-0.7785
6	-0.0037	-0.5138	0.1562	-0.1351	6	-0.0028	-0.1129	0.1316	0.1351
7	-0.0042	-0.6191	-0.7770	-0.1608	7	-0.0053	-0.1962	-0.2903	-0.2981
8	-0.0181	-1.9011*	-1.9212*	-2.0953$^\#$	8	-0.0181	-0.5366	-2.0488$^\#$	-2.1038$^\#$
9	-0.0017	0.3338	0.0872	-0.3410	9	-0.0014	0.0925	-0.3321	-0.3410
10	0.0117	1.4342	1.0367	1.0487	10	0.0106	0.3851	1.0004	1.0273
11	-0.0101	-1.1663	-1.6129	-1.8637*	11	-0.0104	-0.3311	-1.8357*	-1.8851*
12	0.0010	0.2204	1.5845	1.2717	12	0.0009	0.0708	1.3345	1.3704

13	-0.0022	-0.8385	-0.9921	-1.0101	13	-0.0016	-0.1944	-0.9001	-0.9243
14	-0.0073	-1.4988	-1.5926	-1.1860	14	-0.0075	-0.4048	-1.1633	-1.1945
15	0.0183	1.8405*	1.5804	1.7050*	15	0.0178	0.5166	1.6687*	1.7135*
16	0.0084	1.4190	0.5782	0.8042	16	0.0078	0.4116	0.8876	0.9115
17	-0.0034	-1.0714	-0.5961	-0.4890	17	-0.0026	-0.3217	-0.4670	-0.4206

Note: *refers to the significance at 10% level; [#] represents the significance at 5% level; $ refers to the significance at 1% level (two tailed test.

are employed. Moreover, Table 4.2 also shows that on the day subsequent to the announcement date (that is, time one), the Patell test statistic is significant at the 10% level, the Corrado (1989) statistic is significant at the 10% or 5% level (depending on whether beta is estimated by the OLS or Dimson (1979) techniques) and the modified Corrado test statistic is significant at the 5% level (regardless of whether beta is estimated by the OLS or Dimson (1979) techniques). These results may, of course, reflect the differences in the sample sizes (82 target firms with A shares and 13 target firms with B shares) on which our empirical analysis is based. However, the fact remains that the AAR on the day subsequent to the announcement date (that is, time 1) is significantly larger for the holders of A shares (2.8%) when compared to the AAR for the holders of B shares (2.0%). Furthermore, the AAR on the announcement date itself (that is, time 0) is 1.2% for the holders of A shares and a miserly 0.2% for the holders of B shares. Hence, whilst the holders of A shares in Chinese target firms appear to gain significant economic benefits from M&A activities, the holders of B shares in these same firms obtain only marginal economic benefits at best.

Note that Table 5.1 also shows that the AARs tend to fluctuate randomly around zero beyond the announcement date. However, on the eighth day after the announcement date a significant negative AAR of 1.81% occurs and this is so irrespective of whether the calculation of the abnormal returns is based on OLS or Dimson (1979) betas. A pictorial description of the AARs for the 13 Chinese target firms with B shares on issue is given in Figure 5.1. Figure 5.1 confirms our previous conclusion that there are positive but statistically insignificant abnormal returns for the holders of B shares in Chinese target firms around the takeover announcement date. However, we would emphasise again that our sample (of 13 Chinese target firms with B shares on issue) is very small and possibly not representative of the wider Chinese securities market. Hence, one must therefore interpret our conclusions with caution. Nevertheless, to the best of our knowledge this is the first study to have been conducted on the wealth effects of M&A activities for the holders of B shares in Chinese target firms.

Figure 5.1: Average Abnormal Returns Across N = 13 Chinese Target Firms with B Shares on issue and Covering the Period from 1 January, 1990 until 31 December, 2008
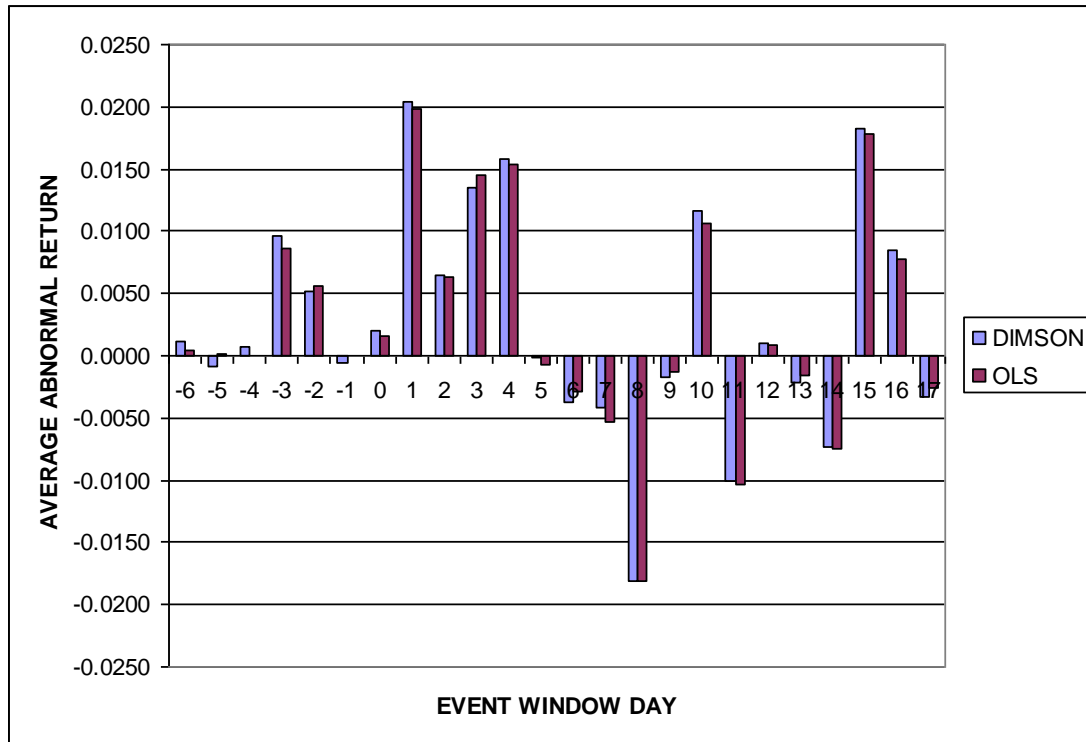
We now focus our attention on the cumulative average abnormal returns (CAARs) during the event window for our sample of Chinese target firms with B shares on issue. As usual, we first summarise the main empirical results relating to the CAARs for these firms in tabular form – as in Table 5.2. This table shows that the CAARs tend to be positive and to grow in magnitude over the period surrounding the takeover announcement date. In particular, Table 5.2 shows that the CAARs peak at roughly 7.3% on the fourth trading day after the takeover announcement date. However, none of the CAARs are statistically significant from zero using the Corrado (1989) and modified Corrado test statistics over the entire event window. Against this, the CAARs on the third and fourth days beyond the takeover announcement date are marginally significant (at the 10% level) using the Patell (1979) test statistic based on Dimson (1979) betas. Hence the general picture portrayed by Table 5.2 is that whilst the CAARs are positive they are not significantly different

Table 5.2: Cumulative Average Abnormal Returns Across N = 13 Chinese Target Firms with B Shares on issue and Covering the Period from 1 January, 1990 until 31 December, 2008

	Dimson Betas					OLS Betas			
Time Relative to Announce Date (0)	Cumulative Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic	Time Relative to Announce Date (0)	Cumulative Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic
-6	0.0012	0.0418	-0.1359	-0.0173	-6	0.0004	-0.0497	-0.0657	-0.0657
-5	0.0004	-0.5586	-0.0746	-0.3286	-5	0.0006	-0.1292	-0.2876	-0.2793
-4	0.0012	-0.0087	-0.1300	-0.1956	-4	0.0006	0.0104	-0.2261	-0.1542
-3	0.0107	-0.1314	-0.3956	-0.3874	-3	0.0093	-0.0475	-0.4693	-0.4116
-2	0.0159	0.2703	0.0299	0.1015	-2	0.0149	0.0781	-0.0428	0.0577
-1	0.0154	0.6364	-0.1557	-0.1508	-1	0.0149	0.1826	-0.1993	-0.1872
0	0.0174	0.2609	-0.7461	-0.6885	0	0.0166	0.0745	-0.6717	-0.6703
1	0.0378	1.2836	-0.1291	0.0048	1	0.0364	0.3456	-0.0134	0.0153
2	0.0442	1.5464	-0.2049	-0.1058	2	0.0427	0.4200	-0.0519	-0.0572
3	0.0577	1.6527*	0.2925	0.4198	3	0.0573	0.4603	0.4560	0.4637
4	0.0735	1.7053*	0.6074	0.7206	4	0.0726	0.4737	0.7380	0.7445
5	0.0733	1.4958	0.4287	0.5022	5	0.0719	0.4130	0.4819	0.4751
6	0.0696	1.4532	0.4552	0.4522	6	0.0691	0.4050	0.5004	0.5051
7	0.0654	1.5501	0.2310	0.4050	7	0.0638	0.4258	0.4026	0.4169
8	0.0473	1.1804	-0.2729	-0.1737	8	0.0458	0.3236	-0.1543	-0.1644
9	0.0456	1.1319	-0.2424	-0.2663	9	0.0444	0.3112	-0.2346	-0.2576
10	0.0573	1.3201	0.0162	0.0126	10	0.0551	0.3595	0.0215	0.0150
11	0.0472	1.0403	-0.3644	-0.4543	11	0.0447	0.2811	-0.4234	-0.4573
12	0.0482	1.1573	0.0088	-0.1327	12	0.0456	0.3145	-0.0977	-0.1114

13	0.0460	1.0725	-0.2132	-0.3676	13	0.0440	0.2969	-0.3019	-0.3263
14	0.0387	0.9026	-0.5556	-0.6338	14	0.0365	0.2500	-0.5553	-0.5959
15	0.0569	1.2756	-0.2059	-0.2333	15	0.0543	0.3491	-0.1772	-0.1943
16	0.0654	1.5304	-0.0808	-0.0496	16	0.0621	0.4222	0.0167	0.0130
17	0.0620	0.5698	-0.2008	-0.4060	17	0.0595	0.1788	-0.0695	-0.3641

Note: *refers to the significance at 10% level; [#] represents the significance at 5% level; $ refers to the significance at 1% level (two tailed test)

from zero in a statistical sense over the entire event window. The lack of statistical significance might, however, be caused by the small sample of B shares in Chinese target firms that is available to us. The following chart gives a pictorial summary of the CAARs that arise on the B shares of the target firms comprising our sample:

Figure 5.2: Cumulative Average Abnormal Returns Across N = 13 Chinese Target Firms with B Shares Covering the Period from 1 January, 1990 until 31 December, 2008
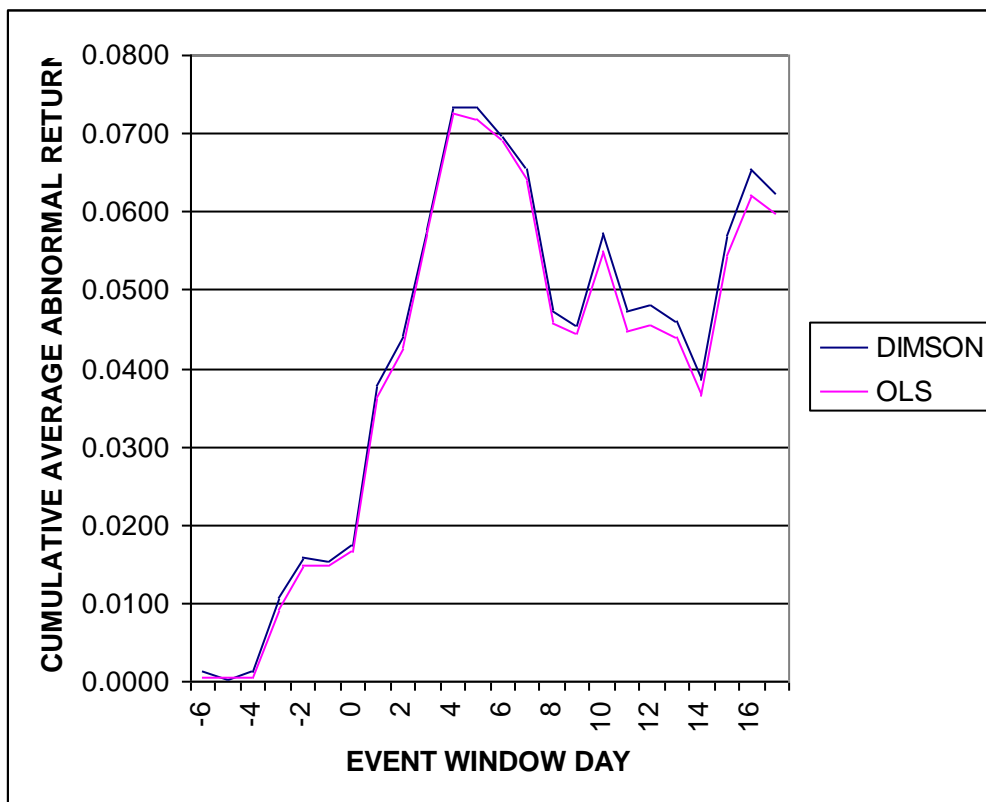
Note how this graph confirms our previous observation that the CAARs on the B shares of Chinese target firms comprising our sample tend to be positive and to grow in magnitude in the four day period beyond the takeover announcement date. After this period, however, the CAARs have largely "levelled off" and fluctuate randomly without any discernible trend.

5.5.2 Analysis of H Shares for Chinese Target Firms

It will be recalled from chapter three of this dissertation that one of the important differences between H shares and A shares is that H shares are denominated and traded in the Hong Kong dollar whereas A shares are traded in the Chinese Yuan. Furthermore, an increasing number of mergers and acquisitions (M&A) involve H shares due to the fact that a growing number of mainland Chinese firms have chosen to list their shares on the Hong Kong Stock Exchange. Thus, M&A activities involving H shares are of increasing importance in China and should not be ignored in empirical research.

There were a total of four Chinese target firms in our sample that had H shares on issue. The abnormal returns which accrue to the holders of H shares in the four target firms which make up our sample are summarised in Table 5.3. The table shows that the average abnormal returns (AARs) which accrue to the holders of H shares in our sample of Chinese target firms is quite volatile in the run up to the takeover announcement date and the first few days thereafter. This, however, could be a product of the small sample of target firms with H shares on issue that is available to us. Nevertheless, there is a sharp spike of 26.8% in the AAR on the second trading day following the takeover announcement date and this is so irrespective of whether the Dimson (1979) or OLS techniques are used to estimate betas. The AARs on this second trading day after the takeover announcement date (that is, time 2) have a Patell (1976) test statistic of 1.8746 using Dimson (1979) betas and 1.8717 using OLS betas. These statistics are both significant at the 5% level. In contrast, the Corrado (1989) test statistic is 2.6241 using Dimson (1979) betas and 2.6644 using OLS betas. Both these statistics are significant at the 1% level. The most compelling results, however, are obtained using the modified Corrado test which returns test statistics of 2.8447 and 2.8602 under the Dimson (1979) and OLS betas, respectively. Again, these are both significant at the 1% level.

The volatile nature of the returns process for M&A activities based on H shares is underscored by the fact that the AAR goes from being a highly

Table 5.3: Average Abnormal Returns Across N = 4 Chinese Target Firms with H Shares on issue and Covering the Period from 1 January, 1990 until 31 December, 2008

	Dimson Betas					OLS Betas			
Time Relative to Announce Date (0)	Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic	Time Relative to Announce Date (0)	Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic
-5	0.0004	0.5594	0.1430	0.1609	-5	-0.0005	0.4426	0.1011	0.1145
-4	0.0187	1.7647*	1.2799	1.3915	-4	0.0203	1.7946*	1.3575	1.4611
-3	0.0010	0.6321	-0.3003	-0.3184	-3	0.0004	0.5615	-0.3321	-0.3492
-2	0.0019	-0.2370	-0.7436	-0.8016	-2	0.0024	0.0073	-0.7148	-0.7628
-1	-0.0050	-1.5170	-1.3228	-1.4285	-1	-0.0056	-1.4459	-1.4080	-1.5058
0	0.0010	-0.5819	0.1573	0.1702	0	0.0017	-0.5409	0.2094	0.2244
1	-0.0153	-0.3740	-0.0143	-0.0082	1	-0.0178	-0.4401	-0.0794	-0.0778
2	0.2687	1.8746*	2.6241$^\$$	2.8447$^\$$	2	0.2684	1.8717*	2.6644$^\$$	2.8602$^\$$
3	-0.0739	-2.6246$^\$$	-2.4096$^\#$	-2.6040$^\$$	3	-0.0716	-2.4141$^\#$	-2.2889$^\#$	-2.4494$^\#$
4	-0.0278	-1.0675	-0.8223	-0.8882	4	-0.0280	-1.0758	-0.8304	-0.8882
5	0.0035	2.1769$^\#$	0.3361	0.3681	5	0.0024	1.5504	0.2166	0.2368
6	0.0257	0.6219	1.1655	1.2613	6	0.0254	0.6584	1.1553	1.2381
7	0.0126	0.2991	0.0215	0.0244	7	0.0130	0.3131	0.0289	0.0321
8	0.0046	2.3100$^\#$	0.6793	0.7390	8	0.0055	2.1067$^\#$	0.7293	0.7854
9	0.0021	0.1026	-0.8795	-0.9485	9	0.0021	0.1043	-0.9026	-0.9640
10	0.0231	1.1627	1.3943	1.5119	10	0.0222	1.0910	1.3502	1.4498
11	-0.0146	-0.7588	-0.4505	-0.4828	11	-0.0149	-0.7250	-0.4188	-0.4439
12	-0.0115	-0.7544	-0.4076	-0.4388	12	-0.0112	-0.7338	-0.4043	-0.4310
13	0.0009	0.6386	0.0858	0.1003	13	0.0003	0.5898	0.0361	0.0461

14	0.0119	1.0992	1.1226	1.2217	14	0.0120	1.0904	1.1264	1.2139
15	0.0013	0.7482	0.3289	0.3620	15	-0.0007	0.4172	0.1589	0.1762
16	0.0139	1.4056	0.6292	0.6853	16	0.0141	1.4279	0.6643	0.7163

Note: *refers to the significance at 10% level; [#] represents the significance at 5% level; $ refers to the significance at 1% level (two tailed test)

positive and significant 26.8% on the second trading day after the takeover announcement date to a highly negative and significant - 7.3% on the third trading day after the takeover announcement date. Moreover, the Patell (1976), Corrado (1989) and modified Corrado test statistics for the AARs on this third trading day after the takeover announcement date are all significantly different from zero at the 5% level or better. The AARs are also negative on the fourth trading day after the takeover announcement date but not statistically so. The AARs then tend to "level off" and fluctuate randomly as depicted in the following graph:

Figure 5.3: Average Abnormal Returns Across N = 4 Chinese Target Firms with H Shares on issue and Covering the Period from 1 January, 1990 until 31 December, 2008
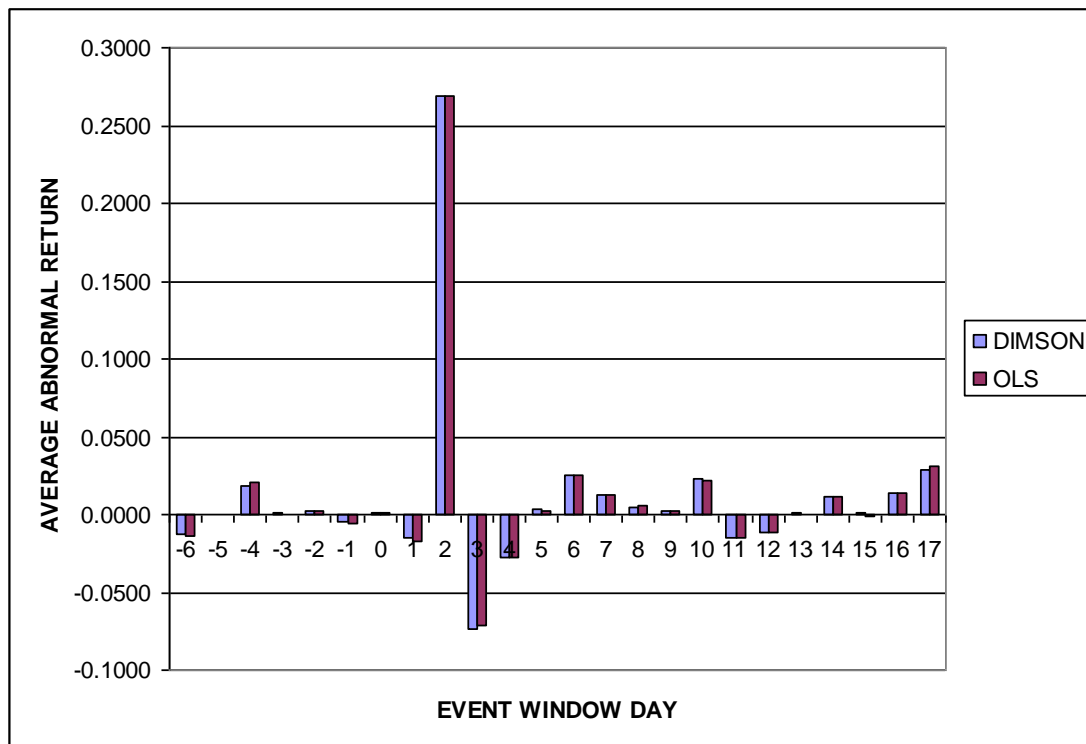
Note how the above graph confirms that there is a sharp spike in the AAR on the second trading day following the takeover announcement date. Beyond this date, however, the abnormal returns tend to decay away but then "level off" and fluctuate randomly. However, our small sample is small being comprised of only

four Chinese target firms with H shares on issue. Hence, the results reported in this section may not be representative of the abnormal returns for all Chinese target firms with H shares on issue.

We now turn our attention to the analysis of the cumulative average abnormal returns (CAARs) which accrue to the holders of H shares in Chinese target firms. A summary of the main empirical results relating to the CAARs of acquiring firms with H shares on issue is given in Table 5.4. This table shows that the CAARs accruing to the holders of H shares in Chinese target firms reach a peak of nearly 26% on the second trading day after the takeover announcement date. However, whilst the Patell (1976) test statistic on this date is marginally significant (at the 10% level), neither the Corrado (1989) statistic nor the modified Corrado statistic is significant at any reasonable level, irrespective of whether Dimson (1979) or OLS beats are employed. Beyond the second trading day after the takeover announcement date the CAARs tend initially to decay away but then "level off" and fluctuate randomly around a slight upward trend. The CAARs for Chinese target firms with H shares on issue are given pictorial representation in Figure 5.4. Note how the Figure 5.4 confirms that there is a sharp spike of around 26% in the CAARs on the second trading day following the takeover announcement date. Beyond this date, however, the CAARs tend initially to decay away but then "level off" and fluctuate randomly around a slight upward trend. However, a note of caution is in order here - our sample is small being comprised of only four Chinese target firms with H shares on issue. Hence, the results reported in this section may not be representative of the abnormal returns for all Chinese target firms with H shares on issue.

Table 5.4: Cumulative Average Abnormal Returns Across N = 4 Chinese Target Firms with H Shares on issue and

Covering the Period from 1 January, 1990 until 31 December, 2008

		Dimson Betas					OLS Betas		
Time Relative to Announce Date (0)	Cumulative Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic	Time Relative to Announce Date (0)	Cumulative Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic
-5	-0.0120	0.3608	0.3994	-0.2191	-5	-0.0137	0.2515	0.3268	-0.2654
-4	0.0068	1.3751	1.0651	0.7869	-4	0.0066	1.3849	1.0505	0.8034
-3	0.0077	1.1872	0.7722	0.4437	-3	0.0070	1.1806	0.7437	0.4393
-2	0.0096	1.2968	0.3581	-0.0275	-2	0.0095	1.3026	0.3455	-0.0118
-1	0.0046	1.1521	-0.2131	-0.6774	-1	0.0039	1.1301	-0.2594	-0.6982
0	0.0056	1.9790$^{\#}$	-0.1378	-0.5730	0	0.0055	2.1130$^{\#}$	-0.1610	-0.5696
1	-0.0097	0.1943	-0.1340	-0.5590	1	-0.0122	0.1762	-0.1787	-0.5825
2	0.2590	1.8220*	0.7484	0.4776	2	0.2562	1.8409*	0.7196	0.4611
3	0.1851	1.2368	-0.0520	-0.4196	3	0.1846	1.2622	-0.0411	-0.3827
4	0.1573	1.0950	-0.2975	-0.6761	4	0.1566	1.1256	-0.2896	-0.6410
5	0.1608	1.1221	-0.1878	-0.5370	5	0.1590	1.1493	-0.2147	-0.5440
6	0.1864	1.0965	0.1428	-0.1526	6	0.1844	1.1277	0.1141	-0.1661
7	0.1991	1.0396	0.1433	-0.1338	7	0.1975	1.0695	0.1177	-0.1446
8	0.2037	1.0594	0.3139	0.0685	8	0.2030	1.0906	0.3020	0.0708
9	0.2057	1.0145	0.0840	-0.1818	9	0.2050	1.0469	0.0668	-0.1837
10	0.2289	1.0813	0.4197	0.2082	10	0.2273	1.1062	0.3923	0.1903
11	0.2142	1.0512	0.3017	0.0855	11	0.2124	1.0785	0.2825	0.0778
12	0.2027	1.0008	0.2001	-0.0296	12	0.2011	1.0351	0.1822	-0.0351
13	0.2036	1.1638	0.2142	-0.0015	13	0.2015	1.1902	0.1857	-0.0199

14	0.2156	1.4132	0.4541	0.2819	14	0.2135	1.4396	0.4270	0.2622
15	0.2169	1.4823	0.5137	0.3613	15	0.2128	1.4901	0.4511	0.2995
16	0.2308	1.5102	0.6336	0.5069	16	0.2270	1.5219	0.5797	0.4533
17	0.2597	0.4937	1.0961	1.2105	17	0.2578	0.4808	1.0568	1.1144

Note: * refers to the significance at 10% level; [#] represents the significance at 5% level; $ refers to the significance at 1% level (two tailed tes

Figure 5.4: Cumulative Average Abnormal Returns Across N = 4 Chinese Target Firms with H Shares Covering the Period from 1 January, 1990 until 31 December, 2008
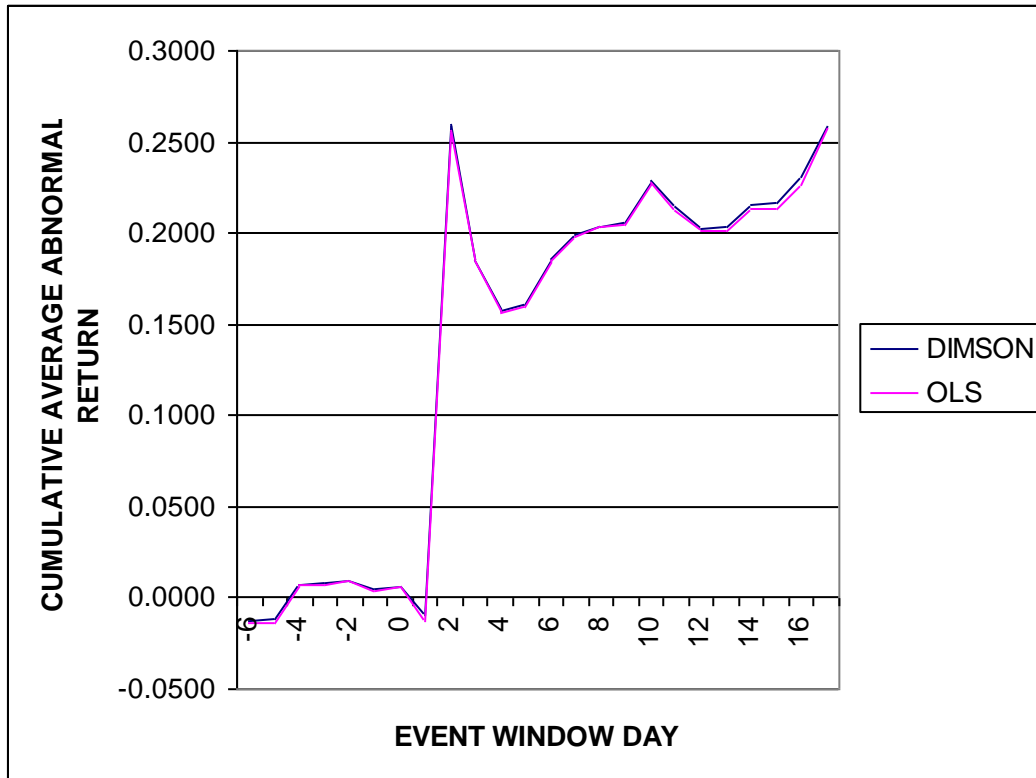
5.6   Summary and Conclusions

This chapter provides a detailed analysis of the wealth effects that M&A activities have for the holders of B and H shares in Chinese target firms. We begin the chapter by explaining how the data on which our empirical analysis of Chinese M&A activities is based was selected. We then discuss the methodology used to calculate the abnormal returns which arise on the Chinese target firms comprising our sample as well as the statistical methodology used to assess the significance of these abnormal returns. A more detailed analysis of the statistical methodology which underlies the testing procedures employed in our empirical work is to be found in section 4.2 of chapter four of this dissertation.

We then turn the focus of our attention to the wealth effects that M&A activities have for the holders of B shares and H shares in Chinese target firms,

respectively. Our general conclusion is that whilst there are positive abnormal returns around the takeover announcement date for the holders of B shares in Chinese target firms, they tend to be marginal at best. In contrast, the abnormal returns around the takeover announcement date for the holders of H shares tend to be larger than those for B shares. Moreover, the abnormal returns for H shares immediately after the takeover announcement date tend to be statistically significant at any reasonable level, irrespective of whether one employs the Patell (1976) test, the Corrado (1989) test or the modified Corrado test. However, whilst the CAARs for H shares are highly positive on the second trading day after the takeover announcement date and beyond, they are not statistically significant from zero. This is probably because the sample of H shares used in our empirical analysis is very small and possibly, not representative of the wider Chinese securities market.

CHAPTER SIX

ANALYSIS OF THE IMPACT OF M&A ACTIVITIES ON SHAREHOLDER WEALTH FOR CHINESE ACQUIRING FIRMS: A SHARES, B SHARES AND H SHARES

6.1 Introduction

Whilst the volume of M&A activities in China has increased considerably over the last decade, due amongst other reasons to the phenomenal growth rate in China's economic output as well as China's admission to the World Trade Organisation (WTO) in 2001, research conducted into the area of Chinese M&A activities remains relatively sparse. Moreover, our review of the literature in chapter 2 shows that such research as has been conducted on Chinese M&A activities is relatively unsophisticated, especially when compared to the equivalent research conducted on western M&A activities. Hence, in order to redress the relatively unsophisticated nature of the prior research conducted into Chinese M&A activities and also, to provide concrete empirical evidence of the impact that Chinese M&A activities have on the shareholders of acquiring firms, we now summarise information about the abnormal and cumulative abnormal returns which accrue to shareholders around the relevant takeover announcement dates of a randomly selected sample of 279 Chinese acquiring firms. In particular, this chapter deals with the wealth effects which Chinese M&A activities have on the shareholders of Chinese acquiring firms. In addition, we compare our empirical results with those obtained for western economies in order that we might identify the underlying reasons for the significant differences which appear to exist between the wealth effects of Chinese and western M&A activities. We seek to do this by rationalising our empirical results in terms of the Chinese political, economic and capital systems which are fundamentally different from

those of western economies. Moreover, a question which often arises in the M&A literature is what determines the wealth effects of the takeover process for Chinese acquiring firms (Goergen and Renneboog, 2004). In this chapter we seek to address this issue by following the methodological procedures laid down in the paper by Goergen and Renneboog (2004). In particular, we regress the abnormal returns obtained for Chinese acquiring firms over the period surrounding the takeover announcement date against a number of potential determining variables.

We have previously noted, in chapter three of this dissertation, that shares listed on stock exchanges in China fall into three broad categories; namely, A shares which are denominated in the Chinese Yuan and only Chinese nationals are entitled to purchase them; B shares which are denominated in either the U.S dollar or the Hong Kong dollar and it is normally the case that only foreign investors are permitted to purchase them; and H shares which are listed exclusively on the Hong Kong Stock Exchange. Our review of the literature in chapter two shows that most research that deals with Chinese M&A activities is restricted to a consideration of A shares. In other words, M&A activities that involve B shares and H shares have been seriously ignored by Chinese researchers. Thus in this chapter, we will not only empirically analyse the impact that Chinese M&A activities have on the holders of A shares in Chinese acquiring firms but also, we examine the impact that M&A activities have on the holders of B and H shares in Chinese acquiring firms as well.

The remainder of this chapter is structured as follows: section 6.2 provides a brief reiteration of the prior literature regarding the wealth effects that M&A activities have for shareholders of acquiring firms in both western and Chinese economies. Section 6.3 summarises how the data used in our empirical analysis is selected. Next, section 6.4 discusses the methodology employed to compute the abnormal returns which arise on the Chinese acquiring firms comprising our sample. We also discuss how the event window was determined over which our empirical analysis is conducted. We assess the significance of the abnormal returns obtained for our sample of Chinese

acquiring firms by using the Patell (1976) "t" test, the Corrado (1989) rank test and my modification of the Corrado (1989) rank test. The relative power of these tests was discussed in chapter four where we dealt with the abnormal returns that arise on Chinese target firms involved in M&A activities. It will be recalled that whilst our analysis showed that the modified Corrdao test had slightly less power than the Patell (1976) test it did not invoke the (undoubtedly false) assumption that equity returns are normally distributed (Harris and Küçüközmen, 2001; Ashton and Tippett, 2006). Moreover, the empirical analysis summarised in chapter four shows that the modified Corrdao test is much more effective in detecting the significance of the abnormal returns that accrue on Chinese target firms than is the Corrado (1989) test itself. The empirical analysis of Chinese acquiring firms summarised in the current chapter also confirms that the modified Corrado test is much more effective in detecting the significance of abnormal returns than is the Corrado (1989) test.

Section 6.5 focuses primarily on providing a detailed analysis of our empirical results obtained on the wealth effects that Chinese M&A activities have for the holders of A shares, B shares and H shares in Chinese acquiring firms respectively. In section 6.6 we compare the results obtained in our empirical analysis of Chinese acquiring firms with the results obtained by researchers for western acquiring firms. We also seek to identify possible reasons for the differences which exist between our empirical results for Chinese acquiring firms and those obtained by western researchers for western acquiring firms. Here it will be recalled that Chinese political, economic and capital systems are unique and fundamentally different from those in western economies. Section 6.7 provides an analysis of the potential determinants of the abnormal returns earned by Chinese acquiring firms. Finally, Section 6.8 presents a brief summary of this chapter and makes a few concluding remarks about the impact that Chinese M&A activities have on the shareholders of acquiring firms in China.

6.2 A Brief Summary of Prior Literature

In chapter two we review the literature that deals with the wealth effects for acquiring and target firm shareholders of mergers and acquisition (M&A) activities. The western literature in this area is voluminous, at both an empirical and theoretical level, but we also note that there is a limited but growing literature that deals with the wealth effects for shareholders of Chinese M&A activities. In chapter two we note that much of the Chinese literature is theoretical in nature and that the sparse Chinese empirical literature in the area is invariably based on inappropriate methodologies. In general the empirical evidence dealing with the wealth effects of M&A activities for the shareholders of acquiring firms is mixed and inconsistent – and this applies irrespective of whether one is dealing with the western or Chinese literature in the area. For example, Dodd and Ruback (1977) employ a sample of 172 U.S. acquiring firms covering the period from 1958 until 1976. They find that stockholders of successful bidding (that is, acquiring) firms earn positive abnormal returns in the month of the takeover announcement. In contrast, Langtieg (1978) finds evidence of negative abnormal returns for acquiring firms over the six months before and the twelve months after the merger date. One can compare these previous two studies with Asquith (1983) who finds that the stock market shows little or no reaction on the date of the first public announcement of the merger and/or acquisition proposals and this applies for both successful and unsuccessful bidding firms. Likewise, Bruner (2003) concludes that in the aggregate, abnormal returns to shareholders' of acquiring firms from M&A activities are essentially zero.

It is only since the run up to China's admission into the World Trade Organisation in 2001 that there have been significant M&A activities in China. This also explains why no research of any significance was undertaken into Chinese M&A activities before 2000 and why the research that has been conducted in this area since that date is not as sophisticated in terms of methodology and the way of dealing with data as that which has been conducted in western economies. Here we need to emphasise, however, that the Chinese economy and its securities systems are very different to those

operated in western economies. For example, the shares of most Chinese firms are under the predominant control of the government and as noted in chapter 3, this means that in China the shares of a majority of firms cannot be traded on the stock exchange (the so called untradeable shares). The main research which has been conducted on the impact that M&A activities have on the wealth of shareholders in acquiring firms in China may be summarised as follows.

Chen and Zhang (1999) employ data for M&A transactions on the Shanghai Stock Exchange covering the 1997 fiscal year. Using a standard event study methodology Chen and Zhang (1999) find that although the cumulative average abnormal return (CAAR) associated with the acquiring firms comprising their sample tended to drift upwards over the event window, it was not significantly different from zero in any statistical sense. They conclude from this that the wealth effects for shareholders of the Chinese acquiring firms comprising their sample are essentially zero. Yu and Yang (2000) used a sample comprised of all mergers and/or acquisitions which occurred on the two mainland Chinese stock exchanges – namely, the Shanghai Stock Exchange and the Shenzhen Stock Exchange – over the period from 1993 until 1995. They found that the CAAR associated with the acquiring firms comprising their sample randomly fluctuated around zero over their event window. In contrast, Li and Chen (2002) investigated the M&A activities of firms listed on the Shanghai and Shenzhen stock exchanges over the period from 1999 to 2000. They find that there are significant economic benefits for the shareholders of acquiring firms; in particular, the CAAR was a statistically significant 3% by the end of the 30 day post announcement event window used in their study. Finally, Li and Zhu (2005) used a standard market model methodology to analyse the abnormal returns associated with the M&A activities of acquiring firms listed on the Shanghai and Shenzhen stock exchanges and covering the period between 1998 and 2003. They concluded that shareholders of acquiring firms suffered significant losses for up to three years following the completion of the M&A transactions. Hence, based on the limited empirical evidence that is available in the literature, it can readily be observed that M&A activities in China do not appear to have positively

enhancing wealth effects for the shareholders of acquiring firms.

6.3 Data Selection

We have previously noted in both chapters 3 and 4 that in all our empirical work we use the definition of a takeover given in Article 84(1) of the Measures for the Administration of Takeovers of Listed Companies promulgated by the China Securities Regulation Committee (CSRC) in 2006.   Article 84(1) provides that a takeover is said to have occurred when an acquiring firm successfully purchases more than 50% of the equity shares the listed target firm has on issue.   Data on Chinese mergers and acquisitions are available from the Securities Data Company Mergers and Acquisitions Database [SDC (M&A)].   The information summarised on this data base includes the announcement date of the given takeover, the date the takeover becomes effective, the date the takeover is declared to be unconditional and the terms (cash, share exchange, etc.) associated with the takeover.   Over the period from 1 January, 1990 until 31 December, 2008 there were 2,448 Chinese acquiring firms on the SDC database that satisfied our definition for a takeover.   We chose every fifth takeover amongst these 2,448 acquiring firms for analysis.   However, not all of these firms had share price data available on the Datastream system and this reduced our sample size down to 279 acquiring firms with A shares on issue, 12 acquiring firms with B shares on issue and 27 acquiring firms with H shares on issue.   Due to very small sample avialable to us of acquiring firms with B shares and H shares on issue, our focus in this chapter will mainly be on the 279 Chinese acquiring firms with A shares on issue.   These 279 Chinese acquiring firms cover a wide and randomly chosen spectrum of industries. Table 6.1 provides a summary the industrial classifications of the N = 279 acquiring firms as well as a summary of the years in which the takeovers occurred.   Thus, for example, for the Household Goods and Home Construction classification there were two takeovers in 2006, one takeover in 2007 and two takeovers in 2008 - or five takeovers in total.   Data for the other industry classifications are to be similarly interpreted.

Table 6.1 Industrial classifications and Dates of Takeovers for N=279 Chinese Acquiring firms

INDUSTRY	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	TOTAL
AUTOMOBILES & PARTS								1		2	1		2	2	8
BEVERAGES				1	1	3	2								7
CHEMICALS			1					1	2	3			2	10	19
CONSTRUCTION & MATERIALS				1					1	2	1	3	5	5	18
ELECTRONIC & ELECTRICAL EQUIPMENT						1		1	1			1		4	8
ELECTRICITY								2	2	1		1	4	4	14
FINANCIAL SERVICES												1		1	2
FOOD PRODUCERS								2		1	4	2	2	3	14
FORESTRY & PAPER										1	1	2	1	4	9
GENERAL INDUSTRIALS									1			1	1	2	5
GENERAL RETAILERS										1	1		2	1	5
GAS, WATER & MULTIUTILITIES												2	1		3
HOUSEHOLD GOODS & HOME CONSTRUCT												2	1	2	5
INDUSTRIAL ENGINEERING								2		1		4	3	9	19
INDUSTRIAL METALS & MINING									1	4	2	1	3	8	19
INDUSTRIAL TRANSPORTATION									1	1	1			1	4
LIESURE GOODS										1	2		1	3	7
MEDIA								1	1				1		3
MINING									1		1		2	6	10
OIL & GAS PRODUCERS									1	1	1		1	1	5
PERSONAL GOODS									3	2	2		1	2	10
PHARMACEUTICALS & BIOTECHNOLOGY									1	4	1	2	4	7	19
REAL ESTATE INVESTMENT & SERVICES	1								2	2	2	1	10	11	29
SOFTWARE & COMPUTER SERVICES										1	2	3	1	1	8
SUPPORT SERVICES									2	1	1		3	4	11
TECHNOLOGY, HARDWARE & EQUIPMENT				1					1	1	1	2	3		9
TRAVEL & LIESURE					1					2			1	5	9
TOTALS	1	0	1	3	2	4	2	10	21	32	24	28	55	96	279

6.4 Methodology

We begin our analysis by downloading daily closing share price data (adjusted for rights issues and other stock splits) from the Datastream system for the 279 Chinese acquiring firms with A shares on issue, the 12 acquiring firms with B shares on issue and the 27 acquiring firms with H shares on issue. Here, it is important to note that B shares are denominated in the U.S or the Hong Kong dollar, whilst H shares are denominated in the Hong Kong dollar. Given this, the closing daily prices of B and H shares were converted into the Chinese Yuan at the exchange rate prevailing at the close of business on the relevant date. We then computed the continuously compounded daily returns for the equity securities of all acquiring firms comprising our sample. Likewise, closing values for the particular stock exchange index used to approximate the return on the market portfolio were also downloaded from the Datastream system. The index used to proxy for the market index was the most inclusive index available for the particular stock market and type of share being analysed (A share, B share and H shares). For example, the Shanghai Stock Exchange Composite Index was selected as a proxy for the return on the market index for A shares traded on the Shanghai Stock Exchange; the Shanghai Stock Exchange B Share Price Index was employed as a proxy for the return on the market index for B shares listed on the Shanghai Stock Exchange; the Shenzhen Stock Exchange Composite Index was employed as a proxy for the return on the market index for A shares listed on the Shenzhen Stock Exchange; the Shenzhen Stock Exchange B Share Price Index was employed as a proxy for the return on the market index for B shares listed on the Shenzhen Stock Exchange; the Hong Kong Stock Exchange Composite Index was used as a proxy for the return on the market index for H shares. Where necessary, the values of these indices were converted into the Chinese Yuan at the exchange rate prevailing at the close of business on the relevant date.

Having downloaded all the needed data, we estimated the parameters of the one-factor market model using the Ordinary Least Squares (OLS) and the Dimson (1979) techniques for each acquiring firm comprising our sample. All

parameters were estimated using the continuously compounded returns from 207 trading days preceding the announcement of the proposed merger and/or acquisition until seven trading days prior to the announcement date; that is, the estimation period was (-207, -7) trading days. It is important to note that day zero (0) is defined as the first public announcement date of the proposed merger and/or acquisition as downloaded from the SDC (M&A) data base. Our event window encompasses six trading days prior to the announcement of the merger and/or acquisition until 17 trading days subsequent to the announcement date; that is, (-6, +17) trading days. Next, the abnormal returns for the ith firm comprising our sample of Chinese acquiring firms is calculated using the actual daily continuously compounded return on the firm's shares less the expected daily continuously compounded return on its shares, which is expressed as follows:

$$e_{it} = R_{it} - a_i - b_i R_{mt}$$

where R_{it} is the actual return on the ith firm's equity security during the tth time period, R_{mt} is the actual return on the market during the tth time period and e_{it} is an error term with zero mean. Moreover, $a_i = R_f(1 - \beta_i)$ and $b_i = \beta_i$ are the estimates of the constant term and the equity security's beta. Here, R_f is the risk free rate of return. The abnormal return, AR_{it}, on the ith equity security for the tth trading day is approximated by e_{it}; that is, $AR_{it} = e_{it}$. Similarly, the average abnormal return on the tth day across the N acquiring firms in our sample will be $\frac{1}{N} \sum_{i=1}^{N} AR_{it}$. Thus for the N = 279 acquiring firms with A shares on issue the average abnormal return during the tth day will be $\frac{1}{279} \sum_{i=1}^{279} AR_{it}$.

Similarly, the Cumulative Abnormal Return, $CAR_{i\tau}$, for the ith security on the τth trading day is obtained by summing the abnormal returns, AR_{it}, for the given security up to and including the τth trading day of the event window. Since we use an event window comprised of 24 days (that is, from six trading days before the announcement date until 17 trading days after the announcement

date) this means that the cumulative abnormal return for a given security on the τth trading day will be computed as $CAR_{i\tau} = \sum\limits_{t=1}^{\tau} AR_{it}$. This in turn means that the cumulative average abnormal return on the τth day across the N acquiring firms in our sample will be $CAAR_{\tau} = \dfrac{1}{N} \sum\limits_{t=1}^{\tau} \sum\limits_{i=1}^{N} AR_{it}$. Thus for the N = 279 acquiring firms with A shares on issue the cumulative average abnormal return during the announcement date (time zero or the seventh day, $\tau = 7$, of the event window) will be $CAAR_7 = \dfrac{1}{279} \sum\limits_{t=1}^{7} \sum\limits_{i=1}^{279} AR_{it}$. The abnormal return and cumulative abnormal return as computed here are used in the calculations we make of the Patell (1976) statistics in our subsequent empirical analysis of acquiring firms. Furthermore, the Corrado (1989) and Modified Corrado ranking procedures are applied to the abnormal returns and cumulative abnormal returns as computed here in the same manner as with the target firms treated in chapter 4.

We have previously noted in chapter 4 of this dissertation, however, that the Corrado (1989) test lacks power in comparison to the Patell (1976) "t" test which is the traditionally used parametric test. Fortunately, the modified Corrado test developed in chapter 4 addresses this problem of the lack of power in the original Corrado (1989) test. We have also demonstrated that the modified Corrado test has substantially more power in detecting abnormal security returns and simplifies considerably the computational procedures behind the original Corrado (1989) test. This combined with the fact that the modified Corrado test makes only minimal assumptions about the distribution of the abnormal returns means that our testing procedures will focus mainly on the modified Corrado test.

6.5 Detailed Analysis of the Empirical Results for Chinese Acquiring Firms

6.5.1 Analysis of A Shares for Chinese Acquiring Firms

As previously noted in section 6.4 of this chapter, our estimation period

commences 207 trading days prior to the announcement of the proposed merger and/or acquisition and concludes seven trading days before the announcement date; that is, the estimation period is (-207, -7) trading days. Our event window starts six trading days prior to the announcement of the merger and/or acquisition and finishes 17 trading days after the announcement date; that is, the event window is (-6, +17) trading days. In other words, there are 24 trading days comprising our event window. It will also be recalled from section 6.3 of this chapter that our sample is comprised of $N = 279$ Chinese acquiring firms with A shares on issue. Table 6.2 provides a summary of the average abnormal returns (AARs) across the $N = 279$ Chinese acquiring firms with A shares on issue over the 24 trading days comprising our event window. It is readily observed from this table that relatively small but statistically significant abnormal returns accrue to the holders of A shares in Chinese acquiring firms on the day prior to the takeover announcement date (that is, time -1). For example, the average abnormal return which accrues to the holders of A shares one day before the takeover announcement date is 0.29% based on Dimson (1979) betas and 0.20% based on OLS betas. However, both the significance and magnitude of the average abnormal returns hinge on the method used to estimate the parameters of the market model (OLS or Dimson) and the testing procedure (Patell, Corrdao or modified Corrado) employed to assess the significance of the average abnormal returns. Thus, if one uses the Dimson (1979) technique for parameter estimation, then the Corrado (1989) and modified Corrado test statistics for the abnormal returns on the day before the takeover announcement date (that is, time -1 in Table 6.2) are both statistically significant. Specifically, the Corrado (1989) test statistic is 2.3221 whilst the modified Corrado test statistic is higher at 2.4223. Both of these test statistics are significant at the 5% level. However, when parameter estimation is based on OLS, the Corrado test statistic declines to 1.7611. The modified Corrado Test statistic also declines but to the marginally higher level of 1.8535. Whilst both Corrado test statistics are statistically significant under the OLS parameter estimation procedure, the level of significance has declined from 5% under the Dimson (1979) technique to 10% under the OLS technique.

Table 6.2: Average Abnormal Returns Across N = 279 Chinese Acquiring Firms with A Shares on issue and Covering the Period from 1 January, 1990 until 31 December, 2008

Dimson Betas				OLS Betas				
Time Relative to Announce Date (0)	Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic	Time Relative to Announce Date (0)	Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic
-6	-0.0001	0.2135	-0.2920	0.0025	-6	-0.0015	-0.1328	-0.5127	-0.3741
-5	0.0016	0.1453	-0.5658	-0.5840	-5	0.0031	1.0236	-0.4818	-0.4993
-4	0.0033	1.7039*	0.6209	0.6476	-4	0.0031	1.6136	0.6009	0.6357
-3	0.0027	1.0393	0.9373	0.9849	-3	0.0028	1.0145	1.0514	1.1088
-2	0.0029	1.2196	0.8324	0.8734	-2	0.0041	1.7108*	1.2674	1.3372
-1	0.0029	1.0892	2.3221#	2.4223#	-1	0.0020	0.7385	1.7611*	1.8535*
0	0.0006	0.6056	1.3200	1.1378	0	0.0014	0.8516	1.8667*	1.6310
1	0.0026	0.9736	1.1880	1.2422	1	0.0027	0.6986	1.3097	1.3803
2	-0.0042	-1.6246	-1.6048	-1.6664*	2	-0.0036	-1.4164	-1.3564	-1.4191
3	-0.0002	-1.4624	-1.4697	-1.5011	3	0.0006	-1.1875	-1.1545	-1.2074
4	-0.0022	-1.9709#	-2.0297#	-2.1061#	4	-0.0013	-1.7983*	-1.7497*	-1.8319*
5	-0.0040	-0.6765	-0.4084	-0.4218	5	-0.0043	-0.5462	-0.6520	-0.6803
6	0.0038	0.8670	1.7959*	1.8805*	6	0.0038	0.6689	1.8061*	1.9011*
7	-0.0045	-1.5054	-1.8359*	-1.9166*	7	-0.0039	-1.3615	-1.7267*	-1.8083*
8	0.0015	0.4193	-0.3542	-0.3660	8	0.0017	0.5670	-0.3055	-0.3158
9	-0.0018	-1.4105	-0.6280	-0.6631	9	-0.0022	-1.5106	-0.4298	-0.4475
10	-0.0046	-2.0290#	-2.2733#	-2.3641#	10	-0.0044	-1.8115*	-2.5114#	-2.6320$
11	0.0011	1.5625	1.2706	1.3253	11	0.0002	0.8272	1.1819	1.2468
12	-0.0009	0.3540	-0.9382	-0.9702	12	-0.0011	0.4996	-0.7904	-0.8259

13	-0.0019	-0.8500	-1.6288	-1.6981*	13	-0.0018	-0.8045	-1.6315	-1.7074*
14	0.0010	0.2273	-0.6573	-0.6711	14	0.0021	0.5133	-0.6679	-0.6971
15	0.0015	0.9645	0.0262	0.0294	15	0.0003	0.5444	0.1821	0.1946
16	0.0005	0.5651	0.5764	0.6133	16	0.0002	0.4480	-0.0269	-0.0229
17	0.0021	0.9005	0.3494	0.2777	17	0.0010	0.7662	-0.0924	0.0097

Note: *refers to the significance at 10% level; # represents the significance at 5% level; $ refers to the significance at 1% level (two tailed test)

Just as important, however, is the fact that the Patell (1976) test statistic (at reasonable level of significance and this applies irrespective of whether parameter estimation is based on the OLS or the Dimson (1979) techniques.

It is important to compare the results summarised in Table 6.2 (for Chinese acquiring firms) with the equivalent results for our sample of Chinese target firms as summarised in Table 4.2 of Chapter 4. A cursory inspection of Table 4.2 shows that the Patell (1976) statistic, the Corrado (1989) statistic and the modified Corrado test statistic are all statistically significant three days before the takeover announcement date (that is, time -3), on the announcement date itself (that is, time zero) and the day following the announcement date (that is time 1) regardless of which method is employed to estimate beta (Dimson (1979) or OLS). Table 4.2 also shows that the average abnormal returns for the shareholders of target firms are around six tenths of one percent three days before the takeover announcement date, 1.2% on the announcement date itself and 2.8% the day after the announcement date. These abnormal returns are all substantially higher than the returns which accrue to the shareholders of acquiring firms around the takeover announcement date – which as we have previously noted from Table 6.2, are a miserly three tenths of one percent on the day before the takeover announcement date.

The average abnormal returns (AARs) for acquiring firms which are summarised in Table 6.2 are given graphical representation in Figure 6.1. This graph shows that the AARs for the holders of A shares in the Chinese acquiring firms comprising our sample are small and positive (though generally insignificant at a statistical level) in the days leading up to the takeover announcement date. Beyond the takeover announcement date, however, the AARs are generally small and negative culminating with a statistically significant negative abnormal return of just under one half of one per cent on the tenth day after the announcement date. Hence, any significant abnormal returns which accrue to the holders of A shares in the Chinese acquiring firms comprising our sample decay away in the few trading days subsequent to the takeover announcement date, so much so that the

Figure 6.1: Average Abnormal Returns Across N = 279 Chinese Acquiring Firms with A Shares on issue and Covering the Period from 1 January, 1990 until 31 December, 2008
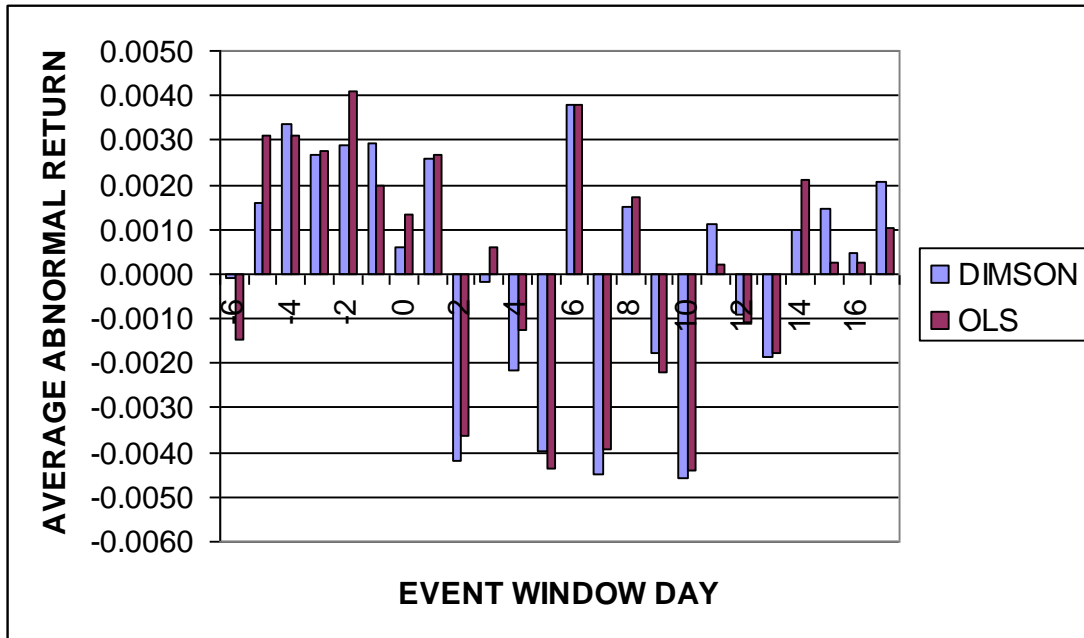
total of the abnormal returns is close to zero by the end of our event window. In summary, whilst our analysis in Chapter 4 shows that there are significant economic benefits for those holding A shares in Chinese target firms, our analysis here shows that there are almost no economic benefits for those holding A shares in Chinese acquiring firms.

We now move our attention to an analysis of the cumulative average abnormal returns (CAARs) for the shareholders of Chinese acquiring firms. We begin by providing a summary of the CAARs which accrue to the holders of A shares in the 279 Chinese acquiring firms comprising our sample. A summary of the CAARs and of their statistical significance is to be found in Table 6.3. This table shows that there are significant positive CAARs for the holders of A shares in Chinese acquiring firms around the takeover announcement date. In particular, these significant positive CAARs occur on the trading day immediately preceding the announcement date (that is, time -1) and on the first and second trading days subsequent to the announcement date (that is, time 1 and time 2, respectively). Thus, for Dimson (1979) betas

Table 6.3: Cumulative Average Abnormal Returns Across N = 279 Chinese Acquiring Firms with A Shares on issue and Covering the Period from 1 January, 1990 until 31 December, 2008

	Dimson Betas					OLS Betas			
Time Relative to Announce Date (0)	Cumulative Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic	Time Relative to Announce Date (0)	Cumulative Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic
-6	-0.0001	0.2135	-0.2920	0.0025	-6	-0.0015	-0.0254	-0.5127	-0.4236
-5	0.0015	0.1819	-0.6065	-0.4773	-5	0.0017	0.8541	-0.7032	-0.7669
-4	0.0049	1.0694	-0.1368	-0.0020	-4	0.0048	1.5256	-0.2273	-0.2902
-3	0.0075	1.5228	0.3502	0.5758	-3	0.0075	1.9418*	0.3289	0.5158
-2	0.0104	1.8627*	0.6855	0.8877	-2	0.0116	2.5004$^{\#}$	0.8609	1.0332
-1	0.0134	2.2598$^{\#}$	1.5738	1.8414*	-1	0.0136	2.6168$^{\$}$	1.5049	1.6708*
0	0.0140	1.4461	1.9560$^{\#}$	1.2116	0	0.0149	1.9486*	2.0988$^{\#}$	1.3998
1	0.0166	2.6900$^{\$}$	2.2496$^{\#}$	2.4877$^{\#}$	1	0.0176	2.9769$^{\$}$	2.4263$^{\#}$	2.5081$^{\#}$
2	0.0124	1.6530*	1.5860	1.7593*	2	0.0140	1.9878$^{\#}$	1.8354*	1.8763*
3	0.0122	1.0777	1.0399	1.1589	3	0.0146	1.4528	1.3761	1.1910
4	0.0101	0.4368	0.3795	0.4287	4	0.0133	0.8014	0.7845	0.5966
5	0.0061	0.2423	0.2455	0.2761	5	0.0090	0.6049	0.5629	0.5097
6	0.0099	0.4324	0.7339	0.8093	6	0.0128	0.7264	1.0417	0.8986
7	0.0054	0.0781	0.2166	0.2369	7	0.0088	0.3606	0.5424	0.4199
8	0.0069	0.1693	0.1178	0.1314	8	0.0105	0.4699	0.4451	0.2712
9	0.0052	-0.1240	-0.0430	-0.0487	9	0.0083	0.1329	0.3235	0.1745
10	0.0006	-0.4642	-0.5930	-0.6506	10	0.0039	-0.1943	-0.2953	-0.4549
11	0.0017	-0.2119	-0.2768	-0.3058	11	0.0041	-0.0509	-0.0084	-0.1893

12	0.0008	-0.1541	-0.4847	-0.5384	12	0.0030	0.0352	-0.1895	-0.2054
13	-0.0010	-0.2847	-0.8366	-0.9324	13	0.0013	-0.1023	-0.5495	-0.7878
14	-0.0001	-0.2559	-0.9599	-1.0732	14	0.0034	-0.0167	-0.6820	-0.8223
15	0.0014	-0.0855	-0.9323	-1.0445	15	0.0037	0.0825	-0.6275	-0.7386
16	0.0019	-0.0006	-0.7916	-0.8843	16	0.0039	0.1514	-0.6193	-0.6587
17	0.0040	0.8483	-0.7036	-0.6604	17	0.0049	1.3665	-0.6251	-0.6772

Note: *refers to the significance at 10% level; # represents the significance at 5% level; $ refers to the significance at 1% level (two tailed test)

the Patell statistic on the first trading day after the takeover announcement date amounts to 2.6900 and this is significant at the 1% level. The Corrado (1989) and modfified Corrado statistics are significant at the 5% level at 2.2496 and 2.4877, respectively. Nevertheless, these positive CAARs begin a process of gradual decay on the third and subsequent trading days following the takeover announcement date. Specifically, we can even see some negative CAARs on the thirteenth and fourteenth trading days after the takeover announcement date using the Dimson (1979) estimate of beta, though they are not statistically significant. A pictorial description of the CAARs for the 279 Chinese acquiring firms with A shares on issue that comprise our sample is provided in Figure 6.2. One can clearly see from the this graph that the CAARs for the Chinese acquiring firms reach a statistically significant peak of 1.66% on the first trading day following the takeover announcement date. However, these CAARs gradually decay away from the

Figure 6.2: Cumulative Average Abnormal Returns Across N = 279 Chinese Acquiring Firms with A Shares on issue and Covering the Period from 1 January, 1990 until 31 December, 2008
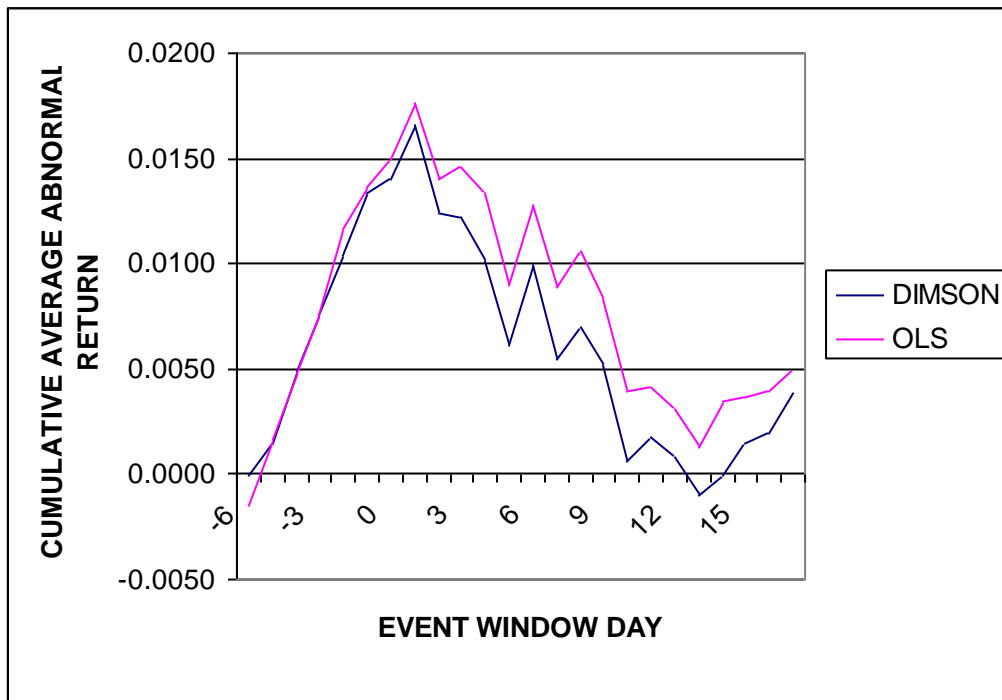
third trading day subsequent to the takeover announcement date. In summary, our analysis in this section shows that there are virtually no economic benefits from M&A activities for the holders of A shares in Chinese acquiring firms.

6.5.2 Is the Sample Size Large Enough?

Our analysis in the previous section is based on a randomly chosen sample of $N = 279$ Chinese acquiring firms with A shares on issue drawn from a potential sample of $M = 2{,}448$ acquiring firms that were involved in Chinese M&A activities which occurred over the period from 1 January, 1990 until 31 December, 2008. This raises an important question; namely, if we had based our empirical analysis of the A shares on the full sample of $M = 2{,}448$ Chinese acquiring firms might we have obtained different results from those obtained from the smaller sample of $N = 279$ Chinese acquiring firms employed in our empirical analysis? Here it will be recalled that the CAAR during the τth day of the event window across the full sample of $M = 2{,}448$ Chinese acquiring firms amounts to:

$$CAAR_\tau = \frac{1}{M}\{\sum_{t=1}^{\tau}\sum_{i=1}^{M-N} AR_{it} + \sum_{t=1}^{\tau}\sum_{i=1}^{N} AR_{it}\}$$

The first term on the right hand side of this expression, $\sum_{t=1}^{\tau}\sum_{i=1}^{M-N} AR_{it}$, is the total of the CAARs across the $M - N = 2{,}448 - 279 = 2{,}169$ Chinese acquiring firms that were excluded from our empirical analysis. The second term, $\sum_{t=1}^{\tau}\sum_{i=1}^{N} AR_{it}$, is the total of the CAARs across the $N = 279$ Chinese acquiring firms that were included in our empirical analysis. Moreover, the probability of a negative CAAR across the full sample of $M = 2{,}448$ Chinese acquiring firms can be represented as:

$$P[\frac{1}{M}\{\sum_{t=1}^{\tau}\sum_{i=1}^{M-N} AR_{it} + \sum_{t=1}^{\tau}\sum_{i=1}^{N} AR_{it}\} \leq 0] = P[\frac{1}{M}\sum_{t=1}^{\tau}\sum_{i=1}^{M-N} AR_{it} \leq -\frac{1}{M}\sum_{t=1}^{\tau}\sum_{i=1}^{N} AR_{it}]$$

where P(·) is the probability measure for the particular event. Now from Table 6.3 the reader will be able to confirm that the CAAR across our sample of N = 279 Chinese acquiring firms on the first trading day after the takeover announcement date is $\frac{1}{279} \sum_{t=1}^{8} \sum_{i=1}^{279} AR_{it} = 0.0166$; that is, 1.66%. It follows from this that the typical total CAAR across the N = 279 Chinese acquiring firms comprising our sample during this day of the event window is

$$\sum_{t=1}^{\tau} \sum_{i=1}^{N} AR_{it} = \sum_{t=1}^{8} \sum_{i=1}^{279} AR_{it} = 279 \times 0.0166 = 4.6314 \text{ or } 463.14\%.$$ From this it also

follows that $\frac{1}{M} \sum_{t=1}^{\tau} \sum_{i=1}^{N} AR_{it} = \frac{1}{2448} \sum_{t=1}^{8} \sum_{i=1}^{279} AR_{it} = \frac{279 \times 0.0166}{2448} = \frac{4.6314}{2448} = 0.0020$

and so, the probability of a negative CAAR across the full sample of M = 2,448 acquiring firms can be re-stated as:

$$P[\frac{1}{M} \sum_{t=1}^{\tau} \sum_{i=1}^{M-N} AR_{it} \leq -\frac{1}{M} \sum_{t=1}^{\tau} \sum_{i=1}^{N} AR_{it}] = P[\frac{1}{2448} \sum_{t=1}^{8} \sum_{i=1}^{2169} AR_{it} \leq \frac{-1}{2448} \sum_{t=1}^{8} \sum_{i=1}^{279} AR_{it}]$$

or equivalently:

$$P[\frac{1}{2448} \sum_{t=1}^{8} \sum_{i=1}^{2169} AR_{it} \leq \frac{-279 \times 0.0166}{2448} = \frac{-4.6314}{2448} = -0.0020]$$

Now here one can use Cantelli's Inequality to show that the probability of a negative CAAR across this full sample of M = 2,448 Chinese acquiring firms can be re-stated as (Savage, 1961, p. 216):

$$P[\frac{1}{M} \sum_{t=1}^{\tau} \sum_{i=1}^{M-N} AR_{it} \leq \lambda] \leq \frac{Var(\frac{1}{M} \sum_{t=1}^{\tau} \sum_{i=1}^{M-N} AR_{it})}{Var(\frac{1}{M} \sum_{t=1}^{\tau} \sum_{i=1}^{M-N} AR_{it}) + \lambda^2}$$

where $\lambda = \frac{1}{M} \sum_{t=1}^{\tau} \sum_{i=1}^{N} AR_{it} = \frac{-279 \times 0.0166}{2448} = \frac{-4.6314}{2448} = -0.0020$ and Var(·) is the

variance of the affected variable. We would emphasise that the above inequality does not depend on the probability distribution which generates the abnormal returns and as such, provides a non-parametric test of the specific hypothesis relating to λ. Now, one can evaluate the variance term appearing on the right hand side of the Cantelli Inequality given above as follows (Freund, 1971, pp. 195-197):

$$\text{Var}(\frac{1}{M} \sum_{t=1}^{\tau} \sum_{i=1}^{M-N} AR_{it}) = \frac{1}{M^2}\text{Var}(\sum_{t=1}^{\tau} \sum_{i=1}^{M-N} AR_{it}) = \frac{1}{M^2} \sum_{i=1}^{M-N} \text{Var}(\sum_{t=1}^{\tau} AR_{it})$$

Moreover, our calculations show that the average variance of the CAAR across the N = 279 Chinese acquiring firms comprising our sample is

$$\text{Var}(\sum_{t=1}^{\tau} AR_{it}) = \tau \times \overline{\text{Var}(AR_{it})} = 0.00018 \times \tau.$$ It follows from this that as a rough approximation we have:

$$\sum_{i=1}^{M-N} \text{Var}(\sum_{t=1}^{\tau} AR_{it}) = (M - N) \times \overline{\text{Var}(\sum_{t=1}^{\tau} AR_{it})} = (2448 - 279) \times 0.00018 \times \tau = 0.39 \times \tau.$$

We then have that:

$$\text{Var}(\frac{1}{M} \sum_{t=1}^{\tau} \sum_{i=1}^{M-N} AR_{it}), = \frac{1}{2448^2} \sum_{i=1}^{2169} \text{Var}(\sum_{t=1}^{8} AR_{it}) = \frac{0.39 \times 8}{2448^2} = 0.0000005$$

One can then use Cantelli's Inequality in conjunction with the above result and the fact that $\lambda = -0.0020$ to show that a bound for the probability of a negative CAAR on the first trading day after the takeover announcement date across the full sample of M = 2,448 Chinese acquiring firms will be:

$$P[\frac{1}{2448} \sum_{t=1}^{8} \sum_{i=1}^{2169} AR_{it} \leq -0.0020] \leq \frac{0.0000005}{0.0000005 + (-0.0020)^2} = 0.10$$

This shows that the probability of a negative CAAR on the first trading day after the takeover announcement date across the full sample of M = 2,448

acquiring firms, conditional on the CAAR on the first trading day after the takeover announcement date across the N = 279 Chinese acquiring firms employed in our empirical work being $\frac{1}{279} \sum_{t=1}^{8} \sum_{i=1}^{279} AR_{it} = 0.0166$, will be at most, 10% (and almost certainly less). In other words, there is only a small probability that if we had based our empirical analysis on the full sample of M = 2,448 Chinese acquiring firms involved in takeovers over the period from 1 January, 1990 until 31 December, 2008 that we would have obtained different results from those obtained from the smaller sample of N = 279 Chinese acquiring firms summarised in the empirical analysis in this chapter of the dissertation. And here we would again emphasise that this conclusion does not depend on the probability distribution which generates the abnormal returns and as such, constitutes a non-parametric test of the given hypothesis.

6.5.3 Analysis of B Shares for Chinese Acquiring Firms

We have previously noted in chapter four of this dissertation, that the Chinese securities market is uniquely different to those in western economies. In particular, the shares which are listed on the two mainland Chinese stock exchanges fall into one of two categories. The first is A shares which we have analysed in the previous section of this chapter. We now turn our attention to the second category of shares which is traded on the two mainland Chinese stock exchanges; namely, B shares which normally can only be purchased by foreign investors (including investors from Taiwan, Hong Kong and Macao). The most important and only major difference between A shares and B shares is that B shares are usually denominated and traded in either the US or Hong Kong dollar, rather than in the Chinese Yuan as is the case with A shares. Despite the equal standing of the A and B shares traded on the mainland Chinese stock exchanges very little research has been conducted on the wealth effects for holders of B shares of Chinese target and acquiring firms involved in M&A activities; that is, most empirical work in the M&A area is concerned with the wealth effects for holders of A shares in acquiring and target firms. In other words, the impact of M&A activities for the holders of B shares is a seriously neglected area of empirical research in China. Given

this, we now provide summary information about the wealth effects of M&A activities for the holders of B shares in our sample of Chinese acquiring firms.

There were a total of 12 Chinese acquiring firms in our sample that had B shares on issue. This is consistent with the fact that there are far more firms with A shares on issue than there are firms with B shares on issue. The abnormal returns which accrue to the holders of B shares in the 12 acquiring firms which make up our sample are summarised in Table 6.4. This table shows that whilst the average abnormal returns for B shares are generally positive in the run up to and around the takeover announcement date, apart from the sixth trading day before the takeover announcement date they are not statistically significant if based on Dimson betas and only weakly significant if based on OLS betas. The abnormal returns on B shares follow the pattern already observed for A shares in Table 6.2 of the previous section; namely, that there are very weakly significant positive abnormal returns in the run up to and shortly after the takeover announcement date. However, beyond this date the abnormal returns gradually decay away culminating on the tenth trading day following the announcement date where a weakly significant and negative abnormal return of around 1.15% accrues to the holders of B shares. A pictorial description of the average abnormal returns for the 12 Chinese acquiring firms with B shares on issue is as summarised in Figure 6.3.

This graph confirms that the holders of B shares in Chinese acquiring firms do not gain economic benefits from takeovers after the takeover announcement date. It is important to note, however, that the highest average abnormal return across the twelve acquiring firms with B shares on issue occurs on the sixth trading day before the takeover announcement date. This indicates the existence of potential insider trading by foreign investors in China. However, we also have to note that our sample is very small and possibly, not representative of the wider Chinese securities market. One must therefore interpret our conclusions with considerable caution. Nevertheless, to the best of our knowledge this is the first study to have been conducted on the wealth effects of M&A activities for the holders of B shares in Chinese acquiring

Table 6.4: Average Abnormal Returns Across N = 12 Chinese Acquiring Firms with B Shares on issue and Covering the Period from 1 January, 1990 until 31 December, 2008

	Dimson Betas					OLS Betas			
Time Relative to Announce Date (0)	Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic	Time Relative to Announce Date (0)	Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic
-6	0.0272	1.8858[*]	1.9474[*]	2.1980[#]	-6	0.0217	1.5522	1.5594	1.4380
-5	0.0005	0.4886	0.6491	0.6539	-5	-0.0013	0.2740	0.5331	0.5378
-4	0.0036	0.7976	0.9826	0.9910	-4	0.0024	0.7371	1.2351	1.2455
-3	-0.0035	-0.0071	-0.8981	-0.9004	-3	-0.0002	0.1764	-0.7597	-0.7618
-2	-0.0030	-0.0675	-0.3868	-0.3879	-2	-0.0043	-0.2103	-0.5331	-0.5353
-1	0.0073	1.3403	1.2938	1.3027	-1	0.0075	1.5063	1.3728	1.3831
0	0.0070	1.1176	1.4915	1.4368	0	0.0091	1.4377	1.7521[*]	1.6885[*]
1	0.0043	0.1763	0.4090	0.4143	1	0.0041	0.1824	0.5109	0.5170
2	0.0057	0.7903	0.1289	0.1303	2	0.0077	0.9480	0.1910	0.1928
3	-0.0161	-1.3018	-0.9248	-0.9253	3	-0.0166	-1.3599	-1.0440	-1.0460
4	0.0056	0.8956	0.2401	0.2431	4	0.0068	0.9728	0.6042	0.6098
5	0.0036	0.9790	0.5780	0.5834	5	0.0030	0.8094	0.4398	0.4451
6	0.0025	0.9549	0.7870	0.7917	6	0.0014	0.7618	0.7108	0.7158
7	-0.0011	-0.5144	-0.7470	-0.7472	7	-0.0017	-0.5918	-0.9596	-0.9616
8	0.0109	0.8492	0.9115	0.9181	8	0.0082	0.5699	0.4976	0.5029
9	-0.0055	0.0811	0.4357	0.4409	9	-0.0031	0.2741	0.5154	0.5211
10	-0.0113	-1.6327	-1.8585[*]	-1.8649[*]	10	-0.0120	-1.7394[*]	-1.9326[*]	-1.9410[*]
11	-0.0022	-1.0432	-0.7559	-0.7584	11	-0.0034	-1.2743	-1.2528	-1.2584
12	-0.0041	0.1199	0.4891	0.4953	12	-0.0052	-0.0832	0.3332	0.3390

13	-0.0114	-1.5970	-1.1427	-1.1446	13	-0.0111	-1.6294	-1.2262	-1.2293
14	0.0027	0.1991	-0.0578	-0.0562	14	0.0033	0.3402	0.1866	0.1892
15	-0.0074	-1.2319	-1.1516	-1.1558	15	-0.0092	-1.5126	-1.4839	-1.4905
16	0.0098	1.1363	1.3561	1.3641	16	0.0107	1.1994	1.3461	1.3551
17	0.0006	0.4165	0.3735	0.2652	17	0.0002	0.2656	0.2488	0.1768

Note: *refers to the significance at 10% level; # represents the significance at 5% level; $ refers to the significance at 1% level (two tailed test)

Figure 6.3: Average Abnormal Returns Across N = 12 Chinese Acquiring Firms with B Shares on issue and Covering the Period from 1 January, 1990 until 31 December, 2008
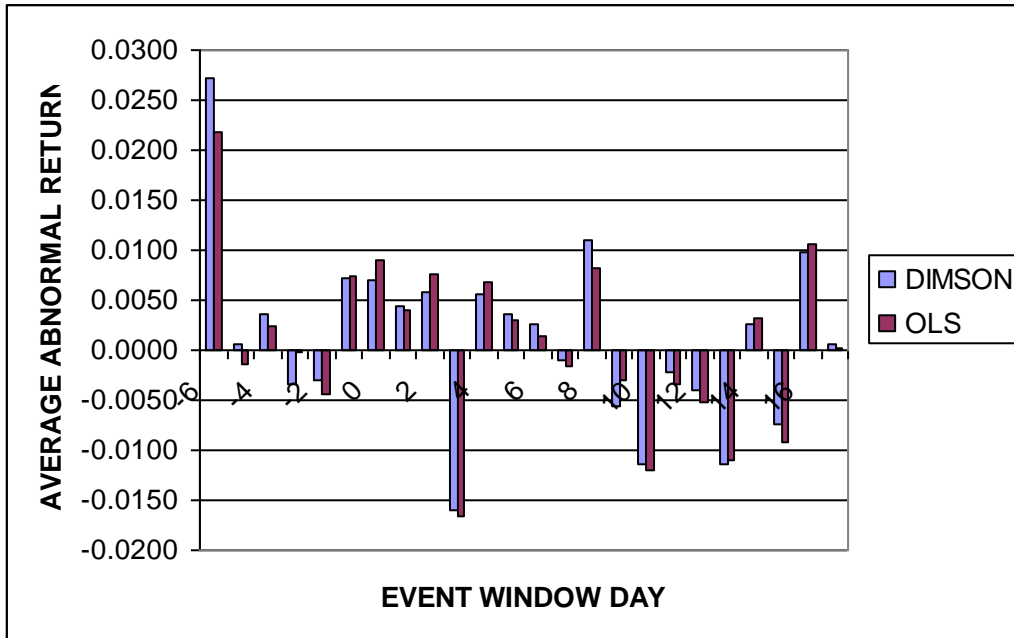
firms.   It shows that the gains for the holders of B shares in Chinese acquiring firms are marginal at best.

We now focus our attention on the cumulative average abnormal returns (CAARs) during the event window for Chinese acquiring firms with B shares on issue.   As usual, we begin by summarising the main empirical results relating to the CAARs for our sample of Chinese acquiring firms with B shares on issue in Table 6.5.   One can readily observe from this table that there are some significantly positive CAARs for Chinese acquiring firms with B shares on issue on the first and second trading day following the takeover announcement date.   However, after the second trading day following the takeover announcement date the positive CAARs tend to decay away very slowly as the event window progresses, though the CAARs remain positive over the entire event window.   Moreover, the CAARs are statistically significant on the fourth through to the ninth trading day after the takeover announcement date.   Importantly, we can see some significantly positive

Table 6.5: Cumulative Average Abnormal Returns Across N = 12 Chinese Acquiring Firms with B Shares on issue and Covering the Period from 1 January, 1990 until 31 December, 2008

	Dimson Betas					OLS Betas			
Time Relative to Announce Date (0)	Cumulative Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic	Time Relative to Announce Date (0)	Cumulative Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic
-6	0.0272	1.8858*	1.9474*	2.1980#	-6	0.0217	1.5522	1.5594	1.4380
-5	0.0277	2.0786#	1.8361*	1.7906*	-5	0.0204	1.6555*	1.4796	1.2619
-4	0.0313	2.6991$	2.0664#	2.0980#	-4	0.0228	2.0196#	1.9212*	1.7999*
-3	0.0278	1.4386	1.3405	1.3035	-3	0.0227	1.2227	1.2839	1.1336
-2	0.0248	1.1835	1.0260	0.9638	-2	0.0183	0.9599	0.9100	0.7404
-1	0.0321	1.2653	1.4648	1.4429	-1	0.0258	1.1380	1.3911	1.2772
0	0.0391	1.1082	1.9199*	1.6007	0	0.0349	1.0649	1.9502*	1.4799
1	0.0434	1.6362	1.9405*	1.9099*	1	0.0390	1.6240	2.0048#	1.8981*
2	0.0491	2.0310#	1.8725*	1.8614*	2	0.0466	2.0508#	1.9539*	1.8691*
3	0.0331	1.6158	1.4840	1.4700	3	0.0301	1.4524	1.5234	1.4373
4	0.0386	1.7419*	1.4873	1.4636	4	0.0369	1.6738*	1.6347	1.5499
5	0.0422	1.8852*	1.5908	1.5755	5	0.0399	1.7966*	1.6921*	1.6161
6	0.0447	1.9609*	1.7467*	1.7502*	6	0.0413	1.8492*	1.8229*	1.7682*
7	0.0437	1.8745*	1.4835	1.4716	7	0.0396	1.7266*	1.5001	1.4299
8	0.0546	2.1545#	1.6686*	1.6756*	8	0.0478	1.8300*	1.5777	1.5239
9	0.0491	1.8399*	1.7245*	1.7374*	9	0.0447	1.6827*	1.6564*	1.6105
10	0.0378	1.5468	1.2223	1.2163	10	0.0327	1.3624	1.1383	1.0727
11	0.0356	1.4682	1.0097	0.9963	11	0.0294	1.2316	0.8109	0.7334

12	0.0315	1.3688	1.0949	1.0913	12	0.0242	1.1142	0.8657	0.7963
13	0.0201	1.0123	0.8117	0.7993	13	0.0131	0.8004	0.5696	0.4905
14	0.0228	1.0659	0.7795	0.7711	14	0.0164	0.8570	0.5966	0.5259
15	0.0154	0.8558	0.5161	0.4923	15	0.0072	0.6153	0.2665	0.1767
16	0.0253	1.0320	0.7875	0.7825	16	0.0179	0.7997	0.5413	0.4708
17	0.0258	1.7377	0.8472	0.4381	17	0.0181	$2.2441^{\#}$	0.5807	0.6324

Note: *refers to the significance at 10% level; # represents the significance at 5% level; $ refers to the significance at 1% level (two tailed test)

CAARs at least four or five trading days before the announcement date. As we have previously noted this indicates the possible existence of insider trading in Chinese takeovers on the part of foreign investors who hold B shares in Chinese acquiring firms.

Figure 6.4 provides a pictorial representation of the CAARs over the event window for the B shares comprising our sample. Note how this graph confirms that the CAARs tend to decay away very slowly as the event window progresses though, as we have previously noted, the CAARs remain positive over the entire event window. However, we again note that since we have only a small sample of twelve acquiring firms with B shares on issue, the results reported in this section may not be representative of the CAARs for all Chinese acquiring firms with B shares on issue.

<u>Figure 6.4: Cumulative Average Abnormal Returns Across N = 12 Chinese Acquiring Firms with B Shares on issue and Covering the Period from 1 January, 1990 until 31 December, 2008</u>
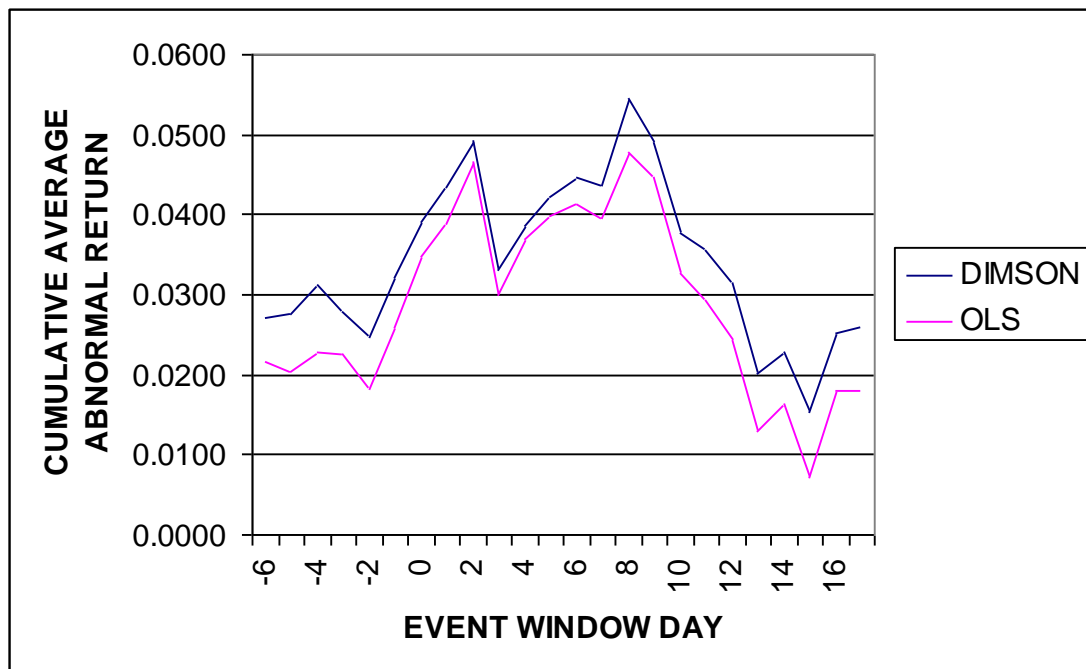
6.5.4 Analysis of H Shares for Chinese Acquiring Firms

In addition to the two mainland Chinese stock exchanges (namely, the Shanghai Stock Exchange and the Shenzhen Stock Exchange), the Hong Kong Stock Exchange is another important stock exchange in China. Shares which are listed on the Hong Kong Stock Exchange are called "H" shares. As we have mentioned in section 6.5.1 of this chapter, H shares are equivalent to A shares with the exception that H shares are denominated and traded in the Hong Kong dollar rather than in the Chinese Yuan. Moreover, an increasing number of mergers and acquisitions (M&A) involve H shares due to the fact that a growing number of mainland Chinese firms have chosen to list their shares on the Hong Kong Stock Exchange. Thus, M&A activities involving H shares are of increasing importance in China and ought not be ignored in empirical research. Unfortunately, little empirical work has been conducted in China regarding the wealth effects of takeovers for the holders of H shares in acquiring firms. We seek to fill this gap in the Chinese M&A literature by providing summary information about the wealth effects of M&A activities for the holders of H shares in our sample of acquiring firms.

There were a total of 27 Chinese acquiring firms in our sample with H shares on issue. The average abnormal returns (AARs) which accrue to the holders of H shares in the 27 Chinese acquiring firms comprising our sample are summarised in Table 6.6. This table shows that the abnormal returns which accrue to the holders of H shares in Chinese acquiring firms are predominantly negative before the takeover announcement date. In particular, the AAR on the third trading day preceding the takeover announcement date is significantly negative, regardless of whether the Dimson (1979) or OLS technique is employed to estimate the abnormal returns. However, on and after the takeover announcement date the abnormal returns are generally positive until one approaches the end of the event window. In particular, the AAR the day after the takeover announcement date (that is, time 1 in the Table 6.6) is a relatively large 1.39% or 1.63% (depending on whether one uses the Dimson (1979) or OLS betas). However, none of the positive AARs beyond the announcement date are significantly different from zero in a statistical sense. Moreover, these positive

Table 6.6: Average Abnormal Returns Across N = 27 Chinese Acquiring Firms with H Shares on issue and Covering the Period from 1 January, 1990 until 31 December, 2008

	Dimson Betas					OLS Betas			
Time Relative to Announce Date (0)	Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic	Time Relative to Announce Date (0)	Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic
-6	0.0051	0.4085	0.7261	0.0525	-6	0.0046	0.1439	0.7234	-0.0968
-5	-0.0160	-1.9346*	-1.4323	-1.6100	-5	-0.0148	-2.0332#	-1.4719	-1.6633*
-4	0.0233	1.4751	1.8370*	2.0718#	-4	0.0210	1.4270	1.5910	1.7773*
-3	-0.0119	-2.1504#	-1.9058*	-2.1397#	-3	-0.0109	-2.2857#	-1.9031*	-2.1426#
-2	-0.0042	-0.7333	-0.5568	-0.6235	-2	-0.0053	-0.8838	-0.5991	-0.6743
-1	-0.0005	-0.0456	-0.2314	-0.2588	-1	-0.0017	-0.2542	-0.3716	-0.3899
0	0.0067	0.6609	-0.0854	-0.0856	0	0.0030	0.3906	-0.2965	-0.3227
1	0.0139	1.3288	0.8583	0.9690	1	0.0163	1.5217	1.0011	1.1116
2	0.0006	0.1336	0.6890	0.7769	2	-0.0016	-0.0802	0.4748	0.5314
3	0.0082	0.6442	0.5594	0.6339	3	0.0090	0.8426	0.4351	0.5535
4	0.0015	0.6408	0.4166	0.4746	4	0.0004	0.5294	0.2182	0.2514
5	-0.0063	-0.9066	-0.6308	-0.7091	5	-0.0074	-1.1630	-0.8239	-0.9327
6	0.0070	1.0863	0.9430	1.0642	6	0.0068	1.1621	0.8927	1.0312
7	0.0043	0.2396	0.9033	1.0176	7	0.0043	0.0531	0.9905	1.1010
8	-0.0002	0.2103	-0.4695	-0.5275	8	0.0006	0.2661	-0.4351	-0.4742
9	-0.0018	-0.0566	-0.0040	-0.0015	9	-0.0021	-0.2260	-0.1812	-0.2020
10	0.0014	0.6261	0.8186	0.9235	10	0.0026	0.6961	0.7975	0.9005
11	0.0108	1.2330	1.0144	1.1444	11	0.0086	1.0949	0.8795	0.9874
12	0.0013	-0.3125	-0.0463	-0.0489	12	-0.0014	-0.6947	-0.1812	-0.1988

13	-0.0016	-0.7037	-0.4087	-0.4581	13	-0.0034	-0.8072	-0.5594	-0.6276
14	-0.0074	-1.5791	-0.6361	-0.7120	14	-0.0077	-1.4876	-0.8266	-0.9245
15	0.0073	1.2791	1.3159	1.4856	15	0.0059	0.9888	0.7340	0.8347
16	-0.0082	$-2.0065^{\#}$	$-2.1465^{\#}$	$-2.4143^{\#}$	16	-0.0099	$-2.5711^{\$}$	$-2.2707^{\#}$	$-2.5608^{\$}$
17	-0.0164	$-2.0556^{\#}$	$-2.8704^{\$}$	$-2.2411^{\#}$	17	-0.0123	-1.4359	$-3.0186^{\$}$	$-2.3569^{\#}$

Note: *refers to the significance at 10% level; # represents the significance at 5% level; $ refers to the significance at 1% level (two tailed test)

AARs gradually decay away in the last few days of the event window so much so, that towards the end of the event window some of the AARs are significantly negative in a statistical sense. From this it follows that the gains that accrue to the holders of H shares in Chinese acquiring firms are marginal at best. One can confirm this from Figure 6.5 which provides a pictorial representation of the AARs for the 27 Chinese acquiring firms with H shares on issue that comprises our sample. Note how Figure 6.5 shows that the insignificant but positive AARs which accrue to the holders of H shares immediately after the takeover announcement date tend to decay away quite drastically towards the end of the event window. [1]

Figure 6.5: Average Abnormal Returns Across N = 27 Chinese Acquiring Firms with H Shares on Issue and Covering the Period from 1 January, 1990 until 31 December, 2008

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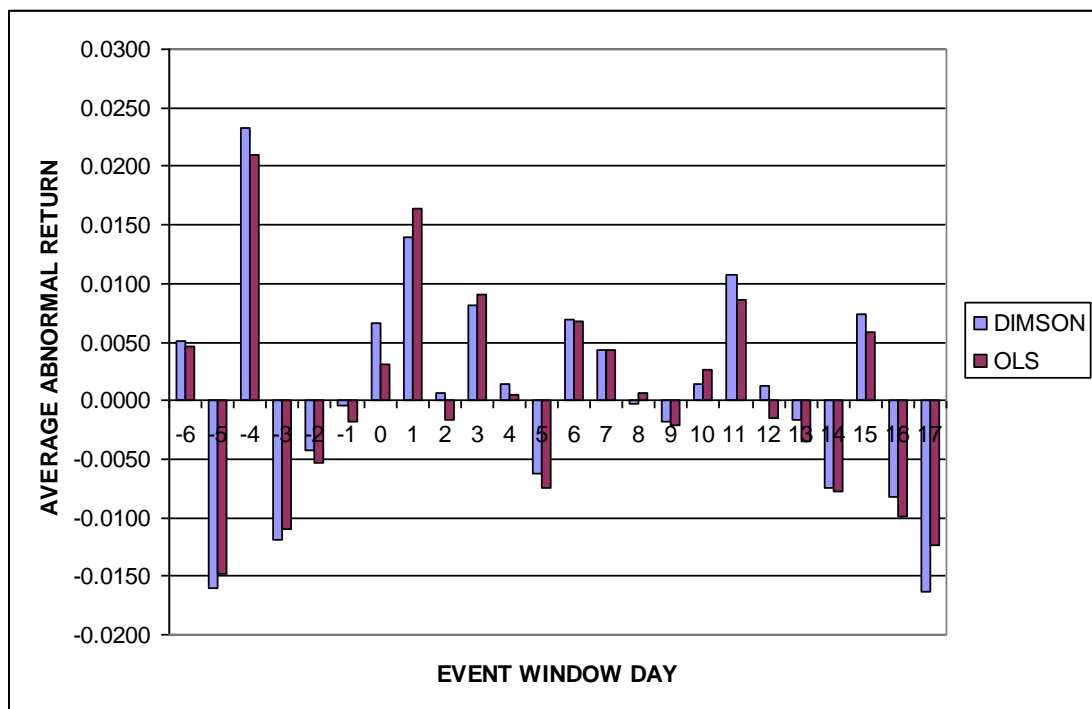
[1] Note also that it is difficult to make any direct comparisons between the AARs for Chinese acquiring firms with H shares on issue and Chinese target firms with H shares on issue, given that the empirical analysis of Chinese target firms summarised in section 5.5.2 of chapter 5 is based on only 4 firms.

However, we must emphasise that our sample of N = 27 Chinese acquiring firms with H shares on issue is relatively small and possibly, not representative of the wider Chinese securities market. One must therefore interpret our conclusions with caution.

We now turn our attention to the analysis of the cumulative average abnormal returns (CAARs) which accrue to the holders of H shares in Chinese acquiring firms. A summary of the main empirical results relating to the CAARs of Chinese acquiring firms with H shares on issue is summarised in Table 6.7. This table shows that most of the CAARs before the takeover announcement date are negative, although they are not significantly so in a statistical sense. However, from the takeover announcement date and beyond the CAARs are positive, although again not significantly so. The CAARs continue to increase until around the fifteenth day after the takeover announcement date at which point they decay sharply away. This confirms the conclusion reached as a result of our analysis of the AARs for H shares; that any gains that accrue to the holders of H shares in Chinese acquiring firms are marginal at best. Figure 6.6 gives a pictorial representation of the CAARs for the Chinese acquiring firms with H shares on issue that comprises our sample. Note how this Figure confirms that the CAARs of Chinese acquiring firms with H shares on issue generally tend to increase in the first couple of days after the takeover announcement date, even though they are insignificantly different from zero. The CAARs then grow continuously until around the fifteenth day after the takeover announcement date at which point they decay sharply away. Obviously, the 27 Chinese acquiring firms on which our analysis is based represent a very small sample. Hence, even though we gain some insights into the impact of takeovers for the holders of H shares in Chinese acquiring firms, the sample is too small for us to reach definitive conclusions about the Chinese takeover market as a whole.

Table 6.7: Cumulative Average Abnormal Returns Across N = 27 Chinese Acquiring Firms with H Shares on Issue and Covering the Period from 1 January, 1990 until 31 December, 2008

	Dimson Betas					OLS Betas			
Time Relative to Announce Date (0)	Cumulative Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic	Time Relative to Announce Date (0)	Cumulative Average Abnormal Return	Patell Statistic	Corrado Statistic	Modified Corrado Statistic
-6	0.0051	0.4085	0.7261	0.0525	-6	0.0046	0.1439	0.7234	-0.0968
-5	-0.0108	-1.2093	-0.4994	-1.1557	-5	-0.0103	-1.3443	-0.5293	-1.2768
-4	0.0124	0.6776	0.6528	0.2374	-4	0.0107	0.4833	0.4864	-0.0308
-3	0.0005	0.0730	-0.3875	-0.8920	-3	-0.0002	-0.0751	-0.5303	-1.1223
-2	-0.0037	-0.1279	-0.5956	-1.0658	-2	-0.0055	-0.3324	-0.7423	-1.2976
-1	-0.0042	-0.1244	-0.6382	-1.0959	-1	-0.0073	-0.3460	-0.8293	-1.3627
0	0.0025	0.1730	-0.6231	-0.9155	0	-0.0042	-0.1554	-0.8799	-1.2917
1	0.0165	0.6915	-0.2794	-0.6176	1	0.0121	0.4575	-0.4691	-0.8726
2	0.0171	0.7912	-0.0338	-0.3023	2	0.0105	0.4711	-0.2840	-0.6296
3	0.0253	1.0186	0.1449	-0.0911	3	0.0195	0.8232	-0.1318	-0.4314
4	0.0267	1.1732	0.2638	0.0687	4	0.0199	0.9572	-0.0599	-0.3274
5	0.0205	0.9718	0.0704	-0.1369	5	0.0125	0.7094	-0.2952	-0.5852
6	0.0274	1.2015	0.3292	0.1796	6	0.0193	0.9630	-0.0360	-0.2614
7	0.0317	1.2169	0.5586	0.4567	7	0.0236	0.9188	0.2300	0.0551
8	0.0315	1.2315	0.4185	0.2988	8	0.0242	0.9414	0.1099	-0.0766
9	0.0297	1.0947	0.4042	0.2932	9	0.0220	0.8004	0.0611	-0.1231
10	0.0310	1.2109	0.5907	0.5195	10	0.0247	0.9198	0.2527	0.1090
11	0.0418	1.6083	0.8131	0.7912	11	0.0333	1.2350	0.4529	0.3528
12	0.0431	1.5637	0.7808	0.7638	12	0.0318	1.1431	0.3992	0.2998

13	0.0415	1.4090	0.6697	0.6390	13	0.0284	0.9635	0.2640	0.1462
14	0.0341	1.0452	0.5147	0.4599	14	0.0207	0.6134	0.0773	-0.0709
15	0.0414	1.1426	0.7834	0.7884	15	0.0266	0.7237	0.2320	0.1218
16	0.0332	0.8778	0.3186	0.2373	16	0.0167	0.4294	-0.2466	-0.4483
17	0.0168	-0.7051	-0.2740	-0.48332	17	0.0044	-0.7807	-0.8576	-0.6885

Note: *refers to the significance at 10% level; # represents the significance at 5% level; $ refers to the significance at 1% level (two tailed test)

Figure 6.6: Cumulative Average Abnormal Returns Across N = 27 Chinese Acquiring Takeover Companies with H Shares Covering the Period from 1 January, 1990 until 31 December, 2008
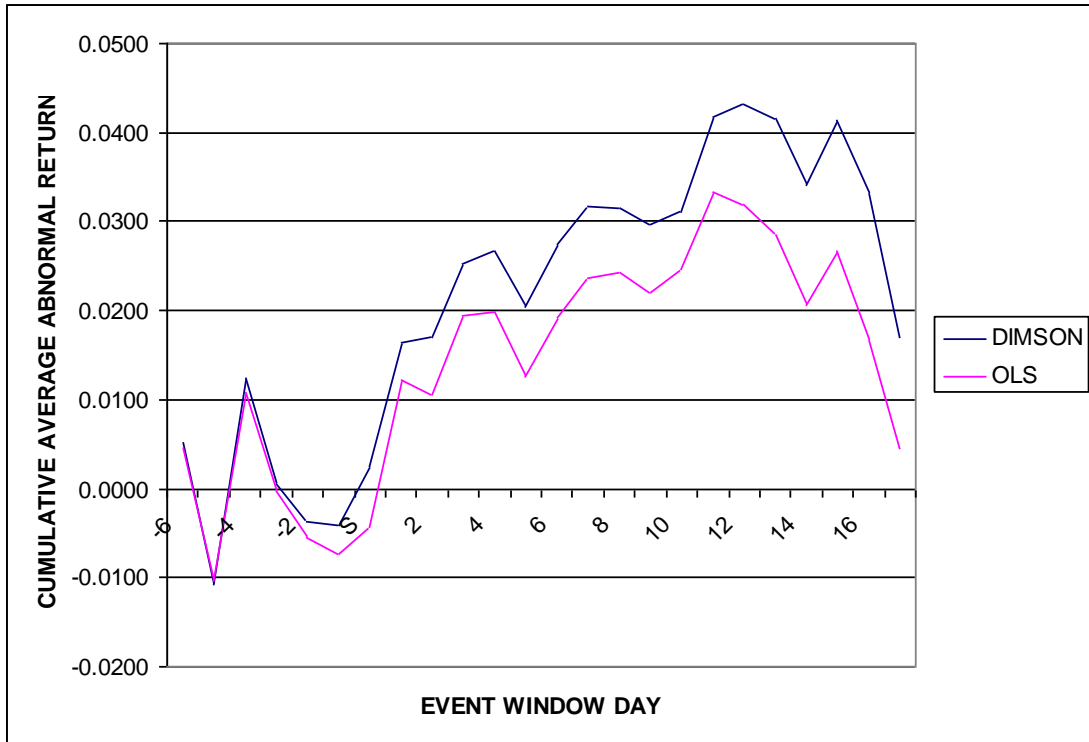
6.6 Analysis of the Possible Reasons for Empirical Results obtained for Chinese Acquiring Firms

The empirical analysis summarised in this chapter shows that the holders of A shares, B shares and H shares in Chinese acquiring firms do not obtain significant economic benefits from their M&A activities. Here, it is important to note, however, that whilst there are generally significant positive abnormal returns for the shareholders of Chinese acquiring firms around the takeover announcement date, subsequent abnormal returns are generally negative so much so that by the end of the event window (that is, seventeen trading days beyond the takeover announcement date) the accumulated average abnormal returns (CAARs) are insignificantly different from zero. Whilst there are slight variations in the time series patterns of the abnormal returns according to whether one is dealing with A shares, B shares or H shares, yet the overall conclusion from our empirical analysis is the same irrespective of share type; and this is that the shareholders of Chinese acquiring firms do not obtain

significant economic benefits from their M&A activities.

Martynova and Renneboog (2008, pp. 2159-2163) show that shareholders of western acquiring firms have also obtained virtually no economic benefits from their M&A activities. Yet there are two important differences between the results obtained for Chinese acquiring firms as against western acquiring firms. The first is that Chinese acquiring firms tend to earn statistically significant positive abnormal returns around the takeover announcement date. This is in contrast with the result for western acquiring firms where Martynova and Renneboog (2008, pp. 2159) report that "on average, bidder shareholders realize announcement abnormal returns which are statistically indistinguishable from zero." Moreover, a second difference arises out of the fact that the abnormal returns earned by western acquiring firms continue to be indistinguishable from zero in the period after the takeover announcement date (Martynova and Renneboog, 2008). In contrast our empirical analysis shows that Chinese acquiring firms tend to have a run of negative abnormal returns after the takeover announcement date; so much so that the CAAR for A shares (see Table 6.3) becomes statistically indistinguishable from zero within three weeks of the first public announcement of the proposed takeover. In summary, whilst shareholders of western and Chinese acquiring firms appear to obtain virtually no economic benefits from M&A activities, there are nonetheless some significant differences between the results obtained by Chinese and western researchers in the M&A area.

It is important that we identify the underlying reasons for the significant differences which appear to exist between the wealth effects of Chinese and western M&A activities for acquiring firms. In order to do this, some possible explanations will be provided in the rest of this section by linking our empirical results with the Chinese political, economic and capital systems which are fundamentally different from those of western economies.

6.6.1 Inefficiency Resulting from State-Owned Shares in Chinese Listed Firms

As we have noted in chapter three most listed firms in China are controlled by the Chinese government through the mechanism of so called "state-owned

shares". State-owned shares normally constitute a majority of the shares on issue for most firms in China and so, a firm which wishes to make a successful takeover offer for a listed Chinese target firm can only do so if it has the approval of the Chinese government through the participation and support of the local government authorities where the listed target firm is located. This in turn means that it is the Chinese government and/or local Chinese government authorities rather than market forces that determine the course of most Chinese M&A activities. The restrictions placed on the operation of market forces by the Chinese government will necessarily mean that there are economic inefficiencies in Chinese M&A activities. Moreover, it is a common phenomenon for the Chinese government to mandate particular takeover activities in order to facilitate the rehabilitation of target firms which are heading for bankruptcy or other financial difficulties. In such circumstances there are few, if any economic benefits, for the acquiring firm but often, substantial economic benefits for the target firm. This provides a possible explanation as to why the CAARs for acquiring firms exhibited in Figure 6.2 (A shares), Figure 6.4 (B shares) and Figure 6.6 (H shares) tend to be insignificantly different from zero towards the end of the given event windows. The uncertainty surrounding the motives behind a given takeover (that is, government mandated or otherwise) might be the cause of the spike in the CAARs at the time the takeover is first announced but once it becomes clear that the Chinese government is the driving force behind a particular takeover then the market will not expect any significant economic benefits for the acquiring firm and the CAARs of the acquiring firm will decay away and possibly, even become negative.

6.6.2 Undue Influence of Large Non-Tradable Shareholders in Acquiring Firms

 We noted in section 3.3.6. of chapter three dealing with the tender offer rules of the Takeover Measures, 2006 that when an acquiring firm makes a takeover offer for a listed target firm two offer prices must be set for the shares of the listed target firm. One offer price must be set for the tradable shares and another offer price must be set for the non-tradable shares in the listed target firm. The offer price for the tradable shares of the listed target

firm is determined by reference to the market price of those shares on the stock exchange whilst the offer price for the non-tradable shares is based on the net asset (book) value of the target firm as summarised in its latest set of audited financial statements. We have previously noted in section 3.3.6 of chapter 3 that non-tradable shares account for a majority of the shares on issue by most listed firms and that most of these non-tradable shares tend to be held by the Chinese government, its instrumentalities and other large Chinese firms and financial institutions. The holders of these non-tradable shares have only one way of influencing the values of their shares; and this is by pushing up their net asset (book) values since as we have previously noted, under the takeover Measures, 2006 the offer price which a potential acquiring firm can tender for these shares is based on their net asset (book) values. Given this, it is often the case that Chinese takeovers are motivated by the interests of the majority non-tradable shareholders of acquiring firms who are seeking to increase the net asset value of their non-tradable shares and hence of their potential value in the takeover process. This, in turn, will mean that a significant proportion of the M&A activities which occur in China are not based on economic considerations and therefore, cannot be expected to lead to positive wealth effects for the acquiring firms' tradable shareholders as depicted in Figures 6.2, (A shares), Figure 6.4 (B shares) and Figure 6.6 (H shares) – all of which show that the holders of tradable shares in Chinese acquiring firms do not earn significant economic benefits from the M&A activities of the acquiring firms in which they own their tradable shares.

6.6.3 Balance Sheet Window Dressing Hypothesis

In section 2.5 of chapter 2 we note that balance sheet window dressing can often be a motivation for the M&A activities of acquiring firms. Balance sheet window dressing involves the deceptive practice of manipulating the figures appearing on a firm's balance sheet in order to present the firm's financial position in a better (or, sometimes worse) light than it really is. Wu and Zhang (2009, pp. 9-10) note that the China Securities Regulatory Commission (CSRC) must approve all new share issues that are made by Chinese listed firms. They also note (p. 10) that the CSRC pays particular attention to the return on equity (ROE) as computed from the firm's balance sheet and profit

and loss account in deciding whether to give approval for the new share issue to go ahead. Loss making firms wishing to make a new share issue in order to "shore up" their deteriorating financial position are likely to have a poor history of ROE statistics and it is unlikely that such firms will gain the approval of the CSRC for any new share issues. Such firms therefore have incentives to manipulate the figures appearing on their balance sheets and in their profit and loss accounts in order to present more favourable ROE statistics. M&A activities are of potential importance to such firms in the window dressing of their ROE calculations. If, for example, an acquiring firm uses its own shares as consideration for a takeover, and the par value of the shares it issues is less than their market value, then the acquiring firm can boost its ROE by recording the issue of the new shares at par (rather than their market) value. As an example, consider an acquiring firm, X, whose equity has a book value of 50 Yuan. The par value of a single share in X is one yuan; however, the market value of its equity is 10 Yuan per share. X earns one Yuan in profit each year. Hence, X has an ROE of $\frac{1}{50} = 2\%$. Now, X makes a successful takeover bid for Y by issuing two new shares with a market value of $2 \times 10 = 20$ Yuan. Y has earnings of 2 Yuan per year. X records the issue of the new shares at their par value in its accounting records and so after the successful takeover bid X's ROE is boosted to $\frac{1+2}{50+2} \approx 5.8\%$. So X has been able to use a creative accounting (that is, a window dressing) procedure to increase its ROE and hence, also increase the probability that a government instrumentality like the CSRC will approve an application from X for a new share issue. However, whilst window-dressing procedures like this may boost a firm's ROE there is no guarantee that they will result in economic benefits for the shareholders of the acquiring firm. Hence, the CSRC's fascination with the ROE as an important criterion for determining whether or not it will approve an application for a new share issue could also lead to inefficiencies in M&A activities in China. We should emphasise here that there are several other examples one could give of how the CSRC's fixation on the ROE as a measure of performance could lead to inefficiencies in Chinese M&A activities (for example, the de-listing of firms with a persistent history of losses).

6.7 Possible Determinants of Short-Term Wealth Effects

We have previously noted (as in section 4.5 of chapter 4) that a question which often arises in the M&A literature is what determines the magnitude of the wealth effects accruing to the shareholders of Chinese acquiring firms. We again seek to address this question by following the methodological procedures laid down in the paper by Goergen and Renneboog (2004). In particular, we regress the CAARs that accrue on the A shares of Chinese acquiring firms over the period comprising two trading days before the takeover announcement date and one trading day after the takeover announcement date (that is [-1, 2]), as well as the period comprising six trading days before the takeover announcement date and one trading day after the takeover announcement date (that is [-6, 2]), against a number of potential determining variables. These determining variables are comprised of the ratio of the acquiring firm's cash reserves to its market capitalisation (Cash/Mark), the market to book ratio for the equity of the acquiring firm (Mark/Book), the accounting rate of return (that is, the return on equity) for the acquiring firm (ROE), the ratio of interest paid to the accounting profit made by the acquiring firm (Int Cover) and finally, a dummy variable which takes a value of one if the takeover consideration is purely in cash and zero if the takeover consideration is other than purely in cash (Consid) (Goergen and Renneboog, 2004). All accounting data was downloaded from Datastream for the affected acquiring firms and is the latest accounting information available given the date on which the takeover offer was first announced. For example, if the takeover offer was announced on 1 June, 2005 and the firm's latest financial statement (balance sheet) date was 31 December, 2004 then the accounting information on which the regressions are based will be that contained in the financial statements for the year ended 31 December, 2004. Unfortunately, for 104 of the 279 firms comprising our sample of Chinese acquiring firms the information for all five independent variables were not available on Datastream. This in turn means that our regression procedures are based on a sample of 175 (rather than 279) Chinese acquiring firms. Summary statistics relating to the 175 acquiring firms on which the empirical

analysis of this section is based are given in Table 6.8. Thus from the first row and sixth column of the table, the consideration for 84% of the N = 175

Table 6.8

SUMMARY STATISTICS OF CAAR DETERMINING VARIABLES FOR N = 175 CHINESE ACQUIRING FIRMS COVERING THE PERIOD FROM 1 JANUARY, 1990 UNTIL 31 DECEMBER, 2008

	Cash/Mark	Mark/Book	ROE	Int Cover	Consid
AVERAGE	0.1062	10.0990	7.33	30.47	0.8400
MEDIAN	0.0597	5.6532	8.97	4.28	
STDEV	0.2162	13.5500	22.07	200.21	
MAXIMUM	2.2214	110.0400	61.64	2490.20	
MINIMUM	0.0007	0.3255	-200.70	-88.68	

takeovers comprising our sample was purely in cash. Moreover, from column four the average accounting rate of return across the N = 175 acquiring firms comprising our sample was 7.33% (per annum). The standard deviation of the accounting rate of return across these N = 175 firms was 22.07%. The other figures appearing in this table are to be similarly interpreted. [2]

The precise form of the regression equation is as follows:

$$CAAR_j = a_0 + a_1 CASH/MARK_j + a_2 MARK/BOOK_j + a_3 ROE_j + a_4 INTCOVER_j + a_5 CONSID_j + e_j$$

where j = 1, 2, 3, ___, 175 is the sample of acquiring firms comprising our sample, the a_k, for k = 1, 2,___,5 are the regression coefficients associated with the independent variables and e_j is the stochastic error term. The results of the above regression are summarised in Table 6.9. Since there are no

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[2] The average market capitalisation (that is, the market value of equity) on the takeover announcement date across the N = 175 Chinese acquiring firms comprising this table amounts to RMB (Yuan) 18,026,005. The median market capitalisation amounts to RMB (Yuan) 4,749,023. The standard deviation of the market capitalisation across these N = 175 firms amounts to RMB (Yuan) 61,644,891. The largest (maximum) market capitalisation across these N = 175 firms amounts to RMB (Yuan) 566,668,647. The smallest (minimum) market capitalisation amounts to RMB (Yuan) 64,325.

significant differences in the results obtained from using the OLS or Dimson (1979) betas, we report only the results relating to the OLS betas. The regression results based on the OLS betas are summarised in Table 6.9.

Table 6.9
DETERMINANTS OF SHORT TERM WEALTH EFFECTS FOR N = 175 CHINESE ACQUIRING FIRMS COVERING THE PERIOD FROM 1 JANUARY, 1990 UNTIL 31 DECEMBER, 2008

Independent Variables	CAAR[-1,2]		CAAR[-6,2]	
	coeff	t value	coeff	t value
Intercept (a_0)	0.0211	1.3551	0.0137	0.7105
Cash to Market Capital (a_1)	-0.0657	-2.5234	0.0167	0.5195
Market to Book Ratio (a_2)	-0.0002	-0.4208	-0.0001	-0.1555
Return on Equity (a_3)	-0.0003	-1.0922	-0.0001	-0.4027
Interest Coverage (a_4)	0.0000	-0.4794	0.0000	0.7526
Consideration (a_5)	-0.0118	-0.7694	-0.0072	-0.3805

Note how the above table shows that the coefficient (a_1) associated with the ratio of cash reserves to the market capitalisation of acquiring firms has a significant negative t value over the event window (-1, 2). This suggests that the more cash reserves Chinese acquiring firms have, the higher will be the premiums they tend to pay for the target firms that they are seeking to acquire. However, since the regression coefficient associated with the ratio of cash reserves to the market capitalisation over the event window (-6, 2) is not significant at conventional levels, the association between the CAARs and the cash reserves to the market capitalisation ratio is at best, weak. Moreover, Table 6.9 shows that all three of the remaining traditional variables employed in our empirical analysis do not have a significant association with the CAARs earned by Chinese acquiring firms.

Here we should note, however, that results reported in subsequent sections of this dissertation using a more refined and sophisticated testing procedure

show that some of the affected independent variables summarised in Table 6.9 do in fact appear to have a significant impact on the magnitude of the CAARs earned by Chinese acquiring firms. For example, in chapter 8 we show that there are some highly significant differences between the CAARs earned by Chinese acquiring firms when cash is the sole mode of consideration and the CAARs earned by Chinese acquiring firms when the consideration is other than purely in cash. This contrasts with the regression results summarised in Table 6.9 which are generally compatible with the hypothesis that the mode of consideration has no influence on the magnitude of the CAARs earned by Chinese acquiring firms. However, we defer a more detailed consideration of the fundamental determinants of the magnitude of the CAARs for acquiring firms to later chapters of this dissertation – and in particular, chapter 8.

6.8 Summary and Conclusions

This chapter provides a detailed analysis of the wealth effects that M&A activities have for the shareholders of Chinese acquiring firms. We begin the chapter by explaining how the data on which our empirical analysis of Chinese M&A activities was selected. We then outline and discuss the methodology used to calculate the abnormal returns which arise on the Chinese acquiring firms comprising our sample as well as the statistical methodology used to assess the significance of these abnormal returns.   We assess the significance of the abnormal returns obtained for our sample of Chinese acquiring firms by using the Patell (1976) "t" test, the Corrado (1989) rank test and my modification of the Corrado (1989) rank test. The empirical analysis of Chinese acquiring firms summarised in the current chapter confirms previous results (as in chapter 4 for target firms) that the modified Corrado test provides a much more robust statistic for detecting the significance of abnormal returns than both the Patell (1976) "t" test and the original Corrado (1989) test.

We then move on to provide a detailed analysis of the empirical results obtained on the wealth effects that Chinese M&A activities have for the holders of A shares, B shares and H shares in Chinese acquiring firms,

respectively. Our empirical results show that the shareholders of Chinese acquiring firms obtain no significant economic benefits from their M&A activities. In this respect our results for Chinese acquiring firms are very similar to those obtained by researchers for western acquiring firms, although there are some important differences between the empirical results for Chinese as against western acquiring firms. In particular, there appear to be statistically significant abnormal returns for the shareholders of Chinese acquiring firms around the first public announcement of the takeover but these generally decay away over the next ten to fifteen trading days thereby leaving the shareholders of the Chinese acquiring firms with no significant economic benefits from their M&A activities. We provide some possible explanations for this phenomenon by linking our empirical results with the Chinese political, economic and capital systems which are fundamentally different from those of western economies.

In this chapter, we also seek to identify the determinants of the CAARs which accrue to the shareholders of Chinese acquiring firms. Our results show that the ratio of the acquiring firm's cash reserves to its market capitalisation has a significantly negative association with the CAARs earned over the event window (-1,2). However, the other four independent variables (the market to book ratio for the equity, the accounting rate of return (that is, the return on equity), the ratio of interest paid to the accounting profit made by the acquiring firm and finally, a dummy variable which takes the value one if the takeover consideration is purely in cash and zero if the takeover consideration is other than purely in cash) do not seem to influence the magnitude of the premium paid to Chinese target firms. However, we do find that the consideration employed by Chinese acquiring firms in financing takeovers does have the right (negative) sign, even though the t value is not statistically significant. [3]

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[3] As noted in footnote 16 of chapter 4 (page 152) I checked whether there were any major financial news stories affecting acquiring firms around the relevant takeover announcement date (e.g, a significant increase in the dividend rate paid by the firm). Under the conventional definitions of a confounding event (Huang and Walking, 1987, p. 337) I uncovered only one or two instances where there *might* have been a confounding event but eliminating these acquiring firms from my empirical analysis had an imperceptible effect on the empirical results reported in this chapter. Hence, there is no reason to believe that the abnormal returns on which my empirical analysis is based have been affected in any significant way by a confounding events problem.

CHAPTER SEVEN

THE ANALYSIS OF ABNORMAL RETURNS EARNED BY CHINESE TARGET FIRMS: CASH VERSUS OTHER MODES OF CONSIDERATION

7.1 Introduction

Once a bidding (acquiring) firm has decided to make a takeover offer for a target firm it must then make a decision about the way in which it will finance the proposed takeover; that is, should the consideration the acquiring firm offers to the shareholders of the target firm be in cash, the shares of the acquiring firm, convertible bonds issued by the acquiring firm, warrants issued by the acquiring firm, the transfer of some of the acquiring firm's assets to the shareholders of the target firm, the repayment of some of the target firm's debt by the acquiring firm, or some combination thereof. The importance of this issue stems from the fact that prior research shows that the mode of consideration used in a takeover can have a significant impact on the abnormal returns which accrue to the shareholders of both the acquiring and target firms (Huang and Walking, 1987; Ge and Ping, 2009). This explains why acquiring firms will often devote considerable resources towards choosing the mode of consideration they will use for a proposed takeover.

In China, the tradition has always been for takeovers to be financed exclusively through cash. However, in 2005 the Chinese Government implemented the Shareholding Structure Reform (Guquan Fenzhi Gaige) which facilitated and encouraged M&A activities where the consideration is in the shares of the acquiring firm. Whilst the Shareholding Structure Reforms have resulted in an increase in M&A activities where the mode of consideration is in the shares of the acquiring firm, it is nonetheless still the case that cash predominates as the mode of consideration for the large

majority of takeovers which are consummated on the mainland of China (Wang, 2003). This contrasts with the wide variety of modes of consideration that are used in addition to cash for the takeovers which occur in western economies (Huang and Walking, 1987; Lane and Yang, 1983).

An important consideration here is that the research conducted on the wealth effects of the mode of consideration in takeovers in China is relatively unsophisticated as compared to the equivalent research which has been conducted in western economies. In particular, Chinese research generally focuses on theoretical comparisons of the impact that different modes of consideration can have on firms involved in M&A activities. Indeed, in China very little empirical work of any substance has been conducted in this area. Because of this, there is an urgent need for a thorough empirical study which deals with the impact that the mode of consideration can have on the shareholders of firms involved in Chinese M&A activities. Given this, the principal brief of this chapter is to conduct a more refined empirical study than has previously been the case, of the wealth effects which the mode of consideration used in takeovers has on the shareholders of Chinese target firms. The next chapter examines how the mode of consideration shapes the abnormal returns which accrue to the shareholders of Chinese acquiring firms.

The remainder of this chapter is organised as follows: section 7.2 provides a brief summary of the prior literature regarding the impact that the mode of consideration can have on target firms in both western and Chinese economies. Section 7.3 summarises how the data used in our empirical analysis is selected. Next, section 7.4 provides an analysis of the average abnormal returns (AARs) that arise over the event window when cash is used as the sole mode of consideration as against the AARs which arise when alternative modes of consideration are used (e.g. the shares of the acquiring firm, convertible bonds issued by the acquiring firm, warrants issued by the acquiring firm, the transfer of some of the acquiring firm's assets to the shareholders of the target firm, the repayment of some of the target firm's debt by the acquiring firm, or some combination thereof). Our analysis of the AARs is applied in terms of the Patell (1976) "t" statistic, the original Corrado (1989)

statistic and also, the modified Corrado statistic as developed in Chapter 4 of this dissertation. Our particular interest, however, is with the differences which arise in these statistics for Chinese target firms where the takeover consideration is solely in cash as against Chinese target firms where alternative modes of consideration have been used in the takeover. In section 7.5 our primary focus is on the analysis of the cumulative average abnormal returns (CAARs) for Chinese target firms where the takeover consideration is solely in cash as against the CAARs of target firms where alternative modes of consideration have been used in the takeovers. Again, our analysis is based on a comparison of the Patell (1976) "t" statistics, the Corrado (1989) statistics and the modified Corrado statistics which arise for the CAARs of Chinese target firms where the takeover consideration is solely in cash as against the Chinese target firms where alternative modes of consideration have been employed. Section 7.6 links the empirical results we obtain as summarised in sections 7.4 and 7.5 to the prior Chinese literature in the area as reviewed in section 2.6 (of chapter 2) of this dissertation. Finally, section 7.7 provides a brief summary of this chapter and makes a few concluding remarks about the economic impact that the mode of consideration used in takeovers can have on the shareholders of Chinese target firms.

7.2 A Brief Summary of the Prior Literature

It will be recalled from chapter two, which summarises the more important literature dealing with mergers and acquisition (M&A) activities that, in western countries a great deal of research has been conducted on the impact that the mode of consideration (cash as against stock) can have on the economic benefits which accrue to the shareholders of both target and acquiring firms. Importantly, the conclusion reached from most of the research conducted in this area is quite consistent; and this is that the abnormal returns for target firms where cash is used as the sole mode of consideration are significantly larger than the abnormal returns where modes of consideration other than purely cash are used (stocks in particular). For example, using standard market model and regression methodologies, Huang and Walking (1987) conclude that the abnormal returns for U.S. target firms associated with cash

offers are significantly higher than those associated with stock offers. They argue that, when cash is used as the sole mode of consideration, shareholders of target firms tend to demand much higher takeover premiums because of the capital gains tax that will have to be paid immediately and which would not have to be paid if the acquiring firm had used its own stock as the mode of consideration.

Furthermore, using a similar market model methodology to Huang and Walking (1987), Wansley, Lane and Yang (1983) find that shareholders of the U.S. target firms in their sample where cash is the sole mode of consideration earn abnormal returns of 33.54% on average in the forty days prior to the takeover announcement date. This figure is almost twice the corresponding figure, 17.47%, for takeovers that employ stock as the sole mode of consideration. Importantly, Wansley, Lane and Yang (1983) attribute the difference in the abnormal returns between cash and stock acquisitions to tax differences and regulatory requirements that favour cash as the mode of consideration. As noted in chapter two of this dissertation, the literature in this area is voluminous but the results of the studies by Huang and Walking (1987) and Wansley, Lane and Yang (1983) summarised here are typical of the results obtained by western researchers in this area. We refer the reader to chapter two of this dissertation for a more exhaustive summary of the relevant literature in this area.

In contrast to the western literature in this area, most of the research conducted in China focuses primarily on the circumstances under which various modes of consideration are employed in takeovers and the advantages and disadvantages of using different ways of payment for specific kinds of takeovers. In other words, relatively little work has been carried out in China which compares the economic benefits that accrue to the shareholders of target firms from using different modes of consideration (e.g. cash, the shares of the acquiring firm, convertible bonds issued by the acquiring firm, warrants issued by the acquiring firm, the transfer of some of the acquiring firm's assets to the shareholders of the target firm, the repayment of some of the target firm's debt by the acquiring firm, or some combination thereof) in

Chinese M&A activities. Moreover, such work as has been conducted in this area by Chinese researchers often comes to conclusions that are different and inconsistent with the results obtained by researchers in western economies. A good example is provided by Ge and Ping (2009) who examine the impact which the Chinese shareholding structure reforms (Guquan Fenzhi Gaige) have had on the mode of consideration used in Chinese M&A activities. Ge and Ping (2009) find that less than half of the target firms included in their sample where cash was used as the sole mode of consideration improved their performance after the consummation of the takeover. In contrast, more than half of the target firms included in their sample where modes of consideration other than cash were used improved their performance after the consummation of the takeover. This is diametrically opposed to the typical conclusion reached by western researchers (Huang and Walking, 1987; Lane and Yang, 1983) which is that the abnormal returns for target firms where cash is used as the sole mode of consideration are significantly larger than the abnormal returns for target firms where the mode of consideration is other than purely in cash. We have previously noted in section 2.8 (of chapter 2) of this dissertation, however, that the empirical research conducted on Chinese M&A activities is notoriously unreliable. For example, the few empirical studies conducted on Chinese M&A activities are generally based on the discrete calculation of returns (the price "today" less the price "yesterday" divided by the price "yesterday") rather than the continuously compounded (or logarithmic) return. The inappropriate calculation of the periodic returns on a given target firm will in turn induce biases in the calculation of the abnormal returns which accrue to the shareholders of the firm.[1] Hence, given the unreliable nature of the methodology employed in the prior Chinese research in this area and the inconsistency of the conclusions it reaches in comparison to the "equivalent" research conducted in western economies, there is an urgent need for a properly conducted methodological study of the impact that using different modes of consideration in M&A activities can have on the abnormal returns

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[1] See chapter one of the book by Davidson and Tippett (2012) for further details of the problems which can arise from the averaging of discrete returns.

which accrue to the shareholders of Chinese target firms. Our particular brief is to examine whether using cash as the sole mode of consideration as against modes of consideration other than purely in cash leads to larger abnormal returns for the shareholders of Chinese target firms.

7.3 Data Selection

It will be recalled that we use the definition of a takeover laid down in Chapter 3 of this dissertation; namely, that under Article 84(1) of the Measures for the Administration of Takeovers of Listed Companies promulgated by the China Securities Regulation Committee in 2006, a takeover is said to have occurred when an acquiring firm successfully purchases more than 50% of the equity shares the listed target firm has on issue. Over the period from 1 January, 1990 until 31 December, 2008 there were 198 Chinese target firms that satisfied our definition for a takeover in the Securities Data Company Mergers and Acquisitions [SDC (M&A)] Database. However, not all of these firms had their share price data available on the Datastream system and this reduced our final sample down to 82 Chinese target firms. We then divide our final sample of 82 target firms into two categories in terms of the mode of consideration employed for the takeover.

The first category is comprised of 44 Chinese target firms where cash is the sole mode of consideration. Of these, 38 target firms are listed on one of the two (Shanghai and Shenzhen) Chinese mainland stock exchanges whilst the remaining six Chinese target firms have their shares listed on foreign stock exchanges. We conduct our empirical analysis with and without the inclusion of these six Chinese target firms that were listed on foreign stock exchanges. There are no significant differences between the results we obtain from including these six Chinese target firms listed on foreign stock exchanges and the results we obtain from excluding them from our empirical analysis. The second category involves those Chinese target firms where the mode of consideration for the takeover is other than purely in cash. These alternative modes of consideration include the shares of the acquiring firm, convertible bonds issued by the acquiring firm, warrants issued by the acquiring firm, the transfer of some of the acquiring firm's assets to the shareholders of the target

firm, the repayment of some of the target firm's debt by the acquiring firm, or some combination thereof. There are 39 target firms in this second category, including 23 target firms where the mode of consideration for the takeover is not explicitly specified on the SDC (M&A) data base. Again, we conduct our empirical analysis with and without the inclusion of these 23 Chinese target firms for which the mode of consideration is not explicitly given. However, we now find that there are significant differences in the results based on the entire sample of 39 Chinese firms and the sample of 16 firms which excludes the 23 target firms which do not explicitly specify the exact mode of consideration. Given this, only the results based on the 16 Chinese target firms where the alternative modes of consideration are explicitly specified on the SDC (M&A) database are summarised in this chapter.

Now, it will be recalled that our principal brief in this chapter is to examine whether using cash as the sole mode of consideration in takeovers as against alternative modes of consideration, leads to larger abnormal returns for the shareholders of Chinese target firms. Given this, we tested whether the differences in the average abnormal returns (AAR) and the differences in the cumulative average abnormal returns (CAAR) across the two categories of firms (solely cash as against alternative modes of consideration) during the event window which commenced six trading days prior to the first announcement date of the proposed takeover and concluded seventeen trading days subsequent to the announcement date - that is, (-6, +17) trading days - are significantly different in a statistical sense. Further details on how the AARs and CAARs were calculated are to be found in section 4.2 (of chapter 4) of this dissertation. Our analysis shows that both the AARs and the CAARs around the takeover announcement date are significantly larger for target firms where the mode of consideration is solely in cash when compared to target firms where the consideration is other than purely in cash. Our testing procedures are based on the Patell (1976) "t" statistics, the Corrado (1989) statistics and the modified Corrado statistics for the AARs and CAARs obtained across the 44 Chinese target firms where cash was the sole mode of consideration and 16 Chinese target firms where modes of consideration other than purely cash are used. We would emphasise here that our

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conclusions apply irrespective of whether the AARs and CAARs are estimated using Dimson (1979) or OLS betas.

7.4 Average Abnormal Returns for Cash as against Alternative Modes of Consideration for Chinese Target Firms

We begin our analysis by dividing our sample of 82 Chinese target firms into three categories. The first category is comprised of the N = 44 Chinese target firms where cash is the sole mode of consideration.   Here we would emphasise that six of these 44 target firms were not listed on the two mainland Chinese stock exchanges; that is, they were not listed on either the Shanghai Stock Exchange or the Shenzhen Stock Exchange. Three of these firms were listed on the Frankfurt Stock Exchange, two were listed on the NASDAQ and one was listed on the Singapore Stock Exchange. There were no significant differences between the results we obtain from including these six Chinese target firms listed on foreign stock exchanges and the results we obtain from excluding them from our empirical analysis. The second category of firms is comprised of the M = 16 firms where alternative modes of consideration are used for the takeovers.   These alternative modes of consideration include the stock of the acquiring firm, where the acquiring firm exchanges some of their assets for a controlling interest in the target firm, where the acquiring firm repays debt of the target firm, etc. or a mixture of them.   Finally, there is a third category of 22 firms where the mode of consideration is not explicitly given on the SDC (M&A) database. Because of the uncertainty associated with the mode of consideration for these firms they were excluded from all subsequent empirical analysis.

The abnormal returns and the accumulated abnormal returns for the first two categories of target firms (cash as against alternative modes of consideration) were then determined over the event window (-6, +17) trading days; that is, six trading days before the first announcement of the proposed takeover up until seventeen trading days after the takeover announcement date. We refer the reader to section 4.2 of this dissertation for a more detailed treatment of the way the AARs and CAARs were computed. We then employ the Patell (1976) "t" test, the Corrado (1989) test and the modified Corrado test

respectively to determine the significance of the abnormal returns for our sample of N = 43 Chinese target firms where cash is used as the sole mode of consideration for the takeover. We also determine the Patell (1976), Corrado (1989) test and modified Corrado test statistics for the M = 16 target firms where the mode of consideration is other than purely in cash.

7.4.1 Average Abnormal Returns and Patell (1976) "t" Statistics

A summary of the average abnormal returns (AARs) over the event window using O.L.S betas and their associated Patell (1976) "t" scores is provided in Table 7.1(a). Table 7.1(b) contains the AARs and their associated Patell (1976) "t" scores using Dimson (1979) betas. Further details on how the Patell (1976) "t" scores were calculated are to be found in section 4.3 of chapter 4 of this dissertation. The reader will see that there is very little difference between the information summarised in both these tables. Given this, we confine our attention to the data for OLS betas as summarised in Table 7.1(a). Thus, the second column of Table 7.1(a) shows that based on OLS estimates of beta the AAR across the N = 44 firms where the mode of consideration is solely in cash varies from a high of 3.42% on the third trading day after the takeover announcement day (time period three) to a low of -1.20% eight and twelve trading days after the takeover announcement day. In contrast, the third column of Table 7.1(a) shows that the AAR across the M =16 firms where the mode of consideration is other than purely in cash varies from a high of 6.87% on the first trading day after the takeover announcement date (time period one) to a low of -2.33% seventeen trading days after the takeover announcement date. Further details of the abnormal returns over the event window for cash as against alternative modes of consideration are to be found in Figure 7.1(a) for OLS betas and Figure 7.1(b) for Dimson (1979) betas. Note how both these graphs show that when cash is used as the sole mode of consideration the AARs around the takeover announcement date are predominantly positive. Against this, when modes of consideration other than cash are used, the AARs are primarily negative even though there is a "spike" in the AAR on the first trading day following the takeover announcement date.

Table 7.1 (a): Average Abnormal Returns and Associated Patell (1976)

Statistics Based on OLS Betas for Chinese Target Firms over the Period

from 1 January, 1990 until 31 December, 2008 for Cash (N = 44) as against

Alternative (M = 16) Modes of Consideration

Time Relative to Announce Date (0)	Average Abnormal Return Cash	Average Abnormal Return Alternatives	Patell "t" Score Cash	Patell "t" Score Alternatives	Z Score Cash vs Alternatives
-6	0.0088	-0.0073	1.4684	-2.1170#	2.5353$
-5	-0.0009	0.0015	-0.2026	-0.0047	-0.1399
-4	0.0058	0.0073	-0.4340	1.0478	-1.0478
-3	0.0027	0.0148	1.7068*	1.0941	0.4333
-2	0.0039	-0.0213	0.4497	-1.2526	1.2037
-1	-0.0077	-0.0042	1.3100	-0.3716	1.1891
0	0.0123	-0.0069	1.0146	-1.5134	1.7876*
1	0.0251	0.0687	2.7854$	0.9383	1.3061
2	0.0098	-0.0166	2.1134#	-1.3741	2.4660$
3	0.0342	-0.0124	1.6232	-1.3221	2.0826#
4	0.0126	-0.0204	0.9821	-1.7265*	1.9153*
5	0.0176	0.0029	0.3422	0.0263	0.2234
6	0.0014	-0.0098	0.3677	-0.9816	0.9541
7	0.0105	-0.0048	0.0649	-0.6659	0.5168
8	-0.0120	-0.0145	-2.3961#	-1.6874*	-0.5011
9	0.0018	-0.0016	1.0359	-0.5290	1.1065
10	-0.0107	0.0005	-0.2307	-0.2215	-0.0065
11	-0.0043	0.0079	-1.3285	0.5698	-1.3423
12	-0.0120	-0.0044	-1.7871	0.1397	-1.3625
13	-0.0046	0.0164	-0.4079	0.6029	-0.7148
14	-0.0036	-0.0013	-0.1982	0.3159	-0.3635
15	0.0014	0.0029	-0.1697	0.8124	-0.6944
16	-0.0026	-0.0115	-1.0210	-1.2806	0.1836
17	0.0040	-0.0233	-1.4380	-2.2029#	0.5408

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

Table 7.1 (b): Average Abnormal Returns and Associated Patell (1976) Statistics Based on Dimson (1979) Betas for Chinese Target Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 44) as against Alternative (M = 16) Modes of Consideration

Time Relative to Announce Date (0)	Average Abnormal Return Cash	Average Abnormal Return Alternatives	Patell "t" Score Cash	Patell "t" Score Alternatives	Z Score Cash vs Alternatives
-6	0.0079	-0.0070	1.3772	-2.0019[#]	2.3894[#]
-5	-0.0006	0.0010	-0.0813	-0.3054	0.1584
-4	0.0062	0.0071	-0.5409	1.1408	-1.1891
-3	0.0023	0.0142	1.6409	0.9940	0.4575
-2	0.0041	-0.0225	0.4551	-1.3616	1.2846
-1	-0.0094	-0.0037	1.1869	-0.2761	1.0345
0	0.0125	-0.0069	1.0083	-1.5448	1.8053[*]
1	0.0253	0.0686	2.9011[$]	0.9432	1.3844
2	0.0086	-0.0170	2.0876[#]	-1.4726	2.5174[$]
3	0.0354	-0.0098	1.6503[*]	-1.1888	2.0075[#]
4	0.0125	-0.0220	0.9715	-1.8352[*]	1.9846[*]
5	0.0175	0.0022	0.3674	-0.0506	0.2955
6	0.0033	-0.0093	0.4061	-0.9951	0.9908
7	0.0105	-0.0073	0.0453	-0.8955	0.6653
8	-0.0102	-0.0120	-2.3287[#]	-1.5387	-0.5586
9	0.0020	-0.0009	1.1363	-0.4652	1.1324
10	-0.0109	0.0017	-0.0567	-0.1940	0.0971
11	-0.0042	0.0085	-1.2634	0.5503	-1.2825
12	-0.0118	-0.0051	-1.6783[*]	0.1374	-1.2839
13	-0.0020	0.0161	-0.4277	0.5826	-0.7144
14	-0.0064	-0.0020	-0.2276	0.3147	-0.3835
15	-0.0012	0.0029	-0.3485	0.8254	-0.8301
16	-0.0019	-0.0111	-1.1022	-1.2028	0.0712
17	0.0048	-0.0238	-1.3037	-2.1122[#]	0.5717

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

Figure 7.1 (a): Average Abnormal Returns Based on OLS Betas for Chinese Target Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 44) as against Alternative (M = 16) Modes of Consideration
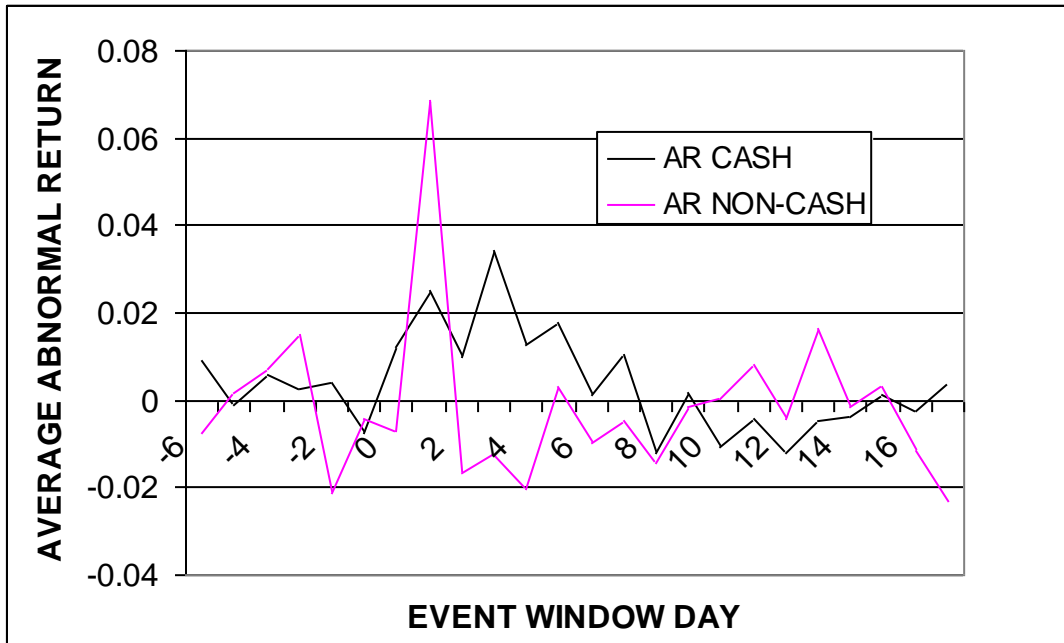
Figure 7.1 (b): Average Abnormal Returns Based on Dimson (1979) Betas for Chinese Target Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 44) as against Alternative (M = 16) Modes of Consideration
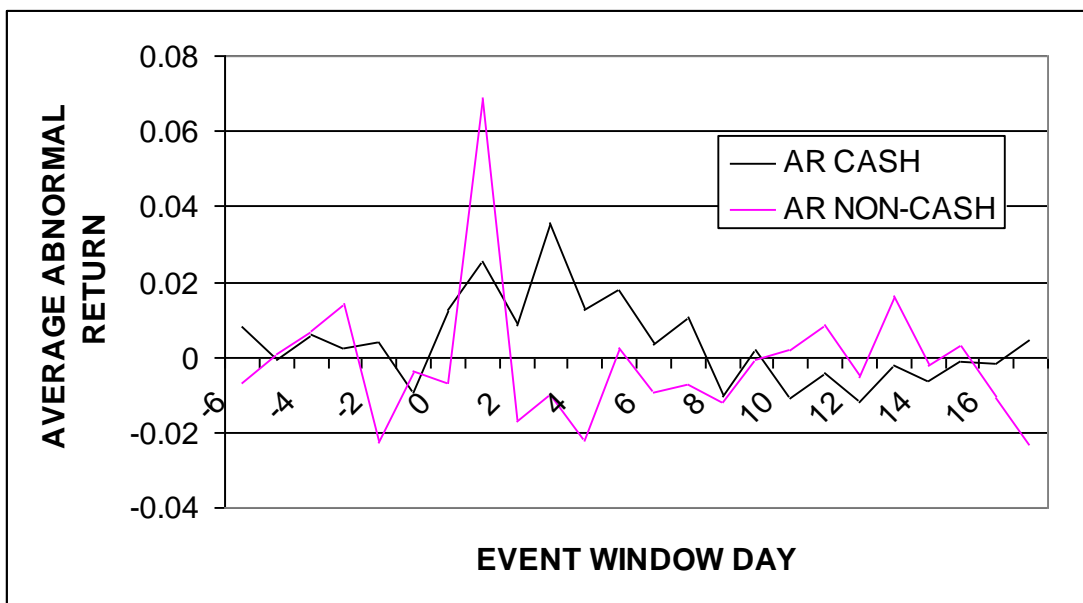
The fourth column of Table 7.1(a) summarises the Patell (1976) "t" scores associated with the AARs of Chinese target firms where cash is the sole mode of consideration. This shows that when cash is used as the sole mode of consideration, the abnormal returns are positive and the Patell (1979) "t" scores statistically significant on the first [Patell (1976) "t" statistic, 2.7854] and second [Patell (1976) "t" statistic, 2.1134] trading days following the announcement date. After this and up until the seventh trading day after the takeover announcement date the AARs are positive although not statistically different from zero. However, beyond this point the AARs are generally negative and occasionally significantly so as on the eighth trading day where the Patell (1979) "t" statistic is a statistically significant -2.3961. Hence, from the third trading day after the takeover announcement date shareholders of Chinese target firms obtain no significant economic benefits (and probably marginal losses) when cash is used as the sole mode of consideration for the takeover.

The fifth column of Table 7.1(a) summarises the Patell (1976) "t" scores associated with the AARs of Chinese target firms where the mode of consideration is other than purely in cash. This shows that there is a significantly negative AAR on the sixth trading day prior to the takeover announcement date [Patell (1976) "t" statistic, -2.1170]. This may suggest that the market has a negative perception of M&A activities when the consideration is other than purely in cash. This interpretation of our results is supported by the fact that the AARs on the fourth [Patell (1976) "t" statistic, -1.7265] and eighth [Patell (1976) "t" statistic, -1.6874] trading days after the takeover announcement date are both negative and marginally significant whilst the AAR on the seventeenth trading day after the announcement date is both negative and highly significant [Patell (1976) "t" statistic, -2.2029]. Thus, the predominance of insignificant AARs over the event window suggests that the shareholders of Chinese target firms obtain no economic benefits from M&A activities when the consideration is other than purely in cash. Indeed, our empirical evidence suggests that the shareholders of the affected target firms bear economic losses by the end of the event window as a result of their

M&A activities.

Our analysis to date indicates that the AARs for the shareholders of Chinese target firms will on average be larger when the mode of consideration is solely in cash as against when the consideration is other than purely in cash. We now use the Patell (1976) "t" statistics associated with the AARs over the event window for the Chinese target firms comprising our sample to formally test this hypothesis. Thus let z_{it}^c be the Patell (1976) "t" statistic corresponding to the abnormal return for the ith firm on the tth day of the event window when the takeover consideration is solely in cash. It then follows that $\overline{z_{it}^c} = \frac{1}{N} \sum_{i=1}^{N} z_{it}^c$ will be the average Patell (1976) "t" statistic for the AARs across the N = 44 firms during the tth day of the event window when the takeover consideration is solely in cash. Moreover, $\hat{s}^2(z_{it}^c) = \frac{1}{N} \sum_{i=1}^{N} (z_{it}^c - \overline{z_{it}^c})^2$ will be the variance of the Patell (1976) "t" statistics for the tth day of the event window when the takeover consideration is solely in cash. Finally, $\dfrac{\overline{z_{it}^c}\sqrt{N}}{\hat{s}(z_{it}^c)}$ will be asymptotically distributed as a standard normal variate as $N \to \infty$ (Fisz, 1963, p. 197).

One can also define z_{it}^o to be the Patell (1976) "t" statistic corresponding to the abnormal return for the ith firm on the tth day of the event window where the takeover consideration is other than purely in cash. It then follows that $\overline{z_{it}^o} = \frac{1}{M} \sum_{i=1}^{M} z_{it}^o$ will be the average Patell (1976) "t" statistic across the M = 16 firms during the tth day of the event window where the takeover consideration is other than purely in cash. Moreover, $\hat{s}^2(z_{it}^o) = \frac{1}{M} \sum_{i=1}^{M} (z_{it}^o - \overline{z_{it}^o})^2$ will be the variance of the Patell (1976) "t" statistics for the tth day of the event window

where the takeover consideration is other than purely in cash. Finally, $\dfrac{\overline{z_{it}^{o}}\sqrt{M}}{\hat{s}(z_{it}^{o})}$

will be asymptotically distributed as a standard normal variate as $M \to \infty$ (Fisz, 1963, p. 197).

Now, one can test the hypothesis that the mean Patell (1976) "t" statistic, $\overline{z_{it}^{c}}$, for takeovers where the consideration is solely in cash is identical to the mean

Patell (1976) "t" statistic, $\overline{z_{it}^{o}}$, for takeovers where the consideration is other than purely in cash by using the statistic:

$$\overline{z_t^{co}} = \frac{1}{\sqrt{2}}\{\frac{\overline{z_{it}^{c}}\sqrt{N}}{\hat{s}(z_{it}^{c})} - \frac{\overline{z_{it}^{o}}\sqrt{M}}{\hat{s}(z_{it}^{o})}\}$$

This statistic is asymptotically distributed as a standard normal variate (Fisz, 1963, p. 197). Moreover, testing the hypothesis that $\overline{z_t^{co}}$ is insignificantly different from zero is equivalent to testing the hypothesis that the mean abnormal return on the tth day of the event window for Chinese target firms where the consideration is solely in cash is the same as the mean abnormal return on the tth day of the event window for Chinese target firms where the consideration is other than purely in cash.

The sixth column of Table 7.1(a) summarises the $\overline{z_t^{co}}$ statistics for each trading day, $t = -6, -5, -4,\_\_\_\_, 15, 16, 17$, of the event window. We emphasise again that the $\overline{z_t^{co}}$ statistic is distributed as a standard normal variate (Fisz, 1963, p. 197). The sixth column of Table 7.1(a) shows that the

$\overline{z_{-6}^{co}} = 2.5353$ statistic is positive and significantly different from zero on the

sixth trading day (t = -6) prior to the takeover announcement date. This implies that even before the takeover is announced, the market expects Chinese target firms where cash is the sole mode of consideration to provide larger economic benefits for its shareholders than Chinese target firms where the consideration is other than purely in cash. Column six of Table 7.1(a) also shows that there are significant and positive $\overline{z_t^{co}}$ statistics on the announcement date itself ($\overline{z_0^{co}}$ = 1.7876) and the second ($\overline{z_2^{co}}$ = 2.4660), third ($\overline{z_3^{co}}$ = 2.0826) and fourth ($\overline{z_4^{co}}$ = 1.9153) trading days after the takeover announcement date. This in turn suggests that around the takeover announcement date, the shareholders of Chinese target firms where cash is the sole mode of consideration obtain larger economic benefits from takeovers than the shareholders of Chinese target firms where the consideration is other than purely in cash. However, beginning on the fifth trading day after the takeover announcement date, the $\overline{z_t^{co}}$ statistics gradually decay away and become insignificantly different from zero. From this, we conclude that apart from the period immediately surrounding the takeover announcement date there are virtually no differences between the AARs accruing to the shareholders of Chinese target firms where the consideration is solely in cash and the AARs for the shareholders of Chinese target firms where the consideration is other than purely in cash.

7.4.2 Average Abnormal Returns and Corrado (1989) "z" Statistics

In this section we implement procedures similar to those applied in the previous section in order to assess whether the Corrado (1989) test statistics are compatible with the hypothesis that the AARs over the event window for the shareholders of Chinese target firms where cash is the sole mode of consideration are larger than the AARs for Chinese target firms where the mode of consideration is other than purely in cash. A summary of the AARs over the event window using OLS betas and their associated Corrado (1989)

test statistics is provided in Table 7.2(a). Table 7.2(b) summarises the AARs and their associated Corrado (1989) test statistics using Dimson (1979) betas. Here we need to emphasise that the AARs summarised in the second and third columns of Table 7.2(a) are the same as the AARs summarised in the second and third columns of Table 7.1(a). Likewise, the AARs summarised in the second and third columns of Table 7.2(b) are the same as the AARs summarised in the second and third columns of Table 7.1(b). A pictorial summary of the AARs based on OLS betas is to be found in Figure 7.1(a) above and for Dimson (1979) betas in Figure 7.1(b) above. Moreover, given the similarity of the results summarised in columns four, five and six of Table 7.2(a) and Table 7.2(b) we again confine the discussion of our results to the OLS betas as summarised in Table 7.2(a).

The fourth column of Table 7.2(a) summarises the Corrado (1989) "z" scores associated with the AARs of firms where cash is the sole mode of consideration. Thus, one can follow the analysis in section 4.2 of chapter four of this dissertation by letting:

$$z_{ct}^{c} = \frac{\frac{1}{N} \sum_{i=1}^{N} \{K(AR_{it}) - \frac{T+1}{2}\}}{S(K)}$$

be the Corrado (1989) "z" statistic corresponding to the AARs on the tth day of the event window for the N = 43 target firms where the takeover consideration is solely in cash. From section 4.2 of this dissertation it will be recalled that AR_{it} is the abnormal return for firm i = 1,2,3, _____, N = 43 in our sample on day t = 1,2,3, _____,T of the period covering the combined estimation and event windows. Moreover, $1 \leq K(AR_{it}) \leq T$ is the rank of the ith firm's abnormal return during the tth day of the combined estimation and event windows. The Corrado (1989, p. 388) expression for the variance of the sum of the excess ranks across the N = 44 firms where the takeover consideration is solely in cash will then be given by:

Table 7.2 (a): Average Abnormal Returns and Associated Corrado (1989) Statistics Based on OLS Betas for Chinese Target Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 44) as against Alternative (M = 16) Modes of Consideration

Time Relative to Announce Date (0)	Average Abnormal Return Cash	Average Abnormal Return Alternatives	Corrado Z Score Cash	Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0088	-0.0073	1.4909	-0.5754	1.4611
-5	-0.0009	0.0015	-0.5789	-0.1723	-0.2876
-4	0.0058	0.0073	-0.4722	0.8993	-0.9698
-3	0.0027	0.0148	1.3888	1.0819	0.2170
-2	0.0039	-0.0213	-0.6903	-1.1749	0.3427
-1	-0.0077	-0.0042	0.0290	-0.5272	0.3933
0	0.0123	-0.0069	1.8404*	-0.9547	1.9764#
1	0.0251	0.0687	2.5444$	-1.3541	2.7566$
2	0.0098	-0.0166	1.2148	-1.3954	1.8457*
3	0.0342	-0.0124	0.6950	-1.4230	1.4976
4	0.0126	-0.0204	0.1473	-1.7055*	1.3102
5	0.0176	0.0029	0.0290	0.8717	-0.5959
6	0.0014	-0.0098	-0.5906	-0.1998	-0.2763
7	0.0105	-0.0048	-0.6996	-0.6236	-0.0537
8	-0.0120	-0.0145	-2.2056#	-0.4720	-1.2258
9	0.0018	-0.0016	0.7855	0.0345	0.5310
10	-0.0107	0.0005	-0.5859	0.3239	-0.6433
11	-0.0043	0.0079	-1.2101	0.4962	-1.2065
12	-0.0120	-0.0044	-1.2960	0.8441	-1.5133
13	-0.0046	0.0164	-1.0384	1.0750	-1.4944
14	-0.0036	-0.0013	-1.2635	-0.5651	-0.4939
15	0.0014	0.0029	-0.6254	0.7856	-0.9977
16	-0.0026	-0.0115	-0.8388	-1.4781	0.4520
17	0.0040	-0.0233	-1.7946*	-1.7238*	-0.0501

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

Table 7.2 (b): Average Abnormal Returns and Associated Corrado (1989) Statistics Based on Dimson (1979) Betas for Chinese Target Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 44) as against Alternative (M = 16) Modes of Consideration

Time Relative to Announce Date (0)	Average Abnormal Return Cash	Average Abnormal Return Alternatives	Corrado Z Score Cash	Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0088	-0.0073	1.2912	-0.5115	1.2747
-5	-0.0009	0.0015	-0.5865	-0.2730	-0.2217
-4	0.0058	0.0073	-0.4226	1.0056	-1.0099
-3	0.0027	0.0148	1.3708	1.0678	0.2142
-2	0.0039	-0.0213	-0.7246	-1.2752	0.3893
-1	-0.0077	-0.0042	-0.1253	-0.4734	0.2462
0	0.0123	-0.0069	1.8289*	-0.8520	1.8957*
1	0.0251	0.0687	2.9160$	-1.4307	3.0736$
2	0.0098	-0.0166	1.2537	-1.2406	1.7638*
3	0.0342	-0.0124	0.8206	-1.1853	1.4184
4	0.0126	-0.0204	0.1229	-1.7797*	1.3454
5	0.0176	0.0029	-0.1323	0.7879	-0.6507
6	0.0014	-0.0098	-0.2095	-0.2350	0.0180
7	0.0105	-0.0048	-0.8417	-0.6670	-0.1235
8	-0.0120	-0.0145	-2.1902#	-0.3559	-1.2970
9	0.0018	-0.0016	0.8042	0.0829	0.5100
10	-0.0107	0.0005	-0.4249	0.4562	-0.6230
11	-0.0043	0.0079	-0.9822	0.3732	-0.9584
12	-0.0120	-0.0044	-1.2046	0.8467	-1.4504
13	-0.0046	0.0164	-0.7714	1.0678	-1.3006
14	-0.0036	-0.0013	-1.4083	-0.5737	-0.5902
15	0.0014	0.0029	-0.6614	0.7810	-1.0199
16	-0.0026	-0.0115	-0.5584	-1.4341	0.6193
17	0.0040	-0.0233	-1.7790*	-1.7502*	-0.0204

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

$$S^2(K) = \frac{1}{T} \sum_{t=1}^{T} [\frac{1}{N} \sum_{i=1}^{N} \{K(AR_{it}) - \frac{T+1}{2}\}]^2$$

Finally, from section 4.2 of this dissertation we also know that the Corrado (1989) statistic, z_{ct}^c, defined earlier is asymptotically distributed as a standard normal variate as $N \rightarrow \infty$ (Fisz, 1963, p. 197).

The results summarised in the fourth column of Table 7.2(a) show that when cash is used as the sole mode of consideration the AARs are positive and the Corrado (1989) "z" statistics are significantly different from zero on the takeover announcement date ($z_{c0}^c = 1.8404$) and the first trading day following the takeover announcement date ($z_{c1}^c = 2.5444$). After this and up until the seventh trading day after the takeover announcement date the AARs are generally positive although not statistically different from zero. However, beyond this point the AARs are generally negative and occasionally significantly so as on the eighth and seventeenth trading days after the announcement date where the Corrado (1989) "z" statistics are a statistically significant $z_{c8}^c = -2.2056$ and $z_{c17}^c = -1.7946$, respectively. Hence, our analysis of the Corrado (1989) "z" statistics indicates that from the second trading day after the announcement date shareholders of Chinese target firms obtain no significant economic benefits (and probably marginal losses) when cash is used as the sole mode of consideration for the takeover.

The fifth column of Table 7.2(a) summarises the Corrado "z" statistics associated with the abnormal returns of target firms where the consideration is other than purely in cash. Thus, one can again follow the analysis in section 4.2 of chapter four of this dissertation by letting:

$$z_{ct}^o = \frac{\frac{1}{M} \sum_{i=1}^{M} \{K(AR_{it}) - \frac{T+1}{2}\}}{S(K)}$$

be the Corrado (1989) "z" statistic corresponding to the abnormal returns on

the tth day of the event window for the M = 16 target firms where the takeover consideration is other than purely in cash. As previously, AR_{it} is the abnormal return for firm i = 1,2,3, _____, M = 16 in our sample on day t = 1,2,3, _____,T of the period covering the combined estimation and event windows. Moreover, $1 \leq K(AR_{it}) \leq T$ is the rank of the ith firm's abnormal return during the tth day of the combined estimation and event windows. The expression for the variance of the sum of the excess ranks across these M = 16 firms where the takeover consideration is other than purely in cash is given by:

$$S^2(K) = \frac{1}{T} \sum_{t=1}^{T} [\frac{1}{M} \sum_{i=1}^{M} \{K(AR_{it} - \frac{T+1}{2}\}]^2$$

Finally, the Corrado (1989) statistic, z_{ct}^{o}, is asymptotically distributed as a standard normal variate as $M \rightarrow \infty$ (Fisz, 1963, p. 197).

The results summarised in the fifth column of Table 7.2(a) show that when the consideration is other than purely in cash, the Corrado (1989) "z" scores associated with the AARs which accrue to the shareholders of Chinese target firms over the event window are generally insignificantly different from zero. Indeed, the only AARs which are significantly different from zero occur on the fourth and seventeenth trading days after the takeover announcement date and have Corrado (1989) "z" scores that are both negative and marginally significant at $z_{c4}^{o} = -1.7055$ and $z_{c17}^{o} = -1.7238$, respectively. The predominance of insignificant but negative AARs over the event window suggests that the shareholders of Chinese target firms obtain no economic benefits from M&A activities when the consideration is other than purely in cash. Hence, the analysis of the Corrado (1989) "z" statistics summarised in this section confirms the conclusion made from our analysis of the Patell (1979) "t" statistics in the previous section that the shareholders of Chinese target firms bear economic losses by the end of the event window as a result of their M&A activities.

Now one can test the hypothesis that the mean Corrado (1989) "z" statistic,

z_{ct}^{c}, for Chinese target firms where the consideration is solely in cash is identical to the mean Corrado (1989) "z" statistic, z_{ct}^{o}, for Chinese target firms where the consideration is other than purely in cash by using the test statistic:

$$z_{ct}^{co} = \frac{z_{ct}^{c} - z_{ct}^{o}}{\sqrt{2}}$$

This test statistic is asymptotically distributed as a standard normal variate (Fisz, 1963, p. 197). Moreover, testing the hypothesis that z_{ct}^{co} is insignificantly different from zero is equivalent to testing the hypothesis that the mean AAR on the tth day of the event window for Chinese target firms where the consideration is solely in cash is the same as the mean AAR on the tth day of the event window for Chinese target firms where the consideration is other than purely in cash. The sixth column of Table 7.2(a) summarises the z_{ct}^{co} statistics for each trading day, t = -6, -5, -4,____, 15, 16, 17 over the event window. This particular column of the table shows that there are no significant z_{ct}^{co} statistics before the takeover announcement date (t = 0). However, on the takeover announcement date itself the z_{ct}^{co} is positive and significantly different from zero at z_{c0}^{co} = 1.9764. Moreover, on the first and second trading days after the announcement date the z_{ct}^{co} is also positive and significantly different from zero at z_{c1}^{co} = 2.7566 and z_{c2}^{co} = 1.8457, respectively. These statistics imply that Chinese target firms where cash is the sole mode of consideration earn significantly larger AARs around the takeover announcement date than Chinese target firms where the consideration is other than purely in cash. However, beyond this period the z_{ct}^{co} scores gradually decline and become insignificantly different from zero. From this, we conclude that apart from the period immediately surrounding the takeover announcement date there are virtually no differences between the AARs accruing to the shareholders of Chinese target firms where the consideration is solely in cash and the AARs for the shareholders of Chinese target firms where the consideration is other

than purely in cash.

7.4.3 Average Abnormal Returns and Modified Corrado "z" Statistics

It will be recalled from chapter four of this dissertation that we developed a modified Corrado test based on the original Corrado (1989) testing methods but which considerably simplifies the computational procedures behind the original Corrado (1989) test. More importantly, the modified Corrado test has greater power in detecting abnormal returns when compared to the original Corrado (1989) test.   We now apply the statistical methodology of the modified Corrado test in order to assess whether there are any differences in the AARs of Chinese target firms where the consideration is solely in cash as against the AARs of Chinese target firms where the consideration is other than purely in cash. A summary of the AARs over the event window using OLS betas and their associated modified Corrado "z" scores is provided in Table 7.3(a).   Table 7.3(b) summarises the AARs and their associated modified Corrado "z" scores using Dimson (1979) betas. Further details on how the modified Corrado (1989) "z" scores were calculated are to be found in section 4.2 of chapter four of this dissertation. We again emphasise that the AARs summarised in the second and third columns of Table 7.3(a) are the same as the AARs summarised in the second and third columns of Table 7.1(a) and Table 7.2(a), respectively. Likewise, the AARs summarised in the second and third columns of Table 7.3(b) are the same as the AARs summarised in the second and third columns of Table 7.1(b) and 7.2(b), respectively. A pictorial summary of the AARs based on OLS betas is to be found in Figure 7.1(a) and for Dimson (1979) betas in Figure 7.1(b) above. Moreover, given the similarity of the results summarised in columns four, five and six of Table 7.3(a) and Table 7.3(b) we again confine the discussion of our results to the OLS. Betas as summarised in Table 7.3(a).

The fourth column of Table 7.3(a) summarises the modified Corrado "z" scores associated with the AARs of firms where cash is the sole mode of consideration.

Table 7.3 (a): Average Abnormal Returns and Associated Modified Corrado Statistics Based on O.L.S Betas for Chinese Target Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 44) as against Alternative (M = 16) Modes of Consideration

Time Relative to Announce Date (0)	Average Abnormal Return Cash	Average Abnormal Return Alternatives	Modified Corrado Z Score Cash	Modified Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0088	-0.0073	1.6593*	-1.0026	1.8823*
-5	-0.0009	0.0015	-0.5861	-0.1933	-0.2778
-4	0.0058	0.0073	-0.4776	1.0091	-1.0513
-3	0.0027	0.0148	1.4138	1.2140	0.1413
-2	0.0039	-0.0213	-0.6991	-1.3184	0.4379
-1	-0.0077	-0.0042	0.0322	-0.5915	0.4411
0	0.0123	-0.0069	1.7138*	-0.8883	1.8400*
1	0.0251	0.0687	2.5881$	-1.5194	2.9044$
2	0.0098	-0.0166	1.2351	-1.5658	1.9805#
3	0.0342	-0.0124	0.7078	-1.5968	1.6295
4	0.0126	-0.0204	0.1520	-1.9138*	1.4607
5	0.0176	0.0029	0.0297	0.9782	-0.6706
6	0.0014	-0.0098	-0.5967	-0.2242	-0.2634
7	0.0105	-0.0048	-0.7082	-0.6998	-0.0060
8	-0.0120	-0.0145	-2.2407#	-0.5297	-1.2099
9	0.0018	-0.0016	0.8011	0.0387	0.5391
10	-0.0107	0.0005	-0.5929	0.3634	-0.6762
11	-0.0043	0.0079	-1.2291	0.5567	-1.2628
12	-0.0120	-0.0044	-1.3152	0.9472	-1.5998
13	-0.0046	0.0164	-1.0535	1.2063	-1.5979
14	-0.0036	-0.0013	-1.2816	-0.6341	-0.4578
15	0.0014	0.0029	-0.6344	0.8815	-1.0719
16	-0.0026	-0.0115	-0.8516	-1.6586*	0.5706
17	0.0040	-0.0233	-1.6455*	-1.7436*	0.0693

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

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Table 7.3 (b): Average Abnormal Returns and Associated Modified Corrado Statistics Based on Dimson (1979) Betas for Chinese Target Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 44) as against Alternative (M = 16) Modes of Consideration

Time Relative to Announce Date (0)	Average Abnormal Return Cash	Average Abnormal Return Alternatives	Modified Corrado Z Score Cash	Modified Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0088	-0.0073	1.4366	-0.9408	1.6811*
-5	-0.0009	0.0015	-0.5885	-0.3054	-0.2002
-4	0.0058	0.0073	-0.4234	1.1251	-1.0949
-3	0.0027	0.0148	1.3831	1.1947	0.1333
-2	0.0039	-0.0213	-0.7274	-1.4266	0.4944
-1	-0.0077	-0.0042	-0.1233	-0.5297	0.2873
0	0.0123	-0.0069	1.6881*	-0.7904	1.7525*
1	0.0251	0.0687	2.9395$	-1.6006	3.2103$
2	0.0098	-0.0166	1.2635	-1.3880	1.8748*
3	0.0342	-0.0124	0.8280	-1.3261	1.5232
4	0.0126	-0.0204	0.1261	-1.9911*	1.4971
5	0.0176	0.0029	-0.1330	0.8815	-0.7174
6	0.0014	-0.0098	-0.2074	-0.2629	0.0393
7	0.0105	-0.0048	-0.8450	-0.7462	-0.0699
8	-0.0120	-0.0145	-2.2054#	-0.3982	-1.2779
9	0.0018	-0.0016	0.8129	0.0928	0.5092
10	-0.0107	0.0005	-0.4255	0.5103	-0.6617
11	-0.0043	0.0079	-0.9885	0.4176	-0.9942
12	-0.0120	-0.0044	-1.2114	0.9472	-1.5264
13	-0.0046	0.0164	-0.7753	1.1947	-1.3929
14	-0.0036	-0.0013	-1.4160	-0.6418	-0.5474
15	0.0014	0.0029	-0.6652	0.8738	-1.0882
16	-0.0026	-0.0115	-0.5616	-1.6045	0.7374
17	0.0040	-0.0233	-1.6168	-1.7650*	0.1048

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test).

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This particular column shows that there are marginally significant positive AARs on the sixth trading day prior to the announcement date (modified Corrado "z" statistic, 1.6593). This may suggest that the market has a positive perception of M&A activities when the consideration is solely in cash. This interpretation of our results is supported by the fact that when cash is used as the sole mode of consideration the modified Corrado "z" scores are positive and statistically different from zero on the takeover announcement date itself (modified Corrado "z" statistic, 1.7138) and the first trading day following the takeover announcement date (modified Corrado "z" statistic, 2.5881). Moreover, after this and up until the seventh trading day after the takeover announcement date the AARs are generally positive although not statistically different from zero. Beyond this point, however, the AARs are generally negative and occasionally significantly so as on the eighth and seventeenth trading days after the takeover announcement date where the modified Corrado "z" statistics are a statistically significant -2.2407 and -1.6455, respectively. Hence, our analysis shows that there are significant economic benefits for the shareholders of Chinese target firms around the takeover announcement date when the takeover consideration is paid solely in cash but as the event window proceeds beyond the takeover announcement date these same shareholders earn no significant abnormal returns (and indeed, probably incur marginal losses).

The fifth column of Table 7.3(a) summarises the modified Corrado "z" statistics associated with the AARs of firms where the mode of consideration is other than purely in cash. The AARs accruing to the shareholders of these Chinese target firms are not significantly different from zero other than on the fourth, sixteenth and seventeenth days after the takeover announcement date where they are negative and significant with modified Corrado "z" scores of -1.9138, -1.6586 and -1.7436, respectively. This suggests that the shareholders of Chinese target firms where the consideration is other than purely in cash are not able to benefit economically from their M&A activities and in fact at some point over the event window suffer significant losses. Hence, our analysis in this section of the modified Corrado "z" statistics is consistent with our analysis of the Corrado (1989) "z" statistics and Patell

(1979) "t" statistics in the previous two sections and shows that the shareholders of Chinese target firms obtain no economic benefits from M&A activities when the consideration is not purely in cash. Indeed, if anything our analysis shows that it is more likely that the shareholders of Chinese target firms where the consideration is other than purely in cash bear economic losses as a result of the M&A activities they enter into.

Our analysis of the modified Corrado "z" statistics indicates that the AARs for the shareholders of Chinese target firms will on average be larger when the consideration for the takeover is solely in cash as against when alternative modes of consideration are employed. Given this, we now use the modified Corrado "z" statistics associated with the AARs over the event window for target firms comprising our sample to formally test this hypothesis. Thus, let z_{it}^{c} be the modified Corrado "z" statistic corresponding to the abnormal return of for the ith target firm on the tth day of the event window where the takeover consideration is purely in cash. It then follows that $\overline{z_{it}^{c}} = \frac{1}{N} \sum_{i=1}^{N} z_{it}^{c}$ will be the average modified Corrado "z" statistic for the abnormal returns across the $N = 43$ firms during the tth day of the event window where the takeover consideration is solely in cash. Moreover, $\overline{z_{it}^{c}}\sqrt{N}$ will be asymptotically distributed as a standard normal variate as $N \rightarrow \infty$ (Fisz, 1963, p. 197).

One can also define z_{it}^{o} to be the modified Corrado "z" statistic corresponding to the abnormal return for the ith target firm on the tth day of the event window where the takeover consideration is other than purely in cash. It then follows that $\overline{z_{it}^{o}} = \frac{1}{M} \sum_{i=1}^{M} z_{it}^{o}$ will be the average modified Corrado "z" statistic across the $M = 16$ firms during the tth day of the event window where the takeover consideration is other than purely in cash. Moreover, $\overline{z_{it}^{o}}\sqrt{M}$ will be asymptotically distributed as a standard normal variate as $M \rightarrow \infty$ (Fisz, 1963,

p. 197).

Now, one can test the hypothesis that the mean modified Corrado "z" score for target firms where the consideration is solely in cash is identical to the mean modified Corrado "z" score for target firms where the consideration is other than purely in cash by using the statistic:

$$\overline{z_t^{co}} = \frac{1}{\sqrt{2}}\{\overline{z_{it}^c}\sqrt{N} - \overline{z_{it}^o}\sqrt{M}\}$$

which will be asymptotically distributed as a standard normal variate (Fisz, 1963, p. 197). It will be recalled from previous sections that this is equivalent to testing the hypothesis that the AAR on the tth day of the event window for target firms where the consideration is solely in cash is the same as the AAR on the tth day of the event window for target firms where the consideration is other than purely in cash. Now, the sixth column of Table 7.3(a) summarises the $\overline{z_t^{co}}$ statistic for each trading day of the event window. This column of the table shows that the test statistic ($\overline{z_{-6}^{co}}$ = 1.8823) is marginally significant six days before the takeover announcement date; that is, at t = -6. This may suggest that even before the public announcement of takeovers, investors have an expectation that Chinese target firms where cash is the sole mode of consideration are likely to generate significantly higher economic benefits for their shareholders when compared to target firms where the consideration is other than purely in cash. However, on the takeover announcement date itself (t = 0) the test statistic ($\overline{z_0^{co}}$ = 1.8400) is positive and marginally significant. Moreover, on the first (t = 1) trading day after the takeover announcement date the test statistic ($\overline{z_1^{co}}$ = 2.9044) is positive and significantly different from zero. Likewise, on the second (t = 2) trading day after the announcement date the test statistic ($\overline{z_2^{co}}$ = 1.9805) is positive and significantly different from

zero. These results imply that Chinese target firms where cash is the sole mode of consideration earn significantly larger AARs around the takeover announcement date than Chinese target firms where the consideration is

other than purely in cash. However, beyond this period the test statistics, $\overline{z_t^{co}}$, gradually decline and become insignificantly different from zero. From this, we conclude that apart from the period immediately surrounding the takeover announcement date there are virtually no differences between the AARs accruing to the shareholders of Chinese target firms where the consideration is solely in cash and the AARs for the shareholders of Chinese target firms where the consideration is other than purely in cash. These results are broadly compatible with the results obtained using the Patell (1976) "t" statistics as summarised in section 7.4.1 and the Corrado (1989) "z" statistics as summarised in section 7.4.2.

7.4.4 A Summary and Comparison of Results Based on the Patell, Corrado and Modified Corrado Test Statistics

From the analysis conducted in section 7.4.1, section 7.4.2 and section 7.4.3, one can conclude that no matter whether our methodology is based on the Patell (1976) "t" scores, the Corrado (1989) "z" statistics or the modified Corrado "z" statistics associated with the abnormal returns, there are significant positive AARs around the takeover announcement date for the shareholders of Chinese target firms when the consideration is solely in cash. However, after two days following the takeover announcement date, the AARs accruing to the shareholders of Chinese target firms begin to decline and become insignificantly different from zero. Indeed, as the event window proceeds there is an increasing tendency for the abnormal returns to become negative and occasionally, significantly so in a statistical sense. On the other hand, the AARs accruing to the shareholders of Chinese target firms where the consideration is other than purely in cash are generally not significantly different from zero or marginally negative in a statistical sense over the entire event window. More important, however, is that all three tests (Patell, Corrado and modified Corrado) show that on the takeover announcement date and the trading days immediately after the takeover announcement date

the shareholders of Chinese target firms where the consideration is solely in cash obtain significantly larger AARs in a statistical sense than the shareholders of Chinese target firms where the consideration is other than purely in cash. However, as the event window proceeds beyond this period, all three tests show that there appears to be no difference between the AARs obtained for the shareholders of Chinese target firms where the consideration is solely in cash and the AARs for the shareholders of Chinese target firms where the consideration is other than purely in cash. Finally, a comparison of the results summarised in the sixth column of Tables 7.1(a) and 7.1 (b), 7.2(a) and 7.2(b) and 7.3(a) and 7.3(b), shows that the modified Corrado test is more powerful than the original Corrado (1989) test and that the Patell (1976) test has more power than both the Corrado (1989) and modified Corrado tests. Here it must be remembered, however, that the Patell (1976) "t" test is based on the unlikely assumption that equity returns are normally distributed (Harris and Küçüközmen, 2001; Ashton and Tippett, 2006). In contrast, the modified Corrado test is a nonparametric test and makes no assumptions about the underlying distribution for equity returns.

7.5 Cumulative Average Abnormal Returns for Cash as against Alternative Modes of Consideration for Chinese Target Firms

We commence our analysis of the Cumulative Average Abnormal Returns (CAARs) associated with the mode of consideration for the shareholders of Chinese target firms by again emphasising that our event window starts six trading days before the takeover announcement date and concludes seventeen trading days after the announcement date; that is, (-6, +17) trading days. Furthermore, as noted in section 7.3 of this chapter there are N = 43 Chinese target firms in total where cash is the sole mode of consideration for the takeover. Importantly, six of the 44 Chinese target firms are listed on foreign stock exchanges. Since there are no significant differences between the empirical results obtained from including these six firms listed on foreign stock exchanges and the empirical results obtained from excluding them from our analysis, we report only our empirical results with these six firms included in our empirical analysis.

In contrast, there are 39 Chinese target firms where the mode of consideration is either not explicitly stated on the SDC (M&A) database or where the consideration is other than purely in cash. It will be recalled that these alternative modes of consideration include the shares of the acquiring firm, convertible bonds issued by the acquiring firm, warrants issued by the acquiring firm, the transfer of some of the acquiring firm's assets to the shareholders of the target firm, the repayment of some of the target firm's debt by the acquiring firm, or some combination thereof. Since we find significant differences in the empirical results based on the entire sample of 39 Chinese target firms and the sample of 16 Chinese target firms which excludes the 23 target firms that do not clearly specify the particular mode of consideration, as in previous sections we only report empirical results relating to the sample of M = 16 Chinese target firms where the SDC (M&A) database explicitly states that the takeover consideration is other than purely in cash. We now proceed to our analysis the CAARs for firms where the mode of consideration is solely in cash as against not purely in cash based on the Patell (1976) "t" statistics. Subsequent sections will summarise our analysis of the CAARs for cash as against alternative modes of consideration based on the Corrado (1989) "z" statistics and the modified Corrado "z" statistics.

7.5.1 Cumulative Average Abnormal Returns and Patell (1976) "t" Statistics

A summary of the CAARs over the event window using OLS betas and their associated Patell (1976) "t" scores is provided in Table 7.4(a). Table 7.4(b) contains the CAARs and their associated Patell (1976) "t" scores using Dimson (1979) betas. The reader will see that there is very little difference between the information summarised in both these tables. Given this, we again confine our attention to the data for OLS. betas as summarised in Table 7.4(a). The second column of the Table 7.4(a) shows that the CAARs which accrue to the shareholders of Chinese target firms where the consideration is solely in cash are all positive over the event window.

Table 7.4 (a): Cumulative Average Abnormal Returns (CAARs) and Associated Patell (1976) Statistics Based on OLS Betas for Chinese Target Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 44) as against Alternative (M = 16) Modes of Consideration

Time Relative to Announce Date (0)	CAAR Cash	CAAR Alternatives	Patell "t" Score Cash	Patell "t" Score Alternatives	Z Score Cash vs Alternatives
-6	0.0088	-0.0073	1.4684	-2.1170[#]	2.5353[$]
-5	0.0078	-0.0057	0.6941	-0.5445	0.8758
-4	0.0136	0.0016	0.4099	0.4407	-0.0218
-3	0.0163	0.0164	1.1771	0.8914	0.2020
-2	0.0201	-0.0049	1.1566	0.0977	0.7487
-1	0.0125	-0.0090	1.4893	-0.1222	1.1395
0	0.0247	-0.0160	1.7475*	-1.0501	1.9782[#]
1	0.0498	0.0527	2.8392[$]	0.8632	1.3973
2	0.0596	0.0362	3.5119[$]	0.6242	2.0419[#]
3	0.0938	0.0237	3.6311[$]	0.4201	2.2705[#]
4	0.1064	0.0034	3.4516[$]	0.1864	2.3088[#]
5	0.1240	0.0063	3.2040[$]	0.1858	2.1342[#]
6	0.1254	-0.0035	3.1803[$]	0.0538	2.2108[#]
7	0.1359	-0.0083	3.2730[$]	-0.0082	2.3202[#]
8	0.1239	-0.0227	2.8859[$]	-0.2012	2.1829[#]
9	0.1257	-0.0243	2.9265[$]	-0.2397	2.2389[#]
10	0.1150	-0.0238	2.9086[$]	-0.2468	2.2312[#]
11	0.1107	-0.0159	2.7999[$]	-0.1946	2.1175[#]
12	0.0987	-0.0203	2.5550[$]	-0.1757	1.9309*
13	0.0941	-0.0039	2.3927[#]	-0.1316	1.7849*
14	0.0906	-0.0052	2.3708[#]	-0.1163	1.7587*
15	0.0920	-0.0023	2.3322[#]	-0.0782	1.7044*
16	0.0894	-0.0139	2.1783[#]	-0.1282	1.6309
17	0.0934	-0.0371	2.5415[$]	0.9860	1.0999

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

Table 7.4 (b): Cumulative Average Abnormal Returns (CAARs) and Associated Patell (1976) Statistics Based on Dimson (1979) Betas for Chinese Target Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 44) as against Alternative (M = 16) Modes of Consideration

Time Relative to Announce Date (0)	CAAR Cash	CAAR Alternatives	Patell "t" Score Cash	Patell "t" Score Alternatives	Z Score Cash vs Alternatives
-6	0.0079	-0.0070	1.3772	-2.0019[#]	2.3894[#]
-5	0.0073	-0.0060	0.7933	-0.9052	1.2010
-4	0.0135	0.0011	0.4418	0.4025	0.0278
-3	0.0158	0.0153	1.1741	0.7995	0.2649
-2	0.0199	-0.0072	1.1347	-0.0481	0.8364
-1	0.0105	-0.0109	1.4195	-0.2061	1.1495
0	0.0229	-0.0178	1.8068*	-1.2892	2.1892[#]
1	0.0483	0.0508	2.8148[$]	0.8565	1.3847
2	0.0568	0.0338	3.4703[$]	0.6027	2.0277[#]
3	0.0922	0.0240	3.6236[$]	0.4163	2.2679[#]
4	0.1048	0.0020	3.4492[$]	0.1692	2.3193[#]
5	0.1223	0.0043	3.2084[$]	0.1588	2.1564[#]
6	0.1256	-0.0050	3.2024[$]	0.0253	2.2466[#]
7	0.1361	-0.0124	3.2917[$]	-0.0525	2.3647[#]
8	0.1259	-0.0243	2.9026[$]	-0.2283	2.2139[#]
9	0.1279	-0.0252	2.9760[$]	-0.2575	2.2864[#]
10	0.1170	-0.0234	2.9793[$]	-0.2602	2.2907[#]
11	0.1128	-0.0149	2.8802[$]	-0.2098	2.1849[#]
12	0.1010	-0.0200	2.6824[$]	-0.1895	2.0308[#]
13	0.0990	-0.0040	2.5109[$]	-0.1461	1.8788*
14	0.0926	-0.0059	2.4837[$]	-0.1310	1.8489*
15	0.0914	-0.0030	2.4121[#]	-0.0931	1.7715*
16	0.0894	-0.0141	2.2467[#]	-0.1413	1.6885*
17	0.0942	-0.0380	2.6834[$]	0.9794	1.2049

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

In particular, the CAAR across the N = 44 firms where the mode of consideration is solely in cash reaches a statistically significant peak of 13.59% on the seventh trading day after the takeover announcement date and then falls away so that it levels off at around 9% after the twelfth trading day following the takeover announcement date. A pictorial representation of the CAARs is to be found in Figure 7.2(a) for OLS betas and Figure 7.2(b) for Dimson (1979) betas. In contrast, both the third column Table 7.4(a) and Figure 7.2(a) show that for the shareholders of Chinese target firms where the consideration is in other than purely in cash, the CAARs are predominately negative over the entire event window. Hence, whilst the CAAR reaches a peak of about 5% on the first trading day after the takeover announcement date when the consideration is not purely in cash, it decays away in subsequent periods so much so that by the end of our event window (t = 17) the CAAR is -3.71%.

Furthermore, the fourth column of Table 7.4(a) summarises the Patell (1976) "t" statistics associated with the CAARs of Chinese target firms where cash is used as the sole mode of consideration. The data summarised in this column of the table show that statistically significant and positive CAARs accrue to the shareholders of Chinese target firms where the consideration is solely in cash on the announcement date itself [Patell (1976) "t" statistic, 1.7475] and on all subsequent periods of our event window. In contrast, the fifth column of Table 7.4(a) and Figure 7.2(a) show that when the consideration is not purely in cash, there is a statistically significant and negative CAAR on the sixth trading day prior to the takeover announcement date [Patell (1976) "t" statistic, -2.1170)]. This again may suggest that the market expects target firms to perform poorly when the takeover consideration is not purely in cash. Furthermore, the fifth column of Table 7.4(a) also shows that from the fifth trading day before the takeover announcement date until the end of the event window, the CAARs of target firms where the consideration is not purely in cash are generally negative, although insignificantly different from zero. One can conclude from these two observations that there are no economic benefits of any significance for the shareholders of Chinese target firms where the mode of consideration is not purely in cash.

Figure 7.2 (a): Cumulative Average Abnormal Returns (CAAR) Betas Based on OLS Betas for Chinese Target Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 44) as against Alternative (M = 16) Modes of Consideration
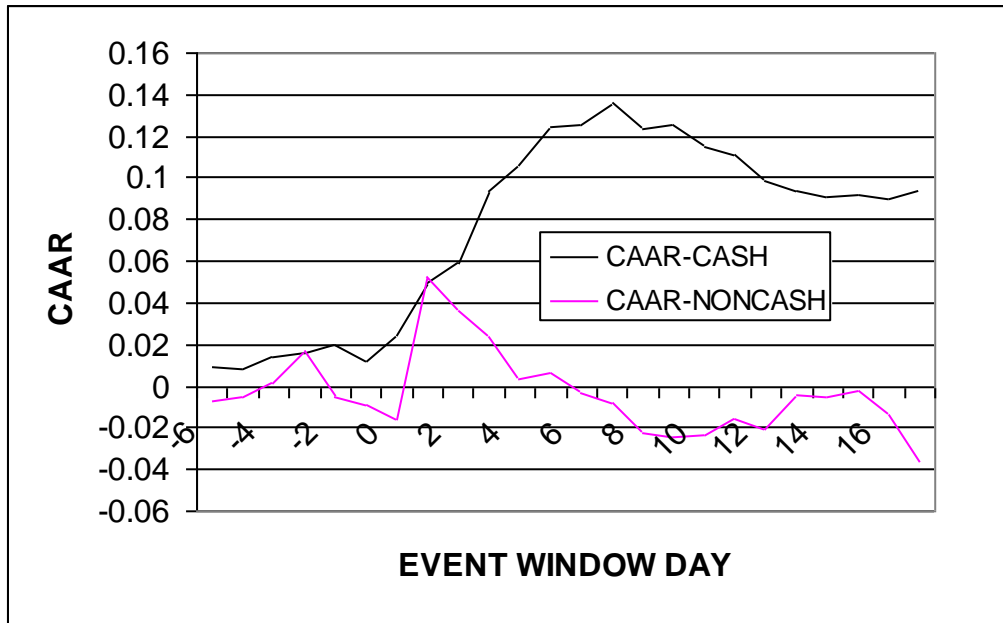
Figure 7.2 (b): Cumulative Average Abnormal Returns (CAAR) Based on Dimson (1979) Betas for Chinese Target Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 44) as against Alternative (M = 16) Modes of Consideration
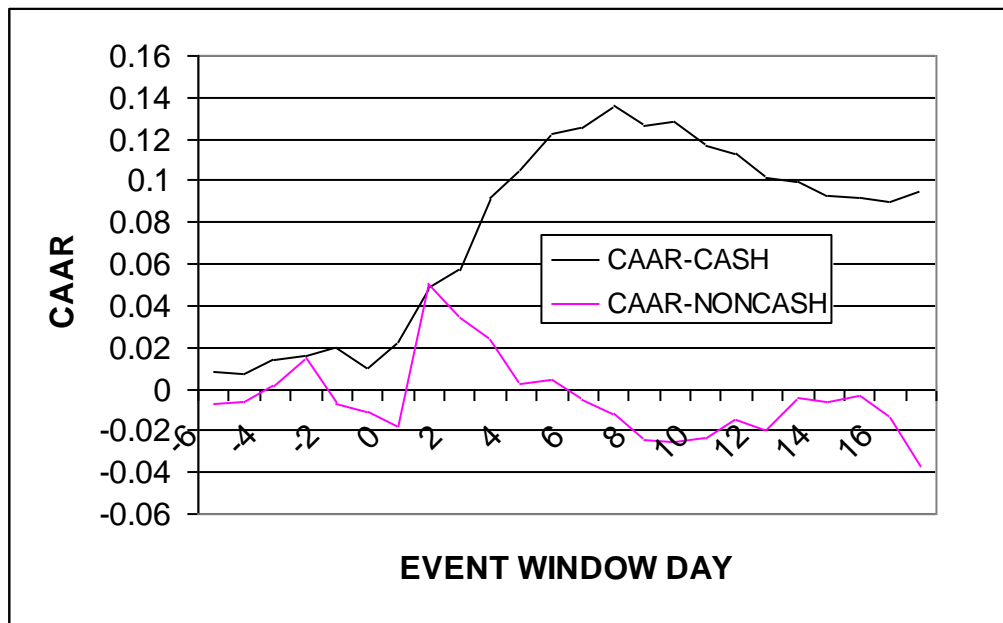
Thus, our analysis of the Patell (1976) "t" statistics to date indicates that the CAARs for the shareholders of Chinese target firms will on average be larger when the consideration for the takeover is solely in cash as against when the consideration is not purely in cash. However, we now conduct a formal test of this hypothesis. Our testing procedures are analogous to those summarised in section 7.4.1 for the Patell (1976) "t" statistics associated with the target firms' abnormal returns and are based on the test statistic, $\overline{z_t^{co}}$, which is defined as follows:

$$\overline{z_t^{co}} = \frac{1}{\sqrt{2}}\left\{ \frac{\overline{z_{it}^c}\sqrt{N}}{\hat{s}(z_{it}^c)} - \frac{\overline{z_{it}^o}\sqrt{M}}{\hat{s}(z_{it}^o)} \right\}$$

Here $\overline{z_{it}^c}$ is the average Patell (1976) "t" score associated with the CAARs across the i = 1,2,3, ___, N = 44 target firms where the mode of consideration is solely in cash, $\overline{z_{it}^o}$ is the average Patell (1976) "t" score associated with the CAARs across the i = 1,2,3, ___, M = 16 target firms where the mode of consideration is other than purely in cash and t = -6, -5, -4,____, 15, 16, 17 is the particular date in the event window. Moreover, $\hat{s}^2(z_{it}^c)$ is the variance computed from the N = 44 Patell statistics for the tth day of the event window where the takeover consideration is solely in cash. Likewise, $\hat{s}^2(z_{it}^o)$ is the variance computed from the M = 16 Patell statistics for the tth day of the event window where the takeover consideration is not purely in cash. Further details of the derivation of the test statistic $\overline{z_t^{co}}$ are to be found in section 7.4.1 of this chapter of the dissertation. Suffice it to say that for large N and M the probability density of the test statistic $\overline{z_t^{co}}$ approaches that of the standard normal distribution (Fisz, 1963, p. 197). The sixth column of Table 7.4(a)

shows that the $\overline{z_t^{co}}$ statistic is positive and significantly different from zero on the sixth trading day $(t = -6)$ prior to the takeover announcement date $(\overline{z_{-6}^{co}} = 2.5353)$. As previously noted, this indicates that even before the takeover is announced the market expects Chinese target firms where cash is the sole mode of consideration to provide larger economic benefits than Chinese target firms where the consideration is other than purely in cash.

This column also shows that there are significantly positive $\overline{z_t^{co}}$ statistics on the takeover announcement date itself $(\overline{z_0^{co}} = 1.9782)$ and also, from the second trading day after the takeover announcement date until the fifteenth trading day following the takeover announcement date. This in turn suggests that for most of the period covering the takeover announcement date until the end of event window the shareholders of Chinese target firms where cash is the sole mode of consideration obtain larger CAARs from takeovers than the shareholders of Chinese target firms where the consideration is other than purely in cash.

7.5.2 Cumulative Average Abnormal Returns and Corrado (1989) "z" Statistics

In this section, we use the Corrado (1989) "z" statistics associated with the cumulative average abnormal returns (CAARs) for our sample of Chinese target firms to assess whether the economic benefits which accrue to the shareholders of Chinese target firms when the consideration is solely in cash are greater than the economic benefits which accrue to the shareholders of Chinese target firms where the consideration is other than purely in cash. A summary of the CAARs over the event window using O.L.S betas and their associated Corrado (1989) "z" statistics is provided in Table 7.5(a). Table 7.5(b) contains the CAARs and their associated Corrado (1989) "z" statistics using Dimson (1979) betas. Here, it is important to note that the CAARs summarised in the second and third columns of Table 7.5(a) are identical to the CAARs summarised in the second and third columns of Table 7.4(a).

Table 7.5 (a): Cumulative Average Abnormal Returns (CAARs) and Associated Corrado (1989) Statistics Based on OLS Betas for Chinese Target Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 44) as against Alternative (M =16) Modes of Consideration

Time Relative to Announce Date (0)	CAAR Cash	CAAR Alternatives	Corrado Z Score Cash	Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0088	-0.0073	1.4909	-0.5754	1.4611
-5	0.0078	-0.0057	0.6448	-0.5287	0.8298
-4	0.0136	0.0016	0.2539	0.0875	0.1176
-3	0.0163	0.0164	0.9143	0.6167	0.2104
-2	0.0201	-0.0049	0.5090	0.0262	0.3414
-1	0.0125	-0.0090	0.4765	-0.1913	0.4722
0	0.0247	-0.0160	1.1367	-0.5380	1.1842
1	0.0498	0.0527	1.9629[#]	-0.9820	2.0823[#]
2	0.0596	0.0362	2.2556[#]	-1.3909	2.5785[$]
3	0.0938	0.0237	2.3596[#]	-1.7695*	2.9197[$]
4	0.1064	0.0034	2.2942[#]	-2.2014[#]	3.1789[$]
5	0.1240	0.0063	2.2049[#]	-1.8561*	2.8715[$]
6	0.1254	-0.0035	1.9546*	-1.8387*	2.6823[$]
7	0.1359	-0.0083	1.6965*	-1.9385*	2.5703[$]
8	0.1239	-0.0227	1.0695	-1.9946[#]	2.1667[#]
9	0.1257	-0.0243	1.2319	-1.9227*	2.2306[#]
10	0.1150	-0.0238	1.0530	-1.7867*	2.0080[#]
11	0.1107	-0.0159	0.7381	-1.6194	1.6671*
12	0.0987	-0.0203	0.4211	-1.3826	1.2754
13	0.0941	-0.0039	0.1783	-1.1072	0.9090
14	0.0906	-0.0052	-0.1017	-1.2038	0.7793
15	0.0920	-0.0023	-0.2327	-1.0086	0.5487
16	0.0894	-0.0139	-0.4025	-1.2947	0.6309
17	0.0934	-0.0371	-0.7604	-1.6193	0.6074

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

Table 7.5 (b): Cumulative Average Abnormal Returns (CAARs) and Associated Corrado (1989) Statistics Based on Dimson (1979) Betas for Chinese Target Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 44) as against Alternative (M = 16) Modes of Consideration

Time Relative to Announce Date (0)	CAAR Cash	CAAR Alternatives	Corrado Z Score Cash	Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0088	-0.0073	1.2912	-0.5115	1.2747
-5	0.0078	-0.0057	0.4983	-0.5547	0.7446
-4	0.0136	0.0016	0.1629	0.1277	0.0249
-3	0.0163	0.0164	0.8265	0.6445	0.1287
-2	0.0201	-0.0049	0.4151	0.0062	0.2892
-1	0.0125	-0.0090	0.3278	-0.1876	0.3645
0	0.0247	-0.0160	0.9948	-0.4957	1.0540
1	0.0498	0.0527	1.9615[#]	-0.9696	2.0726[#]
2	0.0596	0.0362	2.2672[#]	-1.3276	2.5420[$]
3	0.0938	0.0237	2.4104[#]	-1.6343	2.8601[$]
4	0.1064	0.0034	2.3353[#]	-2.0949[#]	3.1326[$]
5	0.1240	0.0063	2.1977[#]	-1.7783[*]	2.8114[$]
6	0.1254	-0.0035	2.0533[#]	-1.7737[*]	2.7061[$]
7	0.1359	-0.0083	1.7537[*]	-1.8874[*]	2.5746[$]
8	0.1239	-0.0227	1.1287	-1.9153[*]	2.1525[#]
9	0.1257	-0.0243	1.2939	-1.8338[*]	2.2116[#]
10	0.1150	-0.0238	1.1522	-1.6684[*]	1.9945[#]
11	0.1107	-0.0159	0.8883	-1.5334	1.7124[*]
12	0.0987	-0.0203	0.5882	-1.2983	1.3340
13	0.0941	-0.0039	0.4008	-1.0266	1.0094
14	0.0906	-0.0052	0.0839	-1.1271	0.8563
15	0.0920	-0.0023	-0.0591	-0.9346	0.6191
16	0.0894	-0.0139	-0.1742	-1.2131	0.7346
17	0.0934	-0.0371	-0.5337	-1.5448	0.7150

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

Similarly, the CAARs summarised in the second and third columns of Table 7.5(b) are identical to the CAARs summarised in the second and third columns of Table 7.4(b). A pictorial representation of the CAARs based on OLS betas is to be found in Figure 7.2(a) and for Dimson (1979) betas in Figure 7.2(b), of the prior section 7.5.1 of this chapter. More importantly, given the fact that the empirical results based on OLS betas in Table 7.5(a) and the empirical results based on Dimson (1979) betas in Table 7.5(b) are quite similar, our focus will again be on the results obtained using OLS betas as summarised in Table 7.5(a).

The fourth column of Table 7.5(a) summarises the Corrado (1989) "z" scores associated with the CAARs of Chinese target firms where the mode of consideration is solely in cash. This column shows that when the consideration is solely in cash the CAARs which accrue to the shareholders of Chinese target firms up to the takeover announcement date are generally positive, though not significantly different from zero. In contrast, in the period immediately after the takeover announcement date and up until the seventh trading day following the takeover announcement date, the CAARs are both positive and significantly different from zero in a statistical sense. However, beyond the seventh trading day following the takeover announcement date, the positive CAARs gradually decay away and become insignificantly different from zero - though they are still much higher than those prior to the takeover announcement date. Thus, our analysis based on the Corrado (1989) "z" statistics suggests that the shareholders of Chinese target firms where the consideration is solely in cash can only obtain economic benefits from M&A activities in the several trading days immediately after the takeover announcement date.

The fifth column of Table 7.5(a) summarises the Corrado (1989) "z" scores associated with the CAARs of Chinese target firms where the mode of consideration is other than purely in cash. This column shows that the majority of the CAARs are negative over the period from the sixth trading day prior to the takeover announcement date until the second trading day after the takeover announcement date, though they are not significant in a statistical

sense. However, beyond the second trading day after the takeover announcement date up until the tenth trading day subsequent to the takeover announcement date, the CAARs are predominantly negative and significantly different from zero. After the tenth trading day in the event window, however, all CAARs are negative although not significantly different from zero. Hence, our consideration of the Corrado (1989) "z" statistics associated with the CAARs of Chinese target firms as summarised in this section show that the shareholders of Chinese target firms where the consideration is other than purely in cash suffer significant economic losses in the several trading days immediately after the takeover announcement date. In summary, our analysis in this section indicates that the Corrado (1989) "z" statistics associated with the CAARs accruing to shareholders of Chinese target firms where the consideration is solely in cash tend to be larger than the Corrado (1989) "z" statistics associated with the CAARs accruing to the shareholders of Chinese target firms where the consideration is other than purely in cash. We now conduct a formal test of this hypothesis.

From section 7.4.2 of this chapter, we know that the Corrado (1989) "z" statistic z_{ct}^{c} for the firms in our sample where the consideration is solely in cash will be asymptotically distributed as a standard normal variate (Fisz, 1963, p. 197). It follows from this that $\sum_{t=-6}^{\tau} z_{ct}^{c}$ will be the sum of the Corrado (1989) "z" scores associated with the abnormal returns of firms where the takeover consideration is purely in cash from the beginning of the event window (t = -6) until the τth = -6, -5,-4,-3, ____, 17 day of the event window.

This in turn will mean that $\sum_{t=-6}^{\tau} z_{ct}^{c}$ is asymptotically distributed as a normal variate with a mean of zero and a variance of $(\tau + 7)$. Similar considerations dictate that the Corrado (1989) "z" statistic z_{ct}^{o} for the firms in our sample where the consideration is other than purely in cash will be asymptotically distributed as a standard normal variate (Fisz, 1963, p. 197). It also follows

from this that $\sum\limits_{t=-6}^{\tau} z^o_{ct}$ is asymptotically distributed as a normal variate with a mean of zero and a variance of $(\tau + 7)$. Using these results one can test the hypothesis that the mean of the sum of the Corrado (1989) "z" statistics associated with the cumulative abnormal returns of Chinese target firms where the takeover consideration is purely in cash is identical to the mean of the sum of the Corrado (1989) "z" statistics associated with the cumulative abnormal returns of Chinese target firms where the takeover consideration is other than purely in cash. Our testing procedure is based on the following statistic:

$$z^{co}_{\tau} = \frac{\sum\limits_{t=-6}^{\tau} z^c_{ct} - \sum\limits_{t=-6}^{\tau} z^o_{ct}}{\sqrt{2(\tau + 7)}}$$

which will be asymptotically distributed as a standard normal variate (Fisz, 1963, p. 197). We would again emphasise that a test based on the z^{co}_{τ} statistic is equivalent to testing the hypothesis that the CAAR on the τth day of the event window for Chinese target firms where the consideration is solely in cash is the same as the CAAR on the τth day of the event window for target firms where the consideration is other than purely in cash.

The sixth column of Table 7.5(a) summarises the z^{co}_{τ} scores for each trading day during the event window. This particular column shows that there are no significant z^{co}_{τ} scores before the first trading day subsequent to the takeover announcement date. However, from the first trading day after the takeover announcement date up until the eleventh trading day following the takeover announcement date, all z^{co}_{τ} scores are significantly different from zero. This indicates that over this period Chinese target firms where the consideration is purely in cash earn significantly larger CAARs than Chinese target firms where the consideration is other than purely in cash. However, after the eleventh trading day following the announcement date, the z^{co}_{τ} statistics

gradually decay away and become insignificantly different from zero. This suggests that by the end of the event window, there are virtually no differences between the CAARs which accrue to the shareholders of Chinese target firms where the consideration is solely in cash and the CAARs for the shareholders of Chinese target firms where the consideration is other than purely in cash.

7.5.3 Cumulative Average Abnormal Returns and Modified Corrado "z" Statistics

In this section, we use the modified Corrado "z" statistics associated with the cumulative average abnormal returns (CAARs) of Chinese target firms to examine whether the economic benefits accruing to the shareholders of target firms when the consideration is solely in cash are larger than the economic benefits which accrue to the shareholders of target firms where the consideration is other than purely in cash. A summary of the CAARs over the event window using OLS betas and their associated modified Corrado "z" statistics is provided in Table 7.6(a). Table 7.6(b) summarises the CAARs and their associated modified Corrado "z" statistics using Dimson (1979) betas. Note again that the CAARs summarised in the second and third columns of Table 7.6(a) are the same as the CAARs summarised in the second and third columns of Table 7.4(a) and Table 7.5(a). Likewise, the CAARs summarised in the second and third columns of Table 7.6(b) are the same as the CAARs summarised in the second and third columns of Table 7.4(b) and Table 7.5(b). A pictorial representation of the CAARs based on OLS betas is to be found in Figure 7.2(a) and for Dimson (1979) betas in Figure 7.2(b) of section 7.5.1 of this chapter. More importantly, since there are no significant differences between the empirical results based on OLS betas and the empirical results based on Dimson (1979) betas, the focus our analysis will again be on the results obtained using the OLS betas as summarised in Table 7.6(a).

The fourth column of Table 7.6(a) summarises the modified Corrado "z" scores associated with the CAARs of Chinese target firms where the consideration is solely in cash. This column shows that the CAARs which

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Table 7.6 (a): Cumulative Average Abnormal Returns (CAARs) and Associated Modified Corrado Statistics Based on OLS Betas for Chinese Target Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 44) as against Alternative (M = 16) Modes of Consideration

Time Relative to Announce Date (0)	CAAR Cash	CAAR Alternatives	Modified Corrado Z Score Cash	Modified Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0088	-0.0073	1.6593*	-1.0026	1.8823*
-5	0.0078	-0.0057	0.6008	-0.5770	0.8328
-4	0.0136	0.0016	0.1784	0.0420	0.0965
-3	0.0163	0.0164	0.8429	0.6333	0.1482
-2	0.0201	-0.0049	0.3813	-0.0179	0.2823
-1	0.0125	-0.0090	0.3603	-0.2854	0.4566
0	0.0247	-0.0160	1.3430	-0.9153	1.5968
1	0.0498	0.0527	1.8443*	-1.0695	2.0603$^\#$
2	0.0596	0.0362	2.1618$^\#$	-1.5540	2.6275$^\$$
3	0.0938	0.0237	2.2914$^\#$	-1.9934*	3.0298$^\$$
4	0.1064	0.0034	2.2539$^\#$	-2.5073$^\$$	3.3667$^\$$
5	0.1240	0.0063	2.1769$^\#$	-2.0963$^\#$	3.0216$^\$$
6	0.1254	-0.0035	1.9222*	-2.0811$^\#$	2.8307$^\$$
7	0.1359	-0.0083	1.6637*	-2.2006$^\#$	2.7325$^\$$
8	0.1239	-0.0227	1.0040	-2.2716$^\#$	2.3162$^\#$
9	0.1257	-0.0243	1.1768	-2.1834$^\#$	2.3761$^\#$
10	0.1150	-0.0238	0.9801	-2.0249$^\#$	2.1248$^\#$
11	0.1107	-0.0159	0.6487	-1.8330*	1.7549*
12	0.0987	-0.0203	0.3150	-1.5569	1.3236
13	0.0941	-0.0039	0.0599	-1.2319	0.9135
14	0.0906	-0.0052	-0.2370	-1.3553	0.7908
15	0.0920	-0.0023	-0.3758	-1.1278	0.5318
16	0.0894	-0.0139	-0.5521	-1.4730	0.6512
17	0.0934	-0.0371	-0.3839	-0.0778	-0.2165

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

Table 7.6 (b): Cumulative Average Abnormal Returns (CAARs) and Associated Modified Corrado Statistics Based on Dimson (1979) Betas for Chinese Target Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N =44) as against Alternative (M = 16) Modes of Consideration

Time Relative to Announce Date (0)	CAAR Cash	CAAR Alternatives	Modified Corrado Z Score Cash	Modified Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0088	-0.0073	1.4366	-0.9408	1.6811*
-5	0.0078	-0.0057	0.4589	-0.6551	0.7877
-4	0.0136	0.0016	0.1064	0.0622	0.0313
-3	0.0163	0.0164	0.7666	0.6430	0.0874
-2	0.0201	-0.0049	0.3002	-0.0633	0.2570
-1	0.0125	-0.0090	0.2227	-0.2964	0.3671
0	0.0247	-0.0160	1.2903	-0.9461	1.5813
1	0.0498	0.0527	1.8423*	-1.0738	2.0621#
2	0.0596	0.0362	2.1688#	-1.4943	2.5902$
3	0.0938	0.0237	2.3396#	-1.8466*	2.9601$
4	0.1064	0.0034	2.2913#	-2.3922#	3.3117$
5	0.1240	0.0063	2.1620#	-2.0162#	2.9544$
6	0.1254	-0.0035	2.0221#	-2.0151#	2.8547$
7	0.1359	-0.0083	1.7209*	-2.1505#	2.7375$
8	0.1239	-0.0227	1.0700	-2.1869#	2.3030#
9	0.1257	-0.0243	1.2448	-2.0871#	2.3560#
10	0.1150	-0.0238	1.0894	-1.8934*	2.1091#
11	0.1107	-0.0159	0.8156	-1.7403*	1.8073*
12	0.0987	-0.0203	0.5027	-1.4666	1.3925
13	0.0941	-0.0039	0.3097	-1.1464	1.0296
14	0.0906	-0.0052	-0.0245	-1.2735	0.8832
15	0.0920	-0.0023	-0.1749	-1.0496	0.6185
16	0.0894	-0.0139	-0.2906	-1.3843	0.7733
17	0.0934	-0.0371	-0.1564	0.0306	-0.1322

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

accrue to the shareholders of Chinese target firms when the mode of

consideration is solely in cash are marginally positive and significantly different from zero on the sixth trading day preceding the takeover announcement date (modified Corrado "z" statistic, 1.6593). This may suggest that the market has a positive perception of target firms when the mode of consideration is solely in cash even before the public announcement of the takeover. Moreover, in the period from the fifth trading day prior to the takeover announcement date up until the takeover announcement date itself, the CAARs are all positive though not significantly different from zero. However, from the first trading day after the takeover announcement date until the seventh trading day subsequent to the takeover announcement date, the CAARs are both positive and significantly different from zero. Beyond the seventh trading day following the takeover announcement date, however, the positive CAARs gradually fall away and become insignificantly different from zero. In summary, our analysis based on the modified Corrado "z" statistics suggest that the shareholders of Chinese target firms where the mode of consideration is solely in cash are only able to obtain economic benefits for their shareholders over the several trading days immediately following the takeover announcement date.

The fifth column of Table 7.6(a) summarises the modified Corrado "z" scores associated with the CAARs of Chinese target firms when the mode of consideration is other than purely in cash. This particular column shows that prior to the second trading day after the takeover announcement date the CAARs which accrue to the shareholders of Chinese target firms where the consideration is other than purely in cash are generally negative though not significantly different from zero. However, beyond the second trading day after the takeover announcement date up until the eleventh trading day after the takeover announcement date, the CAARs for target firms when the mode of consideration is other than purely in cash are predominantly negative and significantly different from zero in a statistical sense. In the trading days subsequent to this point, however, the negative CAARs turn from being significantly different from zero to insignificantly different from zero. Thus, our consideration of the modified Corrdao "z" statistics associated with the CAARs of Chinese target firms as summarised in the fifth column of Table 7.6(a) show

that the shareholders of target firms where the consideration is other than purely in cash suffer significant economic losses in the several trading days immediately after the takeover announcement date. In summary, the modified Corrado "z" statistics associated with the CAARs which accrue to the shareholders of Chinese target firms where the consideration is solely in cash tend to be larger than the modified Corrado "z" statistics associated with the CAARs for the shareholders of Chinese target firms where the consideration is other than purely in cash. We now conduct a formal test of this hypothesis.

Our testing procedures are analogous to those summarised in section 7.4.3 of this chapter for the modified Corrado "z" statistics associated with the Average Abnormal Returns (AARs) which accrue to the shareholders of Chinese target firms and are based on the test statistic $\overline{z_t^{co}}$ which is defined as follows:

$$\overline{z_t^{co}} = \frac{1}{\sqrt{2}}\{\overline{z_{it}^{c}}\sqrt{N} - \overline{z_{it}^{o}}\sqrt{M}\}$$

Here $\overline{z_{it}^{c}}$ is the average modified Corrado "z" statistic for the cumulative abnormal returns across the $i = 1,2,3, \_\_\_, N = 44$ target firms where the mode of consideration is solely in cash, $\overline{z_{it}^{o}}$ is the average modified Corrado "z" statistic for the cumulative abnormal returns across the $i = 1,2,3, \_\_\_, M = 16$ target firms where the consideration is other than purely in cash and $t = -6, -5, -4,\_\_\_\_, 15, 16, 17$ is the particular date in the event window. Further details of the derivation of the test statistic $\overline{z_t^{co}}$ are to be found in section 7.4.3 of this chapter. Suffice it to say that the probability density of the test statistic $\overline{z_t^{co}}$ asymptotically converges to that of the standard normal distribution (Fisz, 1963, p. 197). We emphasise again that a test based on the $\overline{z_t^{co}}$ statistic is equivalent to testing the hypothesis that the CAAR

on the tth day of the event window for Chinese target firms where the consideration is solely in cash is the same as the CAAR on the tth day of the event window for Chinese target firms where the consideration is other than purely in cash.

The sixth column of Table 7.6(a) summarises the $\overline{z_t^{co}}$ scores for each trading day during the event window. This column shows that the test statistic, $\overline{z_{-6}^{co}}$ = 1.8823, on the sixth trading day prior to the takeover announcement date is both positive and marginally significant. This indicates that even before the public announcement of the takeovers, investors have an expectation that Chinese target firms where cash is the sole mode of consideration are likely to generate significantly higher economic benefits in comparison to Chinese target firms where the consideration is other than purely in cash. After this date in the event window, however, there are no significant $\overline{z_t^{co}}$ statistics before the first trading day following the takeover announcement date. Then in the period beginning on the first trading day after the takeover announcement date up until the eleventh trading day after the takeover announcement date, all $\overline{z_t^{co}}$ statistics are both positive and significantly different from zero. This suggests that over this period Chinese target firms where the consideration is solely in cash earn significantly larger CAARs than Chinese target firms where the consideration is other than purely in cash. Beyond this point until the conclusion of the event window, however, the $\overline{z_t^{co}}$ scores gradually decay away and are insignificantly different from zero. Thus, by the end of the event window there are virtually no differences between the CAARs which accrue to the shareholders of Chinese target firms where the consideration is solely in cash and the CAARs which accrue to the shareholders of Chinese target firms where the consideration is other than purely in cash.

7.5.4 A Summary and Comparison of Results of Cumulative Average Abnormal Returns Based on the Patell, Corrado and Modified Corrado Test Statistics

The empirical analysis summarised in Section 7.5.1, Section 7.5.2 and Section 7.5.3, shows that irrespective of whether our methodology is based on the Patell (1976) "t" statistics, the Corrado (1989) "z" statistics or the modified Corrado "z" statistics, the shareholders of Chinese target firms where the consideration is solely in cash tend to earn positive CAARs which are statistically significant from zero over the several trading days subsequent to the takeover announcement date. However, the exact period of the significant CAARs is dependent on which of the three methodologies is employed. If, for example, one uses the Patell (1976) "t" statistics then the CAARs are positive and significant over the entire event window commencing from the takeover announcement date; that is, (0,+17) trading days. In contrast, when the Corrado (1989) "z" statistic and the modified Corrado "z" statistic are used, the CAARs are again positive and significant but over the much narrower event window commencing on the first trading day after the takeover announcement date and concluding seven trading days after the takeover announcement date; that is, (+1,+7) trading days. Whilst the CAARs are large and positive beyond this period, they are no longer significantly different from zero under the Corrado (1989) and modified Corrado tests.

In comparison, the Patell (1976) "t" scores associated with the CAARs of the Chinese target firms in our sample where the consideration is other than purely in cash are insignificantly different from zero and often negative over the entire event window.   When the Corrado (1989) "z" statistics and the modified Corrado "z" statistics are used, however, the CAARs for these same Chinese target firms are negative and significantly different from zero in the period commencing on the third trading day after the takeover announcement date and concluding on the tenth (Corrado) and eleventh (modified Corrdao) trading day after the announcement date. Beyond the eleventh trading day of the event window, the CAARs whilst still negative are no longer significantly different from zero. Here we would emphasise that the Patell (1976) test is based on the unlikely assumption that equity returns are normally distributed

(Harris and Küçüközmen, 2001; Ashton and Tippett, 2006). In contrast, both the Corrado (1989) test and the modified Corrado test are nonparametric tests and make no assumptions about the underlying distribution for equity returns. Hence, one should exercise caution with the interpretation of the results obtained using the Patell (1976) "t" test, especially when they differ from the results obtained using the Corrado (1989) and modified Corrado test statistics.

7.6 Implications of our Empirical Results for Practice

It will be recalled from section 7.3 of this chapter that our sample is comprised of 44 Chinese target firms for which the takeover consideration is solely in cash. In contrast, our sample is comprised of only 16 Chinese target firms where the consideration is other than purely in cash. This confirms the assertion made in the introductory section 7.1 of this chapter that cash predominates as the mode of consideration for the large majority of Chinese M&A activities. Moreover and as alluded to in section 2.6 of chapter two of this dissertation, Ding and Yang (2008) argue that using cash as the sole mode of consideration can have the effect of signalling to the market that the acquiring firm has sufficient cash resources to improve the operating performance of the target firm after the takeover is consummated. This provides a partial explanation as to why the empirical results summarised in this chapter indicate that the abnormal returns for Chinese target firms where the mode of consideration is solely in cash are significantly larger than the abnormal returns of target firms where the consideration is other than purely in cash.

7.7 Summary and Conclusions

This chapter provides a detailed analysis of the economic benefits which accrue to the shareholders of Chinese target firms as a result of using cash as against alternative modes of consideration (the shares of the acquiring firm, convertible bonds issued by the acquiring firm, warrants issued by the acquiring firm, the transfer of some of the acquiring firm's assets to the shareholders of the target firm, the repayment of some of the target firm's debt by the acquiring firm, or some combination thereof) in the takeover process.

We begin the chapter by explaining how the sample of Chinese target firms employed in our empirical analysis was selected. The economic benefits which accrue to Chinese target firms where cash is used as the sole mode of consideration are compared to the economic benefits which accrue to Chinese target firms when the consideration is other than purely in cash in terms of the average abnormal returns (AARs) and the cumulative average abnormal returns (CAARs) on the equity stock of the given firms. In particular, the Patell (1976) "t" test, the original Corrado (1989) "z" test and the modified Corrado (1989) "z" test are employed to evaluate and compare the AARs and CAARs for Chinese target firms where the consideration is solely in cash and Chinese target firms where the consideration is other than purely in cash. We find that that the Patell "t" (1976) test is the most powerful of the three tests employed but also, that the modified Corrado "z" test has more power than the original test proposed by Corrado (1989). Here we would emphasise, however, that the Patell "t" (1976) test is based on the unlikely assumption that equity returns are normally distributed (Harris and Küçüközmen, 2001; Ashton and Tippett, 2006). In contrast, the modified Corrado "z" test is a nonparametric test which makes no assumptions about the underlying distribution of equity returns. Whilst there are some variations in the results obtained depending on which tests are used, it is important to emphasise that all three test statistics show that when the mode of consideration is solely in cash the AARs and CAARs which accrue to the shareholders of Chinese target firms around the takeover announcement date are positive and significantly different from zero. Our analysis based on the Patell (1976) test statistic suggests that the CAARs are statistically significant over the entire event window beyond the takeover announcement date. In contrast, the Corrado (1989) and modified Corrado test statistics suggest that the CAARs are significantly different from zero over the much narrower window beginning on the day subsequent to the takeover announcement date and concluding seven days after the takeover announcement date.

One can contrast these results with those obtained for target firms where the takeover consideration is other than purely in cash. Here the Patell "(1976) test statistics are insignificantly different from zero and often negative over the

entire event window. However, when the Corrado (1989) test statistic and the modified Corrado test statistic are used the CAARs for Chinese target firms where the consideration is other than purely in cash are negative and significantly different from zero over the period commencing on the third trading day after the takeover announcement date and concluding on the tenth (Corrado) and eleventh (modified Corrado) trading day after the takeover announcement date. Hence, irrespective of which test statistic is used our empirical analysis is compatible with the hypothesis that there are no economic benefits (and indeed, probably economic losses) for the shareholders of Chinese target firms where the consideration for the takeover is other than purely in cash.

CHAPTER EIGHT

THE ANALYSIS OF ABNORMAL RETURNS EARNED BY CHINESE ACQUIRING FIRMS: CASH VERSUS OTHER MODES OF CONSIDERATION

8.1 Introduction

The previous chapter details our empirical results relating to the economic benefits which accrue to the shareholders of Chinese target firms where cash is used as the sole mode of consideration in comparison to the economic benefits that accrue to the shareholders of Chinese target firms where alternative modes of consideration are employed. Here we would remind the reader that the alternative modes of consideration commonly used by Chinese acquiring firms include exchanging their own shares for shares in the target firm, issuing convertible bonds in the acquiring firm in exchange for shares in the target firm, the issue of warrants by the acquiring firm, the transfer of some of the acquiring firm's assets to the shareholders of the target firm, the repayment of some of the target firm's debt by the acquiring firm, or some combination thereof). The empirical analysis summarised in chapter seven of this dissertation finds that there are significant economic benefits for the shareholders of Chinese target firms when cash is used as the sole mode of consideration. In contrast, there are few, if any economic benefits arising for the shareholders of Chinese target firms when alternative modes of consideration are used to finance M&A activities. In this chapter, we turn our attention to the impact that different modes of consideration can have on the economic benefits that accrue to the shareholders of Chinese acquiring firms. We ask in particular, whether the economic benefits that accrue to the shareholders of Chinese acquiring firms are consistent with the economic benefits that accrue to the shareholders of Chinese target firms when cash and alternative modes of consideration are used to finance takeovers. We analyse the impact of employing different modes of consideration on Chinese

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acquiring firms both in terms of the average abnormal returns (AARs) and the cumulative average abnormal returns (CAARs) using a 24 -day event window surrounding the takeover announcement date. We then identify potential reasons for the differing economic benefits that appear to arise from using cash as against alternative modes of consideration for the shareholders of Chinese acquiring firms.

We begin our analysis of these issues by reminding the reader that before the shareholding structure reform (Guquan Fenzhi Gaige) which took place in China in 2005, it was very unusual for anything else but cash to be used as the mode of consideration for Chinese takeovers since the large majority of Chinese firms were (and continue to be) controlled by the Chinese government and only a small number of firms controlled by the Chinese government were listed on the Chinese mainland stock exchanges. It is difficult for a firm whose shares are not listed on the stock exchange to finance a takeover by exchanging its own shares for those in the target firm since the target firm's shareholders will not be able to determine the price that is being offered for their shares. Because of this, Chinese takeovers have traditionally been conducted using cash as the sole mode of consideration. However, as noted in section 3.2.3 of chapter three of this dissertation under the shareholding structure reforms implemented in 2005, representatives of the group of shareholders in a firm with tradable shares (that is, public shareholders) can agree terms and conditions for the conversion of non-tradable shares into tradable shares with representatives of the group of shareholders in the firm who hold the non-tradable shares. The number of Chinese firms which are controlled by the Chinese government whose shares are listed on the stock exchange has gradually been increasing as a result of the shareholding structure reform, although it still remains the case that the large majority of Chinese takeovers are financed using cash as the sole mode of consideration. However, it nonetheless remains the case that the shareholding structure reform implemented in 2005 has facilitated the use of shares in the acquiring firm as the mode of consideration in many takeovers and there has been a significant increase in the proportion of takeovers financed by the issue of new shares in acquiring firms since that date.

The remainder of this chapter is organised as follows: section 8.2 provides a brief summary of the prior literature regarding the impact that the mode of consideration can have on Chinese acquiring firms in both the Chinese and western economies. Section 8.3 summarises how the data used in our empirical analysis is selected. Section 8.4 provides an analysis of the AARs that arise over the event window where cash is used as the sole mode of consideration as against the AARs which arise where alternative modes of consideration are employed. The analysis of the AARs is applied in terms of the Patell (1976) "t" statistic, the original Corrado (1989) "z" statistic and the modified Corrado "z" statistic as developed in Chapter 4 of this dissertation. Here, the principal focus of our analysis, however, is with the differences which arise in these statistics for Chinese acquiring firms where the takeover consideration is solely in cash as against Chinese acquiring firms where alternative modes of consideration are employed in the takeover. Next, section 8.5 focuses on the analysis of the CAARs for Chinese acquiring firms where the takeover consideration is solely in cash as against the CAARs for Chinese acquiring firms where alternative modes of consideration are used in takeovers. Again, our analysis is based on a comparison of the Patell (1976) "t" statistics, the Corrado (1989) "z" statistics and the modified Corrado "z" statistics which arise for the CAARs of Chinese acquiring firms where the takeover consideration is solely in cash as against Chinese acquiring firms where alternative modes of consideration are employed. Section 8.6 outlines the implications that our empirical results have for the way that Chinese acquiring firms ought to finance their takeovers in order to maximise the economic benefits that accrue to their shareholders. Finally, section 8.7 provides a brief summary of this chapter and makes a few concluding remarks about the economic impact that the various modes of consideration have on M&A activities in China.

8.2 A Brief Summary of Prior Literature

It will be recalled from Chapter two of this dissertation there is a large volume of work in both western countries as well as in China that deals with the issue of whether the economic benefits obtained by Chinese acquiring firms hinge on the mode of consideration employed in their M&A activities. In particular,

Chinese work in this area mainly addresses the important question as to whether the economic benefits that accrue to the shareholders of acquiring firms are larger when the takeover consideration is solely in cash as against when the consideration is other than purely in cash. Unfortunately, the limited volume of Chinese empirical work conducted in this area has resulted in inconsistent and often contradictory results and is relatively unsophisticated when compared to the equivalent work conducted in western economies. We begin this section by briefly summarising the prior western literature in this area and this will be followed by a similarly brief review of the relevant Chinese literature.

Asquith, Bruner and Mullins (1990) is one of the early western papers that deals with the economic benefits that arise for shareholders of acquiring firms that use different modes of consideration in their M&A activities. Asquith, Bruner and Mullins (1990) employ a sample of 343 mergers listed on either the New York Stock Exchange (NYSE) or the American Stock Exchange (AMEX) over the period from 1975 till 1983. Their results indicate that both the abnormal percentage returns and the abnormal dollar returns to acquiring firms are smaller for stock financed takeovers in comparison to takeovers where the mode of consideration is solely in cash. The Asquith, Bruner and Mullins (1990) study is an exemplar for much of the western literature in this area which consistently finds that the economic benefits which accrue to the shareholders of acquiring firms are larger for takeovers where the consideration is in cash in comparison to takeovers where alternative modes of consideration are employed. The empirical work of Martin (1996) provides further evidence on this issue. Martin (1996) employs a sample of 846 acquisitions listed on either the NYSE or AMEX over the period from 1978 until 1988. He finds that the higher the acquiring firm's growth opportunities, the more likely it is that the acquirer will use its own stock to finance a takeover. Moreover, Martin (1996) also finds that the likelihood of an acquiring firm financing a takeover with its own stock increases when the pre-acquisition returns on the acquiring firm's stock (and the stock market as a whole) have been positive and relatively large and that it decreases with the acquiring firm's higher cash availability (e.g. large cash balances on its

balance sheet or the availability of lines of credit that can be readily converted into cash), the higher the institutional shareholdings and/or block holdings in the acquiring firm and whether the acquiring firm makes a tender offer for the target firm.

Using a sample of 311 U.S acquisitions over the period from 1985 to 1996 Yook (2003) argues that there is no convincing evidence that the abnormal returns associated with takeovers are correlated with the mode of consideration employed in the takeover. That is, Yook (2003) found that the abnormal returns associated with the takeovers in his sample where the mode of consideration was solely in cash were insignificantly different from the abnormal returns of the takeovers where the consideration was in the stock of the acquiring firm. However, Yook (2003) also finds that there is some evidence that the stock of the acquiring firm might have been used to finance the most unsuccessful takeovers. In contrast, Berkovitch and Narayanan (1990) establish analytically that if the market for mergers and acquisitions is characterised by asymmetric information then the shareholders of both the acquiring firm and the target firm will obtain higher returns when the takeover is financed with cash rather than with the stock of the acquiring firm.

Using a sample of 96 acquisitions that occurred in China in 2006, Ge and Ping (2009) conclude that non-cash takeovers, which are principally comprised of share swap transactions, have positive wealth enhancing effects for the shareholders of Chinese acquiring firms over the short term. In contrast, Ge and Ping (2009) find that cash based takeovers do not have significant wealth enhancing effects for the shareholders of Chinese acquiring firms. Zhang, Wang and Meng (2007) also note that using cash as the sole mode of consideration for Chinese M&A activities can lead to Chinese acquiring firms securing pre-emptive rights in the form of a quick takeover. They note that this is the reason why in hostile tender offers especially, cash is typically employed as the mode of consideration. However, Zhang, Wang and Meng (2007) also note that in China most acquiring firms lack the free cash flows which would enable them to internally finance their M&A activities through cash offers. Hence, whilst share offers occasionally occur in China it is

normally the case that acquiring firms raise debt from banks and/or other financial institutions so that they can finance their M&A activities purely through the medium of cash offers.

8.3 Data Selection

It is important to recall from section 6.3 of chapter six of this dissertation that we define a takeover in terms of Article 84(1) of the Measures for the Administration of Takeovers of Listed Companies which was promulgated by the China Securities Regulation Committee (CSRC) in 2006. Article 84(1) provides that a takeover occurs when an acquiring firm successfully purchases more than 50% of the equity shares issued by the listed target firm. Based on this definition of a takeover, our initial sample is comprised of 2,448 Chinese acquiring firms from the Securities Data Company Mergers and Acquisitions [SDC (M&A)] Database and covers the period from 1 January, 1990 until 31 December, 2008. However, we have previously noted (as in section 6.5.2 of this dissertation) that a sample of 250 firms will lead to reliable inferences about the magnitude and timing of the abnormal returns that accrue to the shareholders of Chinese acquiring firms over this period. Given this, our sampling procedure selected every fifth firm for inclusion in our empirical analysis. This means that we had a potential sample of around $\frac{2448}{5} \approx 500$ Chinese acquiring firms as the basis of our empirical analysis. However, when we exclude firms that did not have share price data available on the Datastream system our final sample is comprised of 279 randomly selected acquiring firms with A shares on issue, 12 acquiring firms with B shares on issue and 27 acquiring firms with H shares on issue.

We confine our research to these 279 Chinese acquiring firms with A shares on issue only because of the very limited size of the acquiring firms with B shares and H shares on issue. We begin our analysis by dividing the 279 Chinese acquiring firms comprising our sample into two groups.[1] The first

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[1] Of these, 264 acquiring firms are listed on the two (Shanghai and Shenzhen) Chinese mainland stock exchanges whilst the remaining 15 acquiring firms have their shares listed on foreign stock exchanges. Seven of these latter firms are listed on the Nasdaq, three are listed on the NYSE (New York Stock Exchange), three are listed on the U.S. OTC Bulletin Board and two are listed on

category is comprised of 168 Chinese acquiring firms where cash is the sole mode of consideration. The second category involves those Chinese acquiring firms where the mode of consideration for the takeover is other than purely in cash. These alternative modes of consideration include the shares of the acquiring firm, convertible bonds issued by the acquiring firm, warrants issued by the acquiring firm, the transfer of some of the acquiring firm's assets to the shareholders of the target firm, the repayment of some of the target firm's debt by the acquiring firm, or some combination of all of these. There are 111 acquiring firms in this second category, including 66 acquiring firms where the mode of consideration for the takeover is not explicitly stated on the SDC (M&A) database. Again, we conduct our empirical analysis with and without the inclusion of these 66 Chinese acquiring firms for which the mode of consideration is not explicitly stated. However, we now find that there are significant differences in the results based on the entire sample of 111 Chinese acquiring firms and the sample of 45 acquiring firms which excludes the 66 acquiring firms which do not explicitly specify the exact mode of consideration. Given this, the empirical analysis summarised in subsequent sections excludes these 66 Chinese target firms which do not explicitly specify the exact mode of consideration; that is, our empirical analysis is based on 168 Chinese acquiring firms covering the period from 1 January, 1990 until 31 December, 2008 where cash is the sole mode of consideration and 45 acquiring firms where the consideration is other than purely in cash.

8.4 Average Abnormal Returns for Cash as against Alternative Modes of Consideration for Chinese Acquiring Firms

We commence our analysis by using the OLS and Dimson (1979) betas respectively (as in section 4.2 of chapter 4 this dissertation) to calculate the average abnormal returns (AARs) for both the 168 Chinese acquiring firms where the mode of consideration is solely in cash and the 45 Chinese acquiring firms where the mode of consideration is other than purely in cash over the event window (-6, +17) trading days. We then employ the Patell

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the Hong Kong Stock Exchange. We conduct our empirical analysis with and without the inclusion of these 15 Chinese firms that are listed on foreign stock exchanges. However, there are no significant differences in the results we obtain from including these 15 Chinese foreign listed firms and the results we obtain from excluding them from our empirical analysis.

(1976) "t" test, the Corrado (1989) test and the Modified Corrado test respectively to determine the statistical significance of the abnormal returns for our sample of 168 Chinese acquiring firms where cash is the sole mode of consideration and the 45 Chinese acquiring firms where the mode of consideration is other than purely in cash.

8.4.1 Average Abnormal Returns and Patell (1976) "t" Statistics for Chinese Acquiring Firms

A summary of the AARs over the event window using OLS betas and their associated Patell (1976) "t" scores for cash as against alternative modes of consideration of the Chinese acquiring firms in our sample is provided in Table 8.1(a). Table 8.1(b) contains the AARs and their associated Patell (1976) "t" scores using Dimson (1979) betas. Further details on how the Patell (1976) "t" scores were calculated are to be found in section 4.3 of chapter 4 this dissertation. Since there are no significant differences between the information summarised in these two tables, we confine our attention to the data for OLS betas as summarised in Table 8.1(a). Hence, the second column of Table 8.1(a) shows that based on OLS estimates of beta the average abnormal return (AAR) across the 168 Chinese acquiring firms where the mode of consideration is solely in cash is positive (though not significantly so) in the six trading days prior to the takeover announcement date, on the takeover announcement date itself (time zero) and the first day after the takeover announcement day (time 1). These positive AARs reach a peak of 0.4% on the third trading day prior to the takeover announcement date. After the takeover announcement date there are as many positive as there are negative AARs, although the negative AARs tend to be larger in absolute magnitude than the positive AARs. In particular, the AAR reaches a low of -0.54% over the entire event window on the tenth trading day after the takeover announcement date.

The third column of Table 8.1(a) shows that the AARs across the 45 Chinese acquiring firms where the mode of consideration is other than purely in cash

Table 8.1 (a): Average Abnormal Returns and Associated Patell "t" (1976) Statistics Based on OLS Betas for Chinese Acquiring Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 168) as against Alternative (M = 45) Modes of Consideration

Time Relative to Announce Date (0)	Average Abnormal Return Cash	Average Abnormal Return Alternatives	Patell "t" Score Cash	Patell "t" Score Alternatives	Z Score Cash vs Alternatives
-6	0.0006	0.0013	0.4048	0.3819	0.0162
-5	0.0027	-0.0012	0.0128	-0.0250	0.0267
-4	0.0039	0.0013	1.0978	1.4969	-0.2822
-3	0.0040	0.0026	1.4985	-0.3971	1.3403
-2	0.0000	0.0035	0.2420	0.9605	-0.5081
-1	0.0006	-0.0001	0.2670	0.0806	0.1319
0	0.0003	0.0099	1.0151	1.8712*	-0.6053
1	0.0027	0.0033	0.5985	0.1587	0.3110
2	-0.0034	0.0066	-0.7189	0.5231	-0.8782
3	0.0001	0.0038	-1.4123	-0.0233	-0.9822
4	-0.0023	0.0008	-1.3254	-0.2479	-0.7619
5	-0.0021	-0.0034	-0.3687	-0.7666	0.2814
6	-0.0003	0.0075	0.0904	0.6848	-0.4203
7	0.0002	-0.0003	-0.2185	-0.2024	-0.0113
8	0.0023	-0.0054	1.4712	-1.0630	1.7920*
9	-0.0031	-0.0106	-2.1239$^{\#}$	-2.2499$^{\#}$	0.0891
10	-0.0054	-0.0037	-2.1709$^{\#}$	-0.8125	-0.9605
11	0.0010	0.0082	0.4887	2.4612$^{\$}$	-1.3948
12	-0.0006	0.0026	0.1814	0.7921	-0.4319
13	0.0005	-0.0070	0.4292	-1.1398	1.1094
14	-0.0004	-0.0010	-0.2143	0.2936	-0.3591
15	0.0025	0.0054	1.6065	0.9603	0.4570
16	0.0007	-0.0016	0.3737	-0.2108	0.4133
17	0.0001	-0.0059	-0.0580	-0.7844	0.5137

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

Table 8.1 (b): Average Abnormal Returns and Associated Patell (1976)

"t" Statistics Based on Dimson (1979) Betas for Chinese Acquiring

Firms over the Period from 1 January, 1990 until 31 December, 2008 for

Cash (N = 168) as against Alternative (M = 45) Modes of Consideration

Time Relative to Announce Date (0)	Average Abnormal Return Cash	Average Abnormal Return Alternatives	Patell "t"Score Cash	Patell "t" Score Alternatives	Z Score Cash vs Alternatives
-6	0.0014	0.0006	0.5483	0.2373	0.2199
-5	0.0027	-0.0026	-0.1176	-0.4113	0.2077
-4	0.0036	0.0020	1.0050	1.5222	-0.3657
-3	0.0037	0.0037	1.4079	-0.2260	1.1553
-2	-0.0011	0.0046	-0.1272	1.1402	-0.8962
-1	0.0012	0.0020	0.4011	0.8054	-0.2859
0	0.0006	0.0092	0.9678	1.9598*	-0.7015
1	0.0023	0.0026	0.4688	0.0744	0.2789
2	-0.0039	0.0036	-0.9175	0.2471	-0.8235
3	-0.0006	0.0024	-1.6044	-0.2038	-0.9904
4	-0.0029	-0.0018	-1.5348	-0.5380	-0.7048
5	-0.0023	-0.0017	-0.4725	-0.6377	0.1168
6	0.0003	0.0087	0.3683	0.8940	-0.3717
7	-0.0001	0.0006	-0.2588	0.0426	-0.2131
8	0.0019	-0.0057	1.2823	-1.1392	1.7122*
9	-0.0035	-0.0113	-2.2860#	-2.4350#	0.1053
10	-0.0049	-0.0034	-1.9346*	-0.8299	-0.7811
11	0.0014	0.0063	0.6044	2.1107#	-1.0651
12	-0.0003	0.0021	0.2570	0.5595	-0.2139
13	0.0006	-0.0082	0.5330	-1.4823	1.4250
14	-0.0003	0.0002	-0.1272	0.5296	-0.4645
15	0.0024	0.0071	1.4660	1.3241	0.1004
16	0.0006	-0.0008	0.4099	-0.1598	0.4028
17	0.0002	-0.0039	-0.0381	-0.4532	0.2935

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

tend to be small and generally positive from the sixth trading day before the takeover announcement date until the day prior to the takeover announcement date itself. On the takeover announcement date, however, the AAR peaks at a high of 1% over the entire event window. The AARs then fall away reaching a minimum of -1.06% for the entire event window on the ninth trading day following the takeover announcement date. However, even during this period of the event window there are a few sizable positive AARs – as on the sixth trading day and the eleventh trading day after the takeover announcement date where the AARs are 075% and 0.82%, respectively. The overall trends of the AARs over the event window for cash as against alternative modes of consideration are to be found in Figure 8.1(a) for OLS betas and Figure 8.1(b) for Dimson (1979) betas. Note how both graphs as well as the summary information in Table 8.1(a) and Table 8.1(b) show that over the event window the AARs accruing to the shareholders of Chinese acquiring firms where alternative modes of consideration are employed (that is, other than purely in cash) far exceed the AARs for shareholders of acquiring firms where cash is the sole mode of consideration. We now provide a brief summary of the possible reasons why the AARs of Chinese acquiring firms that use alternative modes of consideration are larger than the AARs of Chinese acquiring firms where cash is the sole mode of consideration. A more detailed consideration of this issue, however, is deferred until section 8.6 of this chapter.

We have previously noted (as in section 2.6 of chapter two of this dissertation) that when a listed acquiring firm's shares are over-valued in the market then it will have an incentive to offer its own shares in exchange for the shares of the target firm. This reduces the cost of the takeover to the acquiring firm and thereby results in larger economic benefits for its shareholders. Here it is important to note that the Chinese Economy Reform and Opening Up Policy initiated by Chairman Deng Xiaoping in the early 1980's combined with China's entry into the World Trade Organisation in 2001 has resulted in an unparalleled period of growth for shares of firms listed on the two mainland

Figure 8.1 (a): Average Abnormal Returns Based on OLS Betas for Chinese Acquiring Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 168) as against Alternative (M = 45) Modes of Consideration
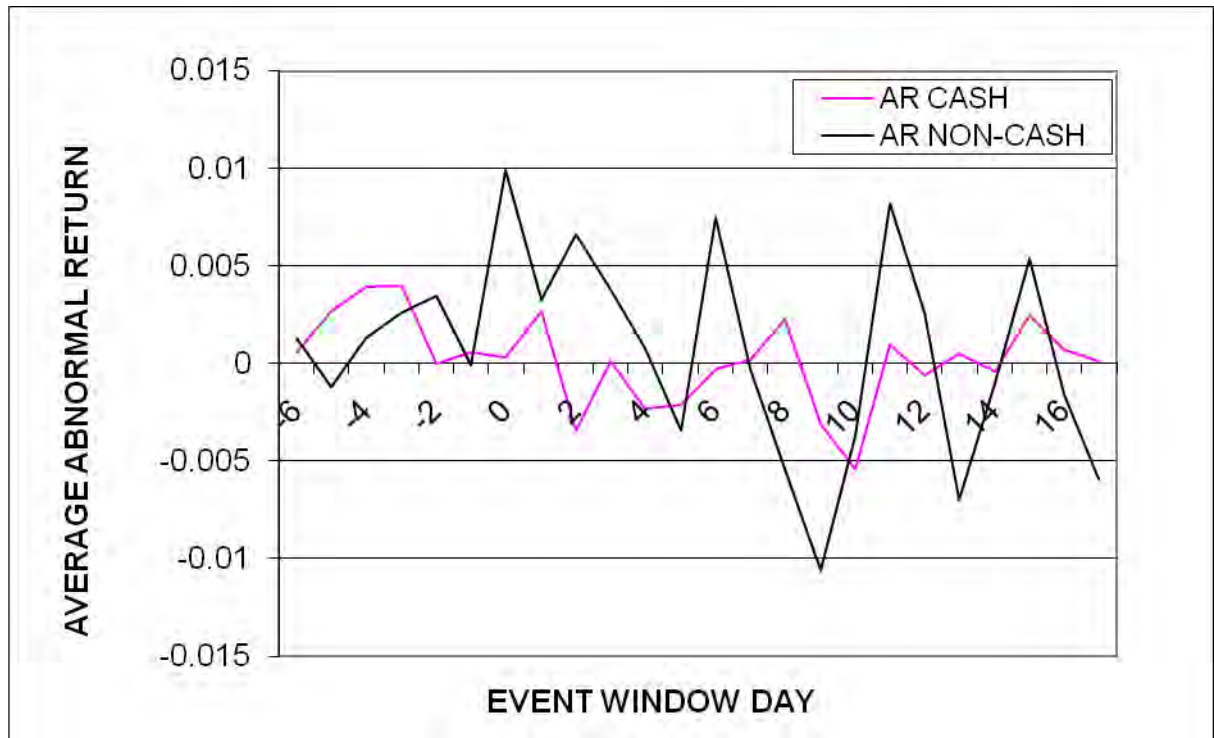
Chinese stock exchanges, some of which are undoubtedly overvalued. These Chinese firms will thus have incentives to employ their own stock as consideration in their M&A activities. This provides one possible explanation as to why the economic benefits that accrue to the Chinese acquiring firms in our sample that use alternative modes of consideration (e.g. stock of the acquiring firm, assets of the acquiring firm, convertible bonds, warrants, etc. or a mixture thereof – all of which are likely to be overvalued) are larger than the economic benefits which accrue to the Chinese acquiring firms where cash is used as the sole mode of consideration. Moreover, consideration in the form of a share exchange may enable the target firm's shareholders to defer the incidence of capital gains taxes in contrast to an offer in cash where capital gains tax would have to be paid immediately. A more detailed consideration of this issue is to be found in section 8.6 of this chapter.

Figure 8.1 (b): Average Abnormal Returns Based on Dimson (1979) Betas for Chinese Acquiring Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 168) as against Alternative (M = 45) Modes of Consideration


.
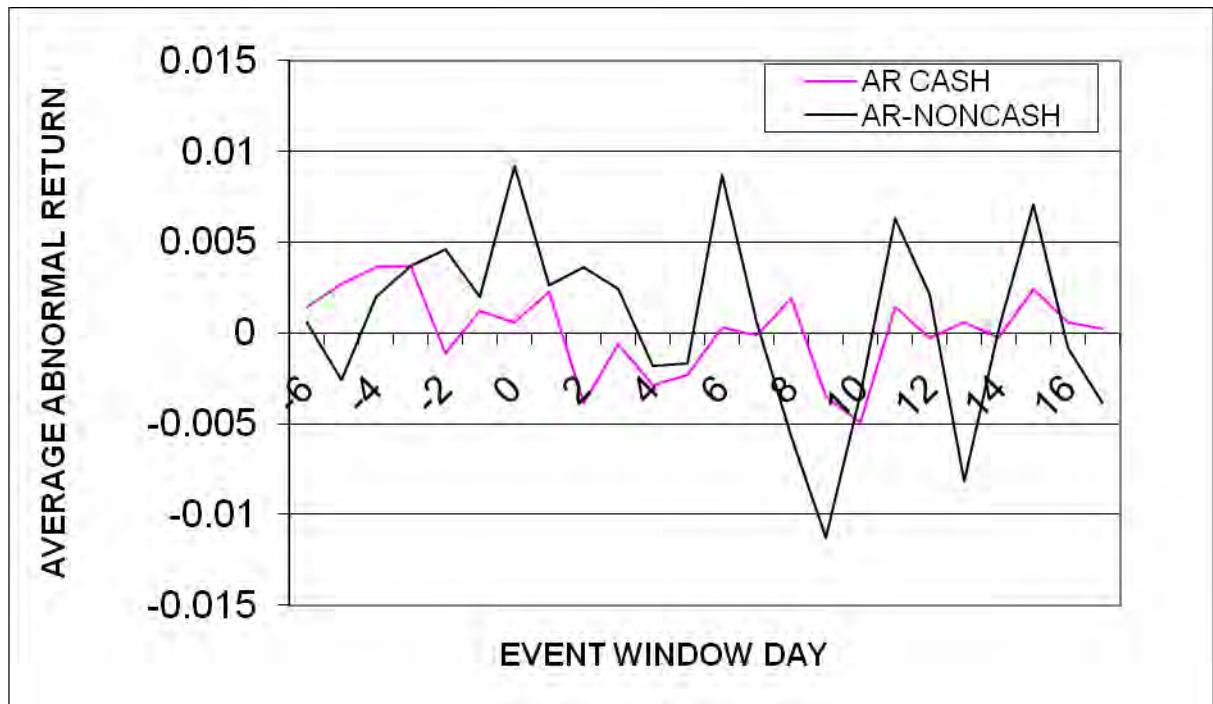
The fourth column of Table 8.1(a) summarises the Patell (1976) "t" statistics associated with the AARs of Chinese acquiring firms where cash is the sole mode of consideration. We have previously noted that the AARs over the period leading up to the takeover announcement date are all positive. However, none of the Patell (1976) "t" statistics associated with the AARs for this period, as summarised in the fourth column of Table 8.1(a), turn out to be statistically significant at generally accepted levels. However, the AARs beyond the takeover announcement date generally fall away so much so that on the ninth and tenth trading days after the takeover announcement date the AARs are -0.31% and -0.54% respectively and return significant Patell (1976) "t" statistics (at the 5% level) of -2.1239 and -2.1709, respectively.

The fifth column of Table 8.1(a) summarises the Patell (1976) "t" statistics associated with the AARs of Chinese acquiring firms where the mode of consideration is other than purely in cash. This shows that when alternative modes of consideration are used by Chinese acquiring firms the Patell (1976) "t" statistics are generally small and insignificantly positive in the run up to the takeover announcement date. On the takeover announcement date itself the AAR peaks at 1% with a marginally significant Patell "t" statistic of 1.8712. Beyond this date the AARs tend to fall way so much so that by the ninth trading day following the takeover announcement date the AAR reaches a low over the event window of -1.06% with a significant (at the 5% level) Patell "t" statistic of 2.2499. Interestingly, the ARR on the eleventh trading day after the takeover announcement date is positive and highly significant (Patell "t" statistic, 2.4612) but this represents a hiatus in what is generally a downward spiral in the AARs after the takeover announcement date.

Our analysis up to this point suggests that the AARs accruing to the shareholders of Chinese acquiring firms where alternative modes of consideration are used tend to be larger than the AARs for shareholders of Chinese acquiring firms where cash is the sole mode of consideration. We now use the Patell (1976) "t" statistics associated with the AARs over the event window for the Chinese acquiring firms comprising our sample to formally test this hypothesis. The test statistic is identical to that employed in section 7.4.1 of chapter seven of this dissertation. In particular, we define

$$\overline{z_{it}^c} = \frac{1}{N} \sum_{i=1}^{N} z_{it}^c$$ to be the average Patell (1976) "t" statistic for the abnormal

returns across the N = 168 Chinese acquiring firms during the tth day of the event window when the takeover consideration is solely in cash. Moreover,

$$\hat{s}^2(z_{it}^c) = \frac{1}{N} \sum_{i=1}^{N} (z_{it}^c - \overline{z_{it}^c})^2$$ will be the variance of the Patell (1976) "t" statistics for

the tth day of the event window when the takeover consideration is solely in cash. We also define z_{it}^o to be the Patell (1976) "t" statistic corresponding to the abnormal return for the ith acquiring firm on the tth day of the event window

where the takeover consideration is other than purely in cash. It then follows

that $\overline{z_{it}^{o}} = \frac{1}{M} \sum\limits_{i=1}^{M} z_{it}^{o}$ will be the average Patell (1976) "t" statistic across the

$M = 45$ firms during the tth day of the event window where the takeover

consideration is other than purely in cash. Moreover, $\hat{s}^2(z_{it}^{o}) = \frac{1}{M} \sum\limits_{i=1}^{M} (z_{it}^{o} - \overline{z_{it}^{o}})^2$

will be the variance of the Patell (1976) "t" statistics for the tth day of the event

window where the takeover consideration is other than purely in cash. One

can then test the hypothesis that the mean Patell (1976) "t" statistic, $\overline{z_{it}^{c}}$, for

takeovers where the consideration is solely in cash is identical to the mean

Patell (1976) "t" statistic, $\overline{z_{it}^{o}}$, for takeovers where the consideration is other

than purely in cash by using the statistic:

$$\overline{z_{t}^{co}} = \frac{1}{\sqrt{2}} \left\{ \frac{\overline{z_{it}^{c}} \sqrt{N}}{\hat{s}(z_{it}^{c})} - \frac{\overline{z_{it}^{o}} \sqrt{M}}{\hat{s}(z_{it}^{o})} \right\}$$

The $\overline{z_{t}^{co}}$ statistic given above is asymptotically distributed as a standard

normal variate (Fisz, 1963, p. 197). Moreover, testing the hypothesis that $\overline{z_{t}^{co}}$

is insignificantly different from zero is equivalent to testing the hypothesis that

the mean abnormal return on the tth day of the event window for acquiring

firms where the consideration is solely in cash is the same as the mean

abnormal return on the tth day of the event window for acquiring firms where

the consideration is other than purely in cash.

The sixth column of Table 8.1(a) summarises the $\overline{z_{t}^{co}}$ statistic for each trading

day, $t = -6, -5, -4,$_____, 15, 16, 17, of the event window. The $\overline{z_{t}^{co}}$ statistics

summarised in this column are generally insignificant apart from the eighth

trading day after the takeover announcement date where $\overline{z_8^{co}}$ = 1.7920 which is marginally significant at the 10% level. This indicates that there are virtually no differences between the AARs that accrue to the shareholders of Chinese acquiring firms where the consideration is solely in cash and the AARs that accrue to the shareholders of Chinese acquiring firms where the consideration is other than purely in cash.

8.4.2 Average Abnormal Returns and Corrado (1989) "Z" Statistics for Chinese Acquiring Firms

A summary of the average abnormal returns (AARs) over the event window using OLS betas and their associated Corrado (1989) "z" statistics for Chinese acquiring firms where cash is used as the sole mode of consideration as against the AARs and Corrado (1989) "z" statistics for acquiring firms where alternative modes of consideration are used, is contained in Table 8.2(a). Table 8.2(b) summarises the AARs and their associated Corrado (1989) "z" statistics using Dimson (1979) betas. Further details of how the Corrado "z" statistics were calculated are to be found in section 4.2 of chapter four of this dissertation and in abridged form, in section 7.4.2 of chapter seven of this dissertation. Since there are no significant differences between the information summarised in Table 8.2(a) and Table 8.2(b), we confine our attention to the data for OLS. betas as summarised in Table 8.2(a). It is also important to emphasise that the AARs summarised in the second and third columns of Table 8.2(a) for cash as against alternative modes of consideration are the same as the AARs summarised in the second and third columns of Table 8.1(a). Similarly, the AARs summarised in the second and third columns of Table 8.2(b) are the same as the AARs summarised in the second and third columns of Table 8.1(b). A pictorial summary of the AARs based on OLS betas is to be found in Figure 8.1(a) and for Dimson (1979) betas, in Figure 8.1(b) in the previous section of this chapter.

Table 8.2 (a): Average Abnormal Returns and Associated Corrado (1989) Statistics Based on OLS Betas for Chinese Acquiring Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 168) as against Alternative (M = 45) Modes of Consideration

Time Relative to Announce Date (0)	Average Abnormal Return Cash	Average Abnormal Return Alternatives	Corrado Z Score Cash	Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0006	0.0013	-0.0903	0.1042	-0.1375
-5	0.0027	-0.0012	-0.6625	0.1064	-0.5436
-4	0.0039	0.0013	0.4166	0.8799	-0.3276
-3	0.0040	0.0026	1.7035*	-0.3986	1.4864
-2	0.0000	0.0035	-0.2023	0.8864	-0.7698
-1	0.0006	-0.0001	1.0258	-0.1042	0.7990
0	0.0003	0.0099	2.8548$^\$$	1.8793*	0.6898
1	0.0027	0.0033	0.5004	0.6242	-0.0876
2	-0.0034	0.0066	-1.3804	2.0639$^\#$	-2.4355$^\#$
3	0.0001	0.0038	-1.5544	0.9659	-1.7821*
4	-0.0023	0.0008	-1.3249	0.2998	-1.1488
5	-0.0021	-0.0034	-0.9203	-0.2353	-0.4844
6	-0.0003	0.0075	0.7397	1.6879*	-0.6704
7	0.0002	-0.0003	-0.0946	-0.4910	0.2803
8	0.0023	-0.0054	0.8985	-1.2366	1.5098
9	-0.0031	-0.0106	-1.6621*	-1.4257	-0.1672
10	-0.0054	-0.0037	-2.3768$^\#$	-0.3234	-1.4520
11	0.0010	0.0082	0.5243	2.4485$^\#$	-1.3606
12	-0.0006	0.0026	-0.9866	0.2718	-0.8899
13	0.0005	-0.0070	-0.1262	-1.4364	0.9265
14	-0.0004	-0.0010	-0.8909	-0.6951	-0.1384
15	0.0025	0.0054	0.5744	0.6908	-0.0824
16	0.0007	-0.0016	0.1534	-0.5855	0.5225
17	0.0001	-0.0059	-0.3165	-1.1251	0.5717

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

Table 8.2 (b): Average Abnormal Returns and Associated Corrado (1989) Statistics Based on Dimson (1979) Betas for Chinese Acquiring Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 168) as against Alternative (M = 45) Modes of Consideration

Time Relative to Announce Date (0)	Average Abnormal Return Cash	Average Abnormal Return Alternatives	Corrado Z Score Cash	Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0014	0.0006	0.2211	-0.2196	0.3117
-5	0.0027	-0.0026	-0.6164	-0.3213	-0.2087
-4	0.0036	0.0020	0.3023	1.0201	-0.5075
-3	0.0037	0.0037	1.6965*	-0.2780	1.3962
-2	-0.0011	0.0046	-0.5790	0.7605	-0.9472
-1	0.0012	0.0020	1.3546	0.6804	0.4767
0	0.0006	0.0092	2.7599$	1.8468*	0.6456
1	0.0023	0.0026	0.3771	0.5052	-0.0906
2	-0.0039	0.0036	-1.8599*	1.6648	-2.4924$
3	-0.0006	0.0024	-1.7980*	0.6804	-1.7525*
4	-0.0029	-0.0018	-1.6014	-0.2780	-0.9358
5	-0.0023	-0.0017	-0.8696	0.0422	-0.6447
6	0.0003	0.0087	0.9262	1.8855*	-0.6783
7	-0.0001	0.0006	-0.3194	-0.2867	-0.0232
8	0.0019	-0.0057	0.8087	-1.2321	1.4431
9	-0.0035	-0.0113	-1.8279*	-1.6043	-0.1581
10	-0.0049	-0.0034	-2.0576#	0.0400	-1.4832
11	0.0014	0.0063	0.4124	2.1214#	-1.2084
12	-0.0003	0.0021	-0.8429	-0.1006	-0.5249
13	0.0006	-0.0082	-0.0021	-1.6302	1.1512
14	-0.0003	0.0002	-0.6976	-0.5268	-0.1208
15	0.0024	0.0071	0.2970	1.0417	-0.5266
16	0.0006	-0.0008	0.3910	-0.2997	0.4884
17	0.0002	-0.0039	-0.2077	-0.9907	0.5537

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

The fourth column of Table 8.2(a) summarises the Corrado "z" statistics associated with the AARs of Chinese acquiring firms where the mode of consideration is solely in cash. This column shows that when cash is used as the sole mode of consideration, the AARs that accrue to the shareholders of Chinese acquiring firms in the run up to the takeover announcement date are all positive though not always significantly different from zero. However, on the third trading day prior to the takeover announcement date the AAR has a marginally significant Corrado "z" statistic of 1.7035 and on the takeover announcement date itself, the Corrado "z" statistic, 2.8548, associated with the AAR is highly significant (at the 1% level). In contrast, after the takeover announcement date the AARs which accrue to the shareholders of Chinese acquiring firms gradually decay away and become insignificantly different from zero. Indeed, on the ninth trading day after the takeover announcement date the AAR is -0.31% with a Corrado "z" statistic of -1.6621 which is marginally significant. On the tenth trading day following the takeover announcement date the AAR reaches a low over the event window of slightly more than minus one half of one percent with a significant (at the 5% level) Corrado "z" statistic of -2.3768. We conclude from this that shareholders of Chinese acquiring firms obtain economic benefits for only a very short period surrounding the takeover announcement date, after which the AARs decay quickly away. In other words, there are few, if any, economic benefits (and probably economic losses) for the shareholders of Chinese acquiring firms beyond the takeover announcement date.

The fifth column of Table 8.2(a) summarises the Corrado "z" statistics associated with the average abnormal returns (AARs) for the shareholders of Chinese acquiring firms where the consideration is other than purely in cash; that is, for alternative modes of consideration. The results summarised in this fifth column of the table show that when alternative modes of consideration are used the Corrado (1989) "z" statistics corresponding to the AARs which accrue to the shareholders of Chinese acquiring firms are insignificant up until the takeover announcement date itself. On the takeover announcement date, however, there is a positive and significant AAR for the shareholder of

Chinese acquiring firms (Corrado "z" statistic, 1.8793) Moreover, on the second trading day subsequent to the takeover announcement date there is also a positive and significant AAR (Corrado "z" statistic, 2.0639). However, even though the AARs beyond the second trading day following the takeover announcement date tend to be predominantly negative and insignificantly different from zero, there are still significant and positive AARs on the sixth trading day after the announcement date (Corrado "z" statistic, 1.6879) and the eleventh trading day following the takeover announcement date (Corrado "z" statistic, 2.4485). From this, we conclude that the shareholders of Chinese acquiring firms where alternative modes of consideration are employed obtain significant and positive AARs in a narrow window beyond the takeover announcement date. However, as the event window proceeds, the positive AARs have a tendency to fall away and eventually become negative, although even here there are still occasions over the event window where positive and significant AARs are earned.

Having summarised the empirical evidence relating to the AARs earned by Chinese acquiring firms we now address the issue of whether there are any significant differences in the AARs according to whether cash is employed as the sole mode of consideration or an alternative mode of consideration is used. One can test this hypothesis by using the mean Corrado (1989) "z" statistic, z_{ct}^{c}, associated with the AARs that arise on the tth day of the event window for Chinese acquiring firms where the mode of consideration is solely in cash and the mean Corrado (1989) "z" statistic, z_{ct}^{o}, associated with the AARs that arise on the tth day of the event window for acquiring firms where the consideration is other than purely in cash. Our testing procedure is based on the following statistic:

$$z_{ct}^{co} = \frac{z_{ct}^{c} - z_{ct}^{o}}{\sqrt{2}}$$

where z_{ct}^{co} is asymptotically distributed as a standard normal variate (Fisz, 1963, p. 197). In particular, testing the hypothesis that z_{ct}^{co} is insignificantly

different from zero is equivalent to testing the hypothesis that the mean AAR on the tth day of the event window for Chinese acquiring firms where the consideration is solely in cash is the same as the mean AAR on the tth day of the event window for acquiring firms where the consideration is other than purely in cash. Further details about the derivation of the above test statistic are to be found in section 7.4.2 of chapter seven of this dissertation.

The sixth column of Table 8.2(a) summarises the z_{ct}^{co} statistics for each trading day, $t = $ -6, -5, -4,____, 15, 16, 17 over the event window. This column shows that there are no significant z_{ct}^{co} statistics over the event window before the second trading day following the takeover announcement date. However, on both the second and third trading days subsequent to the takeover announcement date the z_{ct}^{co} statistics are negative and significantly different from zero (z_{c2}^{co} = -2.4355 and z_{c3}^{co} = -1.7821, respectively.). Moreover, there are no significant z_{ct}^{co} statistics beyond this point in the event window. The z_{ct}^{co} statistics summarised here imply that the shareholders of Chinese acquiring firms where alternative modes of consideration are employed obtain significantly larger mean AARs than the shareholders of Chinese acquiring firms where the consideration is solely in cash only over a very narrow window immediately after the takeover announcement date. Over the remainder of the event window, however, the z_{ct}^{co} statistics summarised in the sixth column of Table 8.2(a) are compatible with the hypothesis that there are no differences in the mean AARs which accrue to the shareholders of Chinese acquiring firms where cash is used as the sole mode of consideration and the mean AARs that accrue to the shareholders of Chinese acquiring firms where alternative modes of consideration are employed.

8.4.3 Average Abnormal Returns and Modified Corrado "Z" Statistics for Chinese Acquiring Firms

A summary of the average abnormal returns (AARs) over the event window using OLS betas and their associated modified Corrado "z" statistics for cash

as against alternative modes of consideration for the Chinese acquiring firms in our sample is provided in Table 8.3(a). Table 8.3(b) is comprised of the AARs and their associated modified Corrado "z" statistics using Dimson (1979) betas. Further details of how the modified Corrado "z" statistics for the AARs were calculated are to be found in section 4.2 of chapter four of this dissertation. Since there are no significant differences between the information summarised in Table 8.3(a) and Table 8.3(b), we shall henceforth focus on the data for OLS betas as summarised in Table 8.3(a).

It is also important to highlight that the AARs summarised in the second and third columns of Table 8.3(a) for cash as against the alternative modes of consideration are the same as the AARs summarised in the second and third columns of Table 8.1(a) and Table 8.2(a). Likewise, the AARs summarised in the second and third columns of Table 8.3(b) are the same as the AARs summarised in the second and third columns of Table 8.1(b) and Table 8.2(b). A pictorial summary of the AARs based on OLS betas is to be found in Figure 8.1(a) and for Dimson (1979) betas, in Figure 8.1(b) in section 8.4.1 of this chapter. The fourth column of Table 8.3(a) summarises the modified Corrado "z" statistics associated with the AARs of Chinese acquiring firms where the mode of consideration is solely in cash. This column shows that in the run up to the takeover announcement date the AARs are all positive though not significantly so, apart from the third trading day prior to the takeover announcement date where the modified Corrado "z" statistic is marginally significant 1.8705. Moreover, on the takeover announcement date itself whilst the modified Corrado "z" statistic is highly significant at 2.7653, the AAR is a miserly 0.03%. Beyond the takeover announcement date, the AARs decay away over the entire event window so much so that there are significantly negative AARs on the ninth (-0.3%) and tenth (-0.5%) trading days following the takeover announcement date with modified Corrado "z" statistics of -1.7684 and -2.5320, respectively.

Table 8.3 (a): Average Abnormal Returns and Associated Modified Corrado Statistics Based on OLS Betas for Chinese Acquiring Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 168) as against Alternative (M = 45) Modes of Consideration

Time Relative to Announce Date (0)	Average Abnormal Return Cash	Average Abnormal Return Alternatives	Modified Corrado Z Score Cash	Modified Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0006	0.0013	-0.5522	0.2854	-0.5923
-5	0.0027	-0.0012	-0.7218	-0.2324	-0.3461
-4	0.0039	0.0013	0.4602	1.1074	-0.4577
-3	0.0040	0.0026	1.8705*	-0.4709	1.6557*
-2	0.0000	0.0035	-0.2190	0.9164	-0.8028
-1	0.0006	-0.0001	1.1271	0.1492	0.6915
0	0.0003	0.0099	2.7653$^\$$	1.8487*	0.6481
1	0.0027	0.0033	0.5498	0.5301	0.0140
2	-0.0034	0.0066	-1.6359	1.8108*	-2.4372$^\#$
3	0.0001	0.0038	-1.7025*	0.9566	-1.8803*
4	-0.0023	0.0008	-1.5892	-0.0885	-1.0611
5	-0.0021	-0.0034	-0.8040	-0.0017	-0.5673
6	-0.0003	0.0075	0.8417	2.2258$^\#$	-0.9787
7	0.0002	-0.0003	-0.2221	-0.3245	0.0724
8	0.0023	-0.0054	0.9435	-1.2468	1.5488
9	-0.0031	-0.0106	-1.7684*	-1.4815	-0.2029
10	-0.0054	-0.0037	-2.5320$^\$$	-0.6108	-1.3585
11	0.0010	0.0082	0.4657	2.3835$^\#$	-1.3561
12	-0.0006	0.0026	-1.0861	0.2321	-0.9321
13	0.0005	-0.0070	-0.0286	-1.6311	1.1331
14	-0.0004	-0.0010	-0.9729	-0.7230	-0.1767
15	0.0025	0.0054	0.5674	1.1771	-0.4311
16	0.0007	-0.0016	0.1938	-0.7470	0.6653
17	0.0001	-0.0059	-0.3294	-0.9533	0.4412

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

Table 8.3 (b): Average Abnormal Returns and Associated Modified Corrado Statistics Based on Dimson (1979) Betas for Chinese Acquiring Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 168) as against Alternative (M = 45) Modes of Consideration

Time Relative to Announce Date (0)	Average Abnormal Return Cash	Average Abnormal Return Alternatives	Modified Corrado Z Score Cash	Modified Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0014	0.0006	-0.1429	0.1338	-0.1957
-5	0.0027	-0.0026	-0.6851	-0.3385	-0.2451
-4	0.0036	0.0020	0.3442	1.0890	-0.5266
-3	0.0037	0.0037	1.8970*	-0.2933	1.5488
-2	-0.0011	0.0046	-0.6402	0.8150	-1.0290
-1	0.0012	0.0020	1.5161	0.7287	0.5568
0	0.0006	0.0092	2.5423$	1.6654*	0.6201
1	0.0023	0.0026	0.4234	0.5414	-0.0835
2	-0.0039	0.0036	-2.0725#	1.7764*	-2.7216$
3	-0.0006	0.0024	-2.0066#	0.7274	-1.9332*
4	-0.0029	-0.0018	-1.7874*	-0.2936	-1.0563
5	-0.0023	-0.0017	-0.9734	0.0494	-0.7232
6	0.0003	0.0087	1.0421	2.0111#	-0.6852
7	-0.0001	0.0006	-0.3533	-0.3016	-0.0366
8	0.0019	-0.0057	0.9063	-1.3092	1.5666
9	-0.0035	-0.0113	-2.0488#	-1.7051*	-0.2430
10	-0.0049	-0.0034	-2.2921#	0.0464	-1.6536
11	0.0014	0.0063	0.4609	2.2630#	-1.2743
12	-0.0003	0.0021	-0.9419	-0.1037	-0.5927
13	0.0006	-0.0082	0.0010	-1.7328*	1.2260
14	-0.0003	0.0002	-0.7832	-0.5594	-0.1583
15	0.0024	0.0071	0.3324	1.1130	-0.5520
16	0.0006	-0.0008	0.4409	-0.3154	0.5348
17	0.0002	-0.0039	-0.2144	-0.8028	0.4161

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

The fifth column of Table 8.3(a) summarises the modified Corrado "z" statistics corresponding to the AARs for shareholders of Chinese acquiring firms where the consideration is other than purely in cash; that is, for alternative modes of consideration. The results summarised in this column of Table 8.3(a) show that when alternative modes of consideration are employed, the modified Corrado "z" statistics associated with the AARs are insignificantly different from zero in the run up to the takeover announcement date. However, on the takeover announcement date itself the AAR reaches a peak over the event window of 0.99% with a marginally significant modified Corrado "z" statistic of 1.8487. There is also a significantly positive AAR of 0.66% (modified Corrado "z" statistic, 1.8108) on the second trading day after the takeover announcement date, a significantly positive AAR of 0.75% (modified Corrado "z" statistic, 2.2258) on the sixth trading day following the takeover announcement date and a significantly positive AAR of 0.82% (modified Corrado "z" statistic, 2.3835) on the eleventh trading day subsequent to the takeover announcement date. Given this, it appears that there are significant economic benefits beyond the takeover announcement date for the shareholders of Chinese acquiring firms where alternative modes of consideration are used to finance their M&A activities.

Our analysis up to this point suggests that the AARs accruing to the shareholders of Chinese acquiring firms where alternative modes of consideration are used tend to be larger than the AARs for the shareholders of Chinese acquiring firms where cash is the sole mode of consideration. We now use the modified Corrado "z" statistics associated with the AARs over the event window for the Chinese acquiring firms comprising our sample to formally test this hypothesis. The test is identical to that employed in section 7.4.3 of chapter seven of this dissertation and is based on the following statistic:

$$\overline{z_t^{co}} = \frac{1}{\sqrt{2}}\{\overline{z_{it}^c}\sqrt{N} - \overline{z_{it}^o}\sqrt{M}\}$$

where $\overline{z_{it}^{c}} = \frac{1}{N}\sum_{i=1}^{N} z_{it}^{c}$ is the average modified Corrado "z" statistic for the AARs

on the tth day of the event window across the $N = 169$ firms where the

takeover consideration is solely in cash and $\overline{z_{it}^{o}} = \frac{1}{M}\sum_{i=1}^{M} z_{it}^{o}$ is the average

modified Corrado statistic on the tth day of the event window across the

$M = 45$ firms where the takeover consideration is other than purely in cash.

Moreover, the test satistic, $\overline{z_{t}^{co}}$, is asymptotically distributed as a standard

normal variate (Fisz, 1963, p. 197) and is equivalent to testing the hypothesis

that the AARs on the tth day of the event window for Chinese acquiring firms

where the consideration is solely in cash is the same as the AARs on the tth

day of the event window for Chinese acquiring firms where the consideration

is other than purely in cash. Further details pertaining to the test statistic are

to be found in section 7.4.3 of this dissertation.

Now, the sixth column of Table 8.3(a) summarises the $\overline{z_{t}^{co}}$ test statistic for

each trading day of the event window. This column shows that the test

statistic is positive and marginally significant ($\overline{z_{-3}^{co}} = 1.6557$) on the third

trading day before the takeover announcement date. In contrast, the test

statistic is negative and significantly different from zero on both the second

trading day after the announcement date ($\overline{z_{2}^{co}} = -2.4372$) and the third trading

day subsequent to the takeover announcement date ($\overline{z_{3}^{co}} = -1.8803$). Hence,

the test statistic returns mixed results about the economic benefits which

accrue to the shareholders of Chinese acquiring firms that use cash as the

sole mode of consideration when compared to acquiring firms that use

alternative modes of consideration in their M&A activities. However, here we

would make the point that the negative test statistics for the second and third

trading days after the takeover announcement date are more compelling than

the marginally significant and positive test statistic that occurs on the third trading day before the takeover announcement date. Hence, on balance it appears that there are marginally larger economic benefits for shareholders of Chinese acquiring firms that use alternative modes of consideration in comparison to acquiring firms where cash is used as the sole mode of consideration. But we would emphasise again that the differences in economic benefits arising between the two modes of consideration are marginal at best.

8.4.4 A Summary and Comparison of Patell, Corrado and Modified Corrado Results on Average Abnormal Returns Accruing to Shareholders of Chinese Acquiring Firms

The analysis conducted in section 8.4.1, section 8.4.2 and section 8.4.3, shows that the Patell (1976) "t" statistics, the Corrado (1989) "z" statistics and the modified Corrado "z" statistics associated with the average abnormal returns (AARs) tell much the same story about the economic benefits that accrue to the shareholders of Chinese acquiring firms when cash is used as the sole mode of consideration in their M&A activities. The Corrado (1989) "z" statistics and the modified Corrado "z" statistics show that there are no significant economic benefits for shareholders of Chinese acquiring firms over the entire event window apart from those which arise on the takeover announcement date itself. The Patell (1976) "t" statistics also show that there are no significant economic benefits for shareholders over the event window, even on the takeover announcement date itself. Indeed, apart from the economic benefits that arise on the takeover announcement date itself, all three tests show that there are occasional and significant economic losses over the event window for the shareholders of Chinese acquiring firms when cash is used as the sole mode of consideration (as with the ninth and tenth trading days after the takeover announcement date as summarised in Tables 8.1(a), 8.2(a) and 8.3(a)). In contrast, there are occasional and significant economic benefits on and after the takeover announcement date for the shareholders of Chinese acquiring firms where alternative modes of consideration are used (as with the takeover announcement date, and the sixth and eleventh trading days after the takeover announcement date as

summarised in Tables 8.1(a), 8.2(a) and 8.3(a)). However, in the case of the Patell "t" test, these significant economic benefits are interspersed with significant economic losses (as with the ninth trading day after the takeover announcement date as summarised in Tables 8.1(a)). Furthermore, our analysis based on the $\overline{z_t^{co}}$ statistics associated with the Patell (1976) "t" statistics and the modified Corrado "z" statistics (section 8.4.1 and section 8.4.3) and the z_{ct}^{co} statistics associated with the Corrado (1989) "z" statistics (section 8.4.2) show that the AARs which accrue to the shareholders of Chinese acquiring firms where alternative modes of consideration are used tend to be larger than the AARs for shareholders of Chinese acquiring firms where cash is used as the sole mode of consideration on only a few trading days immediately following the takeover announcement date. In other words, for the large majority of the event window, there are no significant differences between the AARs of Chinese acquiring firms where cash is used as the sole mode of consideration and the AARs of Chinese acquiring firms where alternative modes of consideration are used. We would also emphasise that our analysis shows the modified Corrado "z" statistic is more powerful than both the original Corrado (1989) "z" statistic and the Patell (1976) "t" statistic in detecting significant AARs when cash is used as the sole mode of consideration. The modified Corrado "z" statistic is also more powerful than the other two tests in detecting significant AARs when alternative modes of consideration are used. Finally, the $\overline{z_t^{co}}$ associated with the modified Corrado

"z" statistic is more powerful than the $\overline{z_t^{co}}$ statistic associated with the Patell (1976) "t" statistic and the z_{ct}^{co} statistic associated with the Corrado (1989) "z" statistics in detecting significant differences between the ARRs that accrue to acquiring firms which use cash as the sole mode of consideration and the AARs which accrue to acquiring firms that use alternative modes of consideration.

8.5 Cumulative Average Abnormal Returns for Cash as against Alternative Modes of Consideration for Chinese Acquiring Firms

In this section we begin our analysis by accumulating the average abnormal returns based on the OLS and Dimson (1979) betas respectively over the event window (-6, +17) trading days for both the 168 Chinese acquiring firms where the mode of consideration is solely in cash and the 45 Chinese acquiring firms where alternative modes of consideration are used. We then employ the Patell (1976) "t" test, the Corrado "z" (1989) test and the Modified Corrado "z" test to determine the statistical significance of the cumulative average abnormal returns (CAARs) for our sample of 168 Chinese acquiring firms where cash is the sole mode of consideration and the 45 Chinese acquiring firms where alternative modes of consideration are used.

8.5.1 Cumulative Average Abnormal Returns and Patell (1976) "t" Statistics for Chinese Acquiring Firms

A summary of the CAARs over the event window based on OLS betas for cash as against alternative modes of consideration for our sample of Chinese acquiring firms is provided in Table 8.4(a). Table 8.4(b) contains the CAARs and their associated Patell (1976) "t" scores using Dimson (1979) betas. Since there are no significant differences between the information summarised in these two tables the focus of our analysis shall henceforth be on the data for the OLS betas as summarised in Table 8.4(a). The second column of Table 8.4(a) shows that the CAARs over the event window for shareholders of Chinese acquiring firms where cash is the sole mode of consideration gradually increase in the run up to the takeover announcement date. In particular, the CAAR peaks on the announcement date itself at 1.47%. Beyond this point, however, the CAARs decay away quite sharply so much so that by the tenth trading day after the takeover announcement date the CAAR reaches a minimum over the entire event window of 0.07%.

The third column of Table 8.4(a) shows that the CAARs which accrue to shareholders of Chinese acquiring firms where alternative modes of consideration are employed grow rapidly from the beginning of the event window and reach a peak of 3.60% six trading days after the takeover

Table 8.4 (a): Cumulative Average Abnormal Returns and Associated Patell (1976) Statistics Based on OLS Betas for Chinese Acquiring Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 168) as against Alternative (M = 45) Modes of Consideration

Time Relative to Announce Date (0)	CAAR Cash	CAAR Alternatives	Patell "t" Score Cash	Patell "t" Score Alternatives	Z Score Cash vs Alternatives
-6	0.0006	0.0013	0.5396	-0.1980	0.5216
-5	0.0033	0.0001	0.2348	-0.1631	0.2814
-4	0.0072	0.0014	0.8202	1.0619	-0.1710
-3	0.0112	0.0040	1.3980	0.5153	0.6242
-2	0.0112	0.0075	1.3192	0.9109	0.2887
-1	0.0118	0.0075	1.3007	1.1206	0.1273
0	0.0120	0.0174	0.6205	1.5410	-0.6509
1	0.0147	0.0207	1.8834[*]	1.8364[*]	0.0332
2	0.0113	0.0273	1.3719	1.2847	0.0617
3	0.0114	0.0311	0.9428	0.7815	0.1140
4	0.0091	0.0318	0.5466	0.4509	0.0676
5	0.0070	0.0285	0.4343	0.3331	0.0716
6	0.0067	0.0360	0.4350	0.4511	-0.0114
7	0.0069	0.0357	0.3464	0.3331	0.0095
8	0.0092	0.0303	0.6905	0.1054	0.4138
9	0.0061	0.0198	0.1968	-0.0897	0.2026
10	0.0007	0.0160	-0.2616	-0.1948	-0.0472
11	0.0017	0.0242	-0.1516	-0.0177	-0.0947
12	0.0011	0.0269	-0.1122	-0.0100	-0.0723
13	0.0016	0.0199	-0.0200	-0.0838	0.0452
14	0.0012	0.0189	-0.0731	0.0000	-0.0517
15	0.0037	0.0243	0.2656	0.0782	0.1325
16	0.0043	0.0227	0.3343	0.0113	0.2284
17	0.0044	0.0168	0.6130	2.3552[#]	-1.2319

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

Table 8.4 (b): Cumulative Average Abnormal Returns and Associated Patell (1976) Statistics Based on Dimson (1979) Betas for Chinese Acquiring Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 168) as against Alternative (M = 45) Modes of Consideration

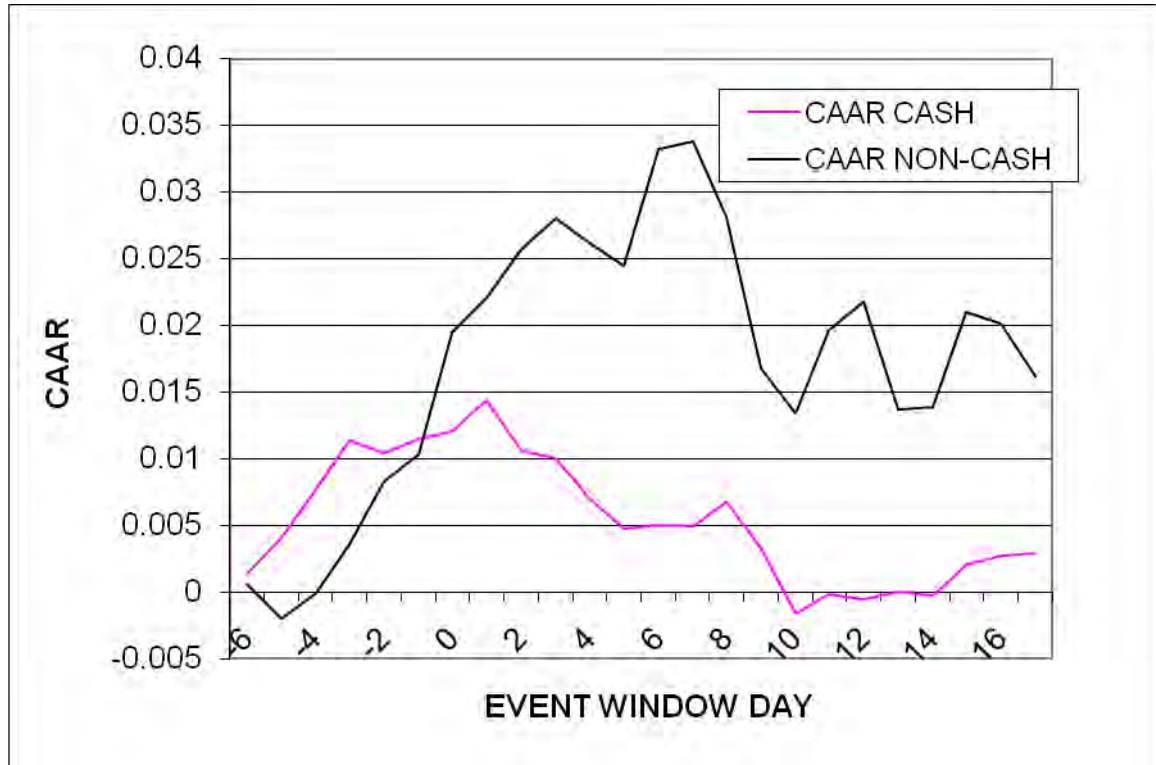| Time Relative to Announce Date (0)	CAAR Cash	CAAR Alternatives	Patell "t" Score Cash	Patell "t" Score Alternatives	Z Score Cash vs Alternatives
-6	0.0014	0.0006	0.5334	0.2373	0.2094
-5	0.0041	-0.0020	0.2352	-0.4353	0.4741
-4	0.0077	-0.0001	0.7609	0.6736	0.0618
-3	0.0114	0.0036	1.2874	0.5224	0.5409
-2	0.0104	0.0083	1.0653	0.9597	0.0746
-1	0.0115	0.0103	1.1699	1.2229	-0.0375
0	0.0121	0.0195	0.5123	1.4092	-0.6342
1	0.0144	0.0221	1.6915[*]	1.6190	0.0513
2	0.0106	0.0257	1.1285	1.2358	-0.0759
3	0.0100	0.0280	0.6467	0.8554	-0.1476
4	0.0071	0.0262	0.2015	0.4996	-0.2108
5	0.0047	0.0245	0.0724	0.3112	-0.1689
6	0.0050	0.0332	0.1628	0.4488	-0.2023
7	0.0049	0.0338	0.0826	0.4185	-0.2376
8	0.0068	0.0281	0.3863	0.2022	0.1302
9	0.0033	0.0168	-0.1389	-0.1291	-0.0069
10	-0.0016	0.0134	-0.5616	-0.2165	-0.2440
11	-0.0002	0.0197	-0.4212	-0.0460	-0.2653
12	-0.0005	0.0218	-0.3565	0.0056	-0.2561
13	0.0000	0.0137	-0.2330	-0.1319	-0.0715
14	-0.0003	0.0139	-0.2668	-0.0874	-0.1269
15	0.0021	0.0210	0.0414	0.0314	0.0071
16	0.0027	0.0201	0.1226	0.0174	0.0744
17	0.0029	0.0162	0.4324	2.5369[$]	-1.4882

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

Figure 8.2 (a): Cumulative Average Abnormal Returns Based on O.L.S Betas for Chinese Acquiring Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 168) as against Alternative (M = 45) Modes of Consideration

announcement date. The CAARs tend to decline after this date and then stabilise towards the end of the event window at a figure which is in excess of 1.65%. The overall trend in the CAARs for Chinese acquiring firms where cash is the sole mode of consideration as against the CAARs for acquiring firms where alternative modes of consideration are used is to be found in Figure 8.2(a) for OLS betas and Figure 8.2(b) for Dimson (1979) betas. Note how both these graphs as well as the summary information in Table 8.4(a) and Table 8.4(b) show that over the event window the overall CAARs that accrue to the shareholders of Chinese acquiring firms where alternative modes of consideration are employed (that is, other than purely in cash) far exceed the CAARs for shareholders of acquiring firms where cash is the sole mode of consideration.

Figure 8.2 (b): Cumulative Average Abnormal Returns Based on Dimson (1979) Betas for Chinese Acquiring Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 168) as against Alternative (M = 45) Modes of Consideration

The fourth column of Table 8.4(a) summarises the Patell (1976) "t" statistics associated with the CAARs of Chinese acquiring firms where the mode of consideration is solely in cash. This column shows that apart from a marginally significant Patell (1976) "t" statistic of 1.8834 on the first trading day after the takeover announcement date, all the remaining Patell (1976) "t" statistics over the event window are not significantly different from zero in a statistical sense. We thus conclude from the Patell (1976) "t" statistics summarised in Table 8.4(a) that there are very few, if any, economic benefits arising for the shareholders of Chinese acquiring firms over the event window when the mode of consideration is solely in cash.

The fifth column of Table 8.4(a) summarises the Patell (1976) "t" statistics corresponding to the CAARs for shareholders of Chinese acquiring firms where the mode of consideration is other than purely in cash; that is, for alternative modes of consideration. The results summarised in this column of the table show that when alternative modes of consideration are used, almost all the Patell (1976) "t" statistics over the event window are insignificant apart from the first and seventeenth trading days following the takeover announcement date where the Patell (1976) "t" statistics are marginally significant at 1.8364 and highly significant at 2.3552, respectively. Hence, the absence of consistently significant Patell (1976) "t" statistics for the CAARs over the entire event window as summarised in the fifth column of Table 8.4(a) shows that there are probably only marginal economic benefits available for the shareholders of Chinese acquiring firms when alternative modes of consideration are used to finance their M&A activities.

We now use the Patell (1976) "t" statistics associated with the CAARs over the event window for the Chinese acquiring firms comprising our sample to formally test the hypothesis that the mean Patell (1976) "t" statistic, for takeovers where the consideration is solely in cash is identical to the mean Patell (1976) "t" statistic for takeovers where the consideration is other than purely in cash. Our testing procedures are analogous to those summarised in section 7.5.1 of chapter seven for the Patell (1976) "t" statistics associated with the target firms' CAARs and are based on the test statistic $\overline{z_t^{co}}$ which is defined as follows:

$$\overline{z_t^{co}} = \frac{1}{\sqrt{2}} \left\{ \frac{\overline{z_{it}^c} \sqrt{N}}{\hat{s}(z_{it}^c)} - \frac{\overline{z_{it}^o} \sqrt{M}}{\hat{s}(z_{it}^o)} \right\}$$

Here $\overline{z_{it}^c}$ is the average Patell (1976) "t" score associated with the CAARs across the i = 1,2,3, ___, N = 168 Chinese acquiring firms where the mode of

consideration is solely in cash, $\overline{z}^{o}_{it}$ is the average Patell (1976) "t" score associated with the CAARs across the i = 1,2,3, ___, M = 45 acquiring firms where the mode of consideration is other than purely in cash and t = -6, -5, -4,____, 15, 16, 17 is the particular date in the event window. Moreover, $\hat{s}^2(z^{C}_{it})$ is the variance computed from the N = 168 Patell statistics for the tth day of the event window where the takeover consideration is solely in cash. Likewise, $\hat{s}^2(z^{O}_{it})$ is the variance computed from the M = 45 Patell statistics for the tth day of the event window where the takeover consideration is other than purely in cash. Furthermore, the test statistic, $\overline{z}^{co}_{t}$, is asymptotically distributed as a standard normal variate (Fisz, 1963, p. 197).

Finally, testing the hypothesis that $\overline{z}^{co}_{t}$ is insignificantly different from zero is equivalent to testing the hypothesis that the mean CAAR on the tth day of the event window for Chinese acquiring firms where the consideration is solely in cash is the same as the mean CAAR on the tth day of the event window for Chinese acquiring firms where the consideration is other than purely in cash.

The sixth column of Table 8.4(a) summarises the $\overline{z}^{co}_{t}$ statistic for each trading day, t = -6, -5, -4,____, 15, 16, 17, of the event window. The $\overline{z}^{co}_{t}$ statistics summarised in this column are all insignificantly different from zero in a statistical sense over the whole event window. Thus, the $\overline{z}^{co}_{t}$ statistics summarised here are compatible with the hypothesis that there are no differences between the CAARs accruing to the shareholders of Chinese acquiring firms when the mode of consideration is solely in cash and the CAARs that accrue to the shareholders of Chinese acquiring firms where the consideration is other than purely in cash. We have previously noted, however, that the Patell (1976) "t" statistics on which the $\overline{z}^{co}_{t}$ statistics

summarised in column six of Table 8.4(a) are based assume that the returns on the A shares of the Chinese acquiring firms comprising our sample are normally distributed (as in section 4.4 of this dissertation). However, previous empirical work shows that it is unlikely this assumption will be satisfied by our data (Harris and Küçüközmen , 2001; Ashton and Tippett, 2006). Given this, one should place more reliance on the results obtained from the Corrado (1989) and modified Corrado testing procedures which we now summarise.

8.5.2 Cumulative Average Abnormal Returns and Corrado(1989) "z " Statistics for Chinese Acquiring Firms

A summary of the cumulative average abnormal returns (CAARs) over the event window using OLS betas and their associated Corrado (1989) "z" statistics for Chinese acquiring firms where cash is used as the sole mode of consideration as against the CAARs and their Corrado (1989) "z" statistics for acquiring firms where alternative modes of consideration are employed is contained in Table 8.5(a). Table 8.5(b) summarises the CAARs and their associated Corrado (1989) "z" statistics using Dimson (1979) betas. Again, further details of how the Corrado "z" statistics were calculated are to be found in section 4.2 of chapter four of this dissertation and in abridged form, in section 7.4.2 of this dissertation. Since there are no significant differences between the information summarised in Table 8.5(a) and Table 8.5(b) the focus of our analysis will be on the data for OLS. betas as summarised in Table 8.5(a). It is also important to emphasise that the CAARs summarised in the second and third columns of Table 8.5(a) for cash as against alternative modes of consideration are the same as the CAARs summarised in the second and third columns of Table 8.4(a). Similarly, the CAARs summarised in the second and third columns of Table 8.5(b) are the same as the CAARs summarised in the second and third columns of Table 8.4(b). A pictorial summary of the trend in the CAARs based on OLS betas is to be found in Figure 8.2(a) and for Dimson (1979) betas in Figure 8.2(b) in the previous section of this chapter.

The fourth column of Table 8.5(a) summarises the Corrado (1989) "z" statistics associated with the CAARs of Chinese acquiring firms where the

Table 8.5 (a): Cumulative Average Abnormal Returns and Associated Corrado (1989) Statistics Based on OLS Betas for Chinese Acquiring Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 168) as against Alternative (M = 45) Modes of Consideration

Time Relative to Announce Date (0)	CAAR Cash	CAAR Alternatives	Corrado Z Score Cash	Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0006	0.0013	-0.0903	0.1042	-0.1375
-5	0.0033	0.0001	-0.5323	0.1489	-0.4817
-4	0.0072	0.0014	-0.1941	0.6296	-0.5824
-3	0.0112	0.0040	0.6837	0.3460	0.2388
-2	0.0112	0.0075	0.5210	0.7058	-0.1307
-1	0.0118	0.0075	0.8944	0.6018	0.2069
0	0.0120	0.0174	1.9071[*]	1.2674	0.4523
1	0.0147	0.0207	1.9608[#]	1.4063	0.3921
2	0.0113	0.0273	1.3885	2.0138[#]	-0.4421
3	0.0114	0.0311	0.8257	2.2159[#]	-0.9830
4	0.0091	0.0318	0.3878	2.2032[#]	-1.2836
5	0.0070	0.0285	0.1057	2.0414[#]	-1.3688
6	0.0067	0.0360	0.3067	2.4295[#]	-1.5011
7	0.0069	0.0357	0.2702	2.2099[#]	-1.3716
8	0.0092	0.0303	0.4930	1.8157[*]	-0.9352
9	0.0061	0.0198	0.0619	1.4016	-0.9473
10	0.0007	0.0160	-0.5165	1.2813	-1.2712
11	0.0017	0.0242	-0.3783	1.8223[*]	-1.5561
12	0.0011	0.0269	-0.5946	1.8361*	-1.7187[*]
13	0.0016	0.0199	-0.6077	1.4684	-1.4680
14	0.0012	0.0189	-0.7875	1.2813	-1.4629
15	0.0037	0.0243	-0.6469	1.3991	-1.4468
16	0.0043	0.0227	-0.6007	1.2463	-1.3060
17	0.0044	0.0168	-0.6527	0.9904	-1.1618

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

Table 8.5(b): Cumulative Average Abnormal Returns and Associated Corrado (1989) Statistics Based on Dimson (1979) Betas for Chinese Acquiring Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 168) as against Alternative (M = 45) Modes of Consideration

Time Relative to Announce Date (0)	CAAR Cash	CAAR Alternatives	Corrado Z Score Cash	Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0014	0.0006	0.9974	-0.2196	0.8605
-5	0.0041	-0.0020	0.5555	-0.3825	0.6633
-4	0.0077	-0.0001	0.6321	0.2767	0.2513
-3	0.0114	0.0036	1.2696	0.1006	0.8266
-2	0.0104	0.0083	0.9566	0.4301	0.3723
-1	0.0115	0.0103	1.3737	0.6704	0.4973
0	0.0121	0.0195	2.2151[#]	1.3187	0.6339
1	0.0144	0.0221	2.2207[#]	1.4121	0.5717
2	0.0106	0.0257	1.5566	1.8863[*]	-0.2332
3	0.0100	0.0280	0.9713	2.0047[#]	-0.7307
4	0.0071	0.0262	0.4890	1.8276[*]	-0.9465
5	0.0047	0.0245	0.2388	1.7619[*]	-1.0770
6	0.0050	0.0332	0.4699	2.2158[#]	-1.2345
7	0.0049	0.0338	0.3751	2.0586[#]	-1.1904
8	0.0068	0.0281	0.5600	1.6706[*]	-0.7853
9	0.0033	0.0168	0.1134	1.2165	-0.7800
10	-0.0016	0.0134	-0.3617	1.1899	-1.0971
11	-0.0002	0.0197	-0.2603	1.6564[*]	-1.3553
12	-0.0005	0.0218	-0.4380	1.5891	-1.4334
13	0.0000	0.0137	-0.4283	1.1843	-1.1403
14	-0.0003	0.0139	-0.5644	1.0408	-1.1351
15	0.0021	0.0210	-0.4919	1.2390	-1.2239
16	0.0027	0.0201	-0.4037	1.1493	-1.0982
17	0.0029	0.0162	-0.4366	0.9229	-0.9613

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

mode of consideration is solely in cash. This column shows that when cash is used as the sole mode of consideration, the CAARs that accrue to the shareholders of Chinese acquiring firms are significantly different from zero only on the takeover announcement date itself and on the first trading day following the takeover announcement date with Corrado (1989) "z" statistics of 1.9071 and 1.9608, respectively. The first of these z statistics is significant at the 10% level whilst the second z statistic is significant at the 5% level. Apart from these two trading days there are no significant CAARs over the event window, although the CAARs are consistently positive over the entire event window. From this we conclude that if there are any economic benefits for the shareholders of Chinese acquiring firms where cash is the sole mode of consideration then they occur in a very narrow window on and after the takeover announcement date. Outside of this narrow window there do not appear to be any significant economic benefits for the shareholders of Chinese acquiring firms where cash is used as the sole mode of consideration.

The fifth column of Table 8.5(a) summarises the Corrado "z" statistics associated with the CAARs for the shareholders of Chinese acquiring firms where the consideration is other than purely in cash; that is, for alternative modes of consideration. The results summarised in this column show that when alternative modes of consideration are employed, the Corrado (1989) "z" statistics corresponding to the CAARs which accrue to the shareholders of Chinese acquiring firms are not significant until the second trading day after the takeover announcement date. On the second and subsequent trading days after the takeover announcement date the Corrado (1989) "z" statistic associated with the CAARs rises to 2.0138, which is significant at the 5% level, and remains significant at this level until the seventh trading day after the takeover announcement date. The Corrado (1989) "z" statistic associated with the CAARs is marginally significant on the eighth trading day after the takeover announcement date at 1.8157 but then decays away and becomes insignificant until the eleventh and twelve trading days after the takeover announcement date when it is again marginally significant at 1.8223 and

1.8361, respectively. It then falls away again and becomes insignificant for the remainder of the event window. Hence, the Corrado (1989) "z" statistics show that there is very strong evidence over the large majority of the event window of significant economic benefits for the shareholders of Chinese acquiring firms when alternative modes of consideration are used. This contrasts with the marginal nature of the economic benefits (if any) that accrue to the shareholders of Chinese acquiring firms where cash is used as the sole mode of consideration.

In summary, our analysis in this section is compatible with the hypothesis that the Corrado (1989) "z" statistics associated with the CAARs accruing to shareholders of Chinese acquiring firms where alternative modes of consideration are employed tend to be larger than the Corrado (1989) "z" statistics associated with the CAARs accruing to the shareholders of Chinese acquiring firms where cash is used as the sole mode of consideration. Given this, we now conduct a formal test of this hypothesis. Our testing procedures are analogous to those summarised in section 7.5.2 of chapter seven of this dissertation for the Corrado (1989) "z" statistics associated with the target firms' CAARs and are based on the test statistic, z_τ^{co}, which is defined as follows:

$$z_\tau^{co} = \frac{\sum\limits_{t=-6}^{\tau} z_{ct}^c - \sum\limits_{t=-6}^{\tau} z_{ct}^o}{\sqrt{2(\tau + 7)}}$$

Here $\sum\limits_{t=-6}^{\tau} z_{ct}^c$ is the sum of the Corrado (1989) "z" scores associated with the abnormal returns of firms where the takeover consideration is purely in cash from the beginning of the event window $(t = -6)$ until the $\tau^{th} = -6, -5, -4, -3,$ _____, 17 day of the event window. Likewise, $\sum\limits_{t=-6}^{\tau} z_{ct}^o$ is the sum of the Corrado (1989) "z" scores up until the τth day of the event window for Chinese acquiring firms that use alternative modes of consideration.

Moreover, z_τ^{co} is asymptotically distributed as a standard normal variate (Fisz, 1963, p. 197).

The sixth column of Table 8.5(a) summarises the z_τ^{co} statistics for each trading day over the event window. This particular column shows that whilst most of the z_τ^{co} statistics are negative over the event window (and therefore have the correct sign) it is only on the twelfth trading day after the takeover announcement date where the z_τ^{co} statistic becomes significant and then only marginally so at z_{12}^{co} = -1.7187. This result is somewhat perplexing because we have previously argued that the CAARs associated with Chinese acquiring firms where cash is the sole mode of consideration, tend to be smaller than the CAARs for acquiring firms that use alternative modes of consideration. Given this one would expect the z_τ^{co} statistic to be significantly negative on more than just the one occasion recorded in the sixth column of Table 8.5(a). Fortunately, the results we report in the next section for the modified Corrado "z" statistics associated with the CAARs indicate that the perplexing results reported in the sixth column of Table 8.5(a) are largely due to the lack of power of Corrado (1989) test itself.

8.5.3 Cumulative Average Abnormal Returns and Modified Corrado "z" Statistics for Chinese Acquiring Firms

In this section, we employ the modified Corrado "z" statistics corresponding to the cumulative average abnormal returns (CAARs) of Chinese acquiring firms to examine whether the economic benefits accruing to the shareholders of Chinese acquiring firms when cash is used as the sole mode of consideration are larger than the economic benefits that accrue to the shareholders of Chinese acquiring firms where alternative modes of consideration are used. A summary of the CAARs over the event window using OLS betas and their associated modified Corrado "z" statistics is provided in Table 8.6(a). Table 8.6(b) summarises the CAARs and their associated modified Corrado "z" statistics using Dimson (1979) betas. Since there are no significant

differences between the empirical results based on the OLS betas as summarised in Table 8.6(a) and the empirical results based on the Dimson (1979) betas as summarised in Table 8.6(b), the focus our analysis will again be on the results obtained using the OLS betas as summarised in Table 8.6(a). We would also remind the reader that the CAARs summarised in the second and third columns of Table 8.6(a) are the same as the CAARs summarised in the second and third columns of Table 8.4(a) and Table 8.5(a), respectively. Likewise, the CAARs summarised in the second and third columns of Table 8.6(b) are the same as the CAARs summarised in the second and third columns of Table 8.4(b) and Table 8.5(b). A pictorial representation of the CAARs based on the OLS betas is to be found in Figure 8.2(a) and for Dimson (1979) betas, in Figure 8.2(b) of section 8.5.1 in this chapter.

The fourth column of Table 8.6(a) summarises the modified Corrado "z" statistics associated with the CAARs of Chinese acquiring firms where the mode of consideration is solely in cash. This column shows that apart from the first trading day following the takeover announcement date the CAARs which accrue to the shareholders of Chinese acquiring firms where the mode of consideration is solely in cash are not significantly different from zero over the entire event window. The CAAR reaches a peak of 1.47% on the first trading day after the takeover announcement date and is marginally significant at the 5% level with a modified Corrado "z" statistic of 1.8846. Thus, we conclude that apart from a very narrow window after the takeover announcement date there are no significant economic benefits accruing to the shareholders of Chinese acquiring firms where cash is employed as the sole mode of consideration.

The fifth column of Table 8.6(a) summarises the modified Corrado "z" statistics associated with the CAARs of Chinese acquiring firms where alternative modes of consideration are employed. This particular column shows that when alternative modes of consideration are used the modified Corrado "z" statistics are not significantly different from zero until the second

Table 8.6(a): Cumulative Average Abnormal Returns and Associated Modified Corrado Statistics Based on OLS Betas for Chinese Acquiring Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N = 168) as against Alternative (M = 45) Modes of Consideration

Time Relative to Announce Date (0)	CAAR Cash	CAAR Alternatives	Modified Corrado Z Score Cash	Modified Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0006	0.0013	-0.5522	0.2854	-0.5923
-5	0.0033	0.0001	-0.9471	-0.2063	-0.5238
-4	0.0072	0.0014	-0.4356	0.5462	-0.6942
-3	0.0112	0.0040	0.6086	0.3285	0.1980
-2	0.0112	0.0075	0.3951	0.7199	-0.2297
-1	0.0118	0.0075	0.8478	0.7185	0.0914
0	0.0120	0.0174	0.7857	1.0641	-0.1968
1	0.0147	0.0207	1.8846*	1.4325	0.3196
2	0.0113	0.0273	1.1937	1.9908$^{\#}$	-0.5637
3	0.0114	0.0311	0.5535	2.1924$^{\#}$	-1.1589
4	0.0091	0.0318	0.0130	2.0637$^{\#}$	-1.4501
5	0.0070	0.0285	-0.2400	1.9799$^{\#}$	-1.5697
6	0.0067	0.0360	0.0096	2.5569$^{\$}$	-1.8012*
7	0.0069	0.0357	-0.0597	2.3715$^{\#}$	-1.7191*
8	0.0092	0.0303	0.1995	1.9504*	-1.2381
9	0.0061	0.0198	-0.2730	1.5024	-1.2554
10	0.0007	0.0160	-0.9159	1.3057	-1.5709
11	0.0017	0.0242	-0.7751	1.8593*	-1.8628*
12	0.0011	0.0269	-1.0251	1.8702*	-2.0473$^{\#}$
13	0.0016	0.0199	-1.0099	1.4370	-1.7302*
14	0.0012	0.0189	-1.2160	1.2330	-1.7317*
15	0.0037	0.0243	-1.0603	1.4760	-1.7934*
16	0.0043	0.0227	-0.9933	1.2821	-1.6089
17	0.0044	0.0168	-0.5796	2.4528$^{\#}$	-2.1443$^{\#}$

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

Table 8.6(b): Cumulative Average Abnormal Returns and Associated Modified Corrado Statistics Based on Dimson (1979) Betas for Chinese Acquiring Firms over the Period from 1 January, 1990 until 31 December, 2008 for Cash (N =168) as against Alternative (M = 45) Modes of Consideration

Time Relative to Announce Date (0)	CAAR Cash	CAAR Alternatives	Corrado Z Score Cash	Corrado Z Score Alternatives	Z Score Cash vs Alternatives
-6	0.0014	0.0006	-0.1071	0.1338	-0.1704
-5	0.0041	-0.0020	-0.6223	-0.3429	-0.1976
-4	0.0077	-0.0001	-0.2898	0.4265	-0.5065
-3	0.0114	0.0036	0.7526	0.3123	0.3113
-2	0.0104	0.0083	0.3242	0.6477	-0.2288
-1	0.0115	0.0103	0.9620	0.9125	0.0350
0	0.0121	0.0195	0.7012	1.1602	-0.3246
1	0.0144	0.0221	1.8931[*]	1.5435	0.2472
2	0.0106	0.0257	1.0454	2.0820[#]	-0.7330
3	0.0100	0.0280	0.3154	2.2015[#]	-1.3336
4	0.0071	0.0262	-0.2863	2.0055[#]	-1.6206
5	0.0047	0.0245	-0.5677	1.9411[*]	-1.7740[*]
6	0.0050	0.0332	-0.2446	2.4538[#]	-1.9080[*]
7	0.0049	0.0338	-0.3562	2.2789[#]	-1.8633[*]
8	0.0068	0.0281	-0.1060	1.8447[*]	-1.3794
9	0.0033	0.0168	-0.6456	1.3401	-1.4041
10	-0.0016	0.0134	-1.2251	1.3169	-1.7974[*]
11	-0.0002	0.0197	-1.0749	1.8399[*]	-2.0611[#]
12	-0.0005	0.0218	-1.2771	1.7693[*]	-2.1541[#]
13	0.0000	0.0137	-1.2466	1.3133	-1.8101[*]
14	-0.0003	0.0139	-1.4083	1.1502	-1.8091[*]
15	0.0021	0.0210	-1.3092	1.3805	-1.9019[*]
16	0.0027	0.0201	-1.1775	1.2838	-1.7404[*]
17	0.0029	0.0162	-0.7491	2.5931[$]	-2.3633[#]

* significant at 10%; # significant at 5%; $ significant at 1% (two tailed test)

trading day following the takeover announcement date. On the second trading day after the takeover announcement date the modified Corrado "z" statistic for the CAAR is 1.9908 and is significant at the 5% level. The modified Corrado "z" statistics then remain highly significant until the eighth trading day after the takeover announcement date and reach a peak value of 2.5569 on the sixth trading day after the takeover announcement date, which is significant at the 1% level. The modified Corrado "z" statistics then decay away and become insignificant until the eleventh and twelfth trading days after the takeover announcement date when they reach values of 1.8593 and 1.8702, respectively which are marginally significant at the 10% level. The modified Corrado "z" statistic then falls away again and becomes insignificant until the seventeenth trading day subsequent to the takeover announcement date where it reaches a highly significant value of 2.4528, at the $1\frac{1}{2}\%$ level of significance. From modified Corrado statistics summarised above we draw the conclusion that for the vast majority of the event window beyond the takeover announcement date, there are significant economic benefits for the shareholders of Chinese acquiring firms when alternative modes of consideration are employed. Again (as in section 8.5.2 of this chapter), this contrasts with the highly marginal nature of the economic benefits as shown in the fourth column of Table 8.5(a), that accrue to the shareholders of Chinese acquiring firms when cash is used as the sole mode of consideration.

Our analysis up to this point suggests that the modified Corrado "z" statistics associated with the CAARs which accrue to the shareholders of Chinese acquiring firms where alternative modes of consideration are employed tend to be larger than the modified Corrado "z" statistics associated with the CAARs for shareholders of acquiring firms where the mode of consideration is solely in cash. We now conduct a formal test of this hypothesis. Our testing procedures are analogous to those summarised in section 7.4.3 of chapter seven of this dissertation for the modified Corrado "z" statistics associated with the Average Abnormal Returns (AARs) which accrue to the shareholders of Chinese target firms and are based on the test statistic which is defined as follows:

$$\overline{z_t^{co}} = \frac{1}{\sqrt{2}}\{\overline{z_{it}^c}\sqrt{N} - \overline{z_{it}^o}\sqrt{M}\}$$

Here $\overline{z_{it}^c}$ is the average modified Corrado "z" statistic for the CAARs across the $i = 1,2,3, \_\_\_, N = 168$ Chinese acquiring firms where the mode of consideration is solely in cash, $\overline{z_{it}^o}$ is the average modified Corrado "z" statistic for the CAARs across the $i = 1,2,3, \_\_\_, M = 45$ acquiring firms where alternative modes of consideration are employed and $t = -6, -5, -4,\_\_\_\_, 15, 16, 17$ is the particular date in the event window.

Further details of the derivation of the test statistic $\overline{z_t^{co}}$ are to be found in section 7.4.3 of chapter seven. Suffice it to say that the probability density of the test statistic $\overline{z_t^{co}}$ asymptotically converges to that of the standard normal distribution (Fisz, 1963, p. 197). We emphasise again that a test based on the $\overline{z_t^{co}}$ statistic is equivalent to testing the hypothesis that the CAAR on the tth day of the event window for acquiring firms where the mode of consideration is solely in cash is the same as the CAAR on the tth day of the event window for acquiring firms where the consideration is other than purely in cash.

The sixth column of Table 8.6(a) summarises the $\overline{z_t^{co}}$ statistics for each trading day during the event window. This column shows that although the $\overline{z_t^{co}}$ statistics are predominately negative from the beginning of the event window up until the fifth trading day following the takeover announcement date, none of them are significantly different from zero in a statistical sense. Beyond this point, however, there is a preponderance of significantly negative $\overline{z_t^{co}}$ statistics. Thus, on the sixth and seventh trading days after the takeover

announcement date the $\overline{z_t^{co}}$ statistics are both negative and marginally

significant at $\overline{z_6^{co}}$ = -1.8012 and $\overline{z_7^{co}}$ = -1.7191, respectively. The $\overline{z_t^{co}}$ statistics

then fall away and become insignificant until the eleventh trading day after the

takeover announcement date where $\overline{z_{11}^{co}}$ = -1.8628, which is marginally

significant (at the 10% level). Then except for the sixteenth trading day after

the takeover announcement date the $\overline{z_t^{co}}$ statistics remain negative and

(occasionally highly) significant over the remainder of the event window.

Thus, the results of the modified Corrado $\overline{z_t^{co}}$ statistics as summarised above

are compatible with the hypothesis that the CAARs accruing to the

shareholders of Chinese acquiring firms where alternative modes of

consideration are employed far exceed the CAARs for the shareholders of

acquiring firms where cash is the sole mode of consideration.

The results based on the modified Corrado test statistics as summarised in

this section are in marked contrast to those based on the original Corrado

(1989) test statistics as summarised in section 8.5.2 above where there was

little evidence of significantly different CAARs between Chinese acquiring

firms where cash is used as the sole mode of consideration and the Chinese

acquiring firms where alternative modes of consideration are employed. In

section 8.5.2 of this chapter we speculated that the "perplexing" results

obtained using the z_τ^{co} statistics based on the Corrado (1989) "z" scores were

probably due to a lack of power in the Corrado (1989) test statistic itself rather

than any lack of difference between the CAARs for Chinese acquiring firms

where cash is used as the sole mode of consideration and the CAARs of

Chinese acquiring firms where alternative modes of consideration are

employed. The results based on the modified Corrado test statistic reported

in this section largely confirm our suspicions about the lack of power in the

original Corrado (1989) test since they show that the economic benefits that

accrue to the shareholders of Chinese acquiring firms where alternative modes of consideration are employed are significantly larger (in a statistical sense) than the economic benefits that accrue to the shareholders of Chinese acquiring firms acquiring firms where cash is used as the sole mode of consideration.

8.5.4 A Summary and Comparison of Patell, Corrado and Modified Corrado Results on Cumulative Average Abnormal Returns Accruing to Shareholders of Chinese Acquiring Firms

The analysis conducted in section 8.5.1, section 8.5.2 and section 8.5.3, shows that the Patell (1976) "t" statistics, the Corrado (1989) "z" statistics and the modified Corrado "z" statistics associated with the cumulative average abnormal returns (CAARs) all lead to the same conclusion about the economic benefits which accrue to the shareholders of Chinese acquiring firms when the mode of consideration is solely in cash. The Patell (1976) "t" statistics, the Corrado (1989) "z" statistics and the modified Corrado "z" statistics all show that when cash is used as the sole mode of consideration, there are no significant economic benefits for shareholders of Chinese acquiring firms apart from a very narrow window surrounding the takeover announcement date.

In contrast to the marginal economic benefits for the shareholders of Chinese acquiring firms when cash is used as the sole mode of consideration, the Corrado (1989) "z" statistics and the modified Corrado "z" statistics both show that when alternative modes of consideration are employed, there are significant economic benefits that accrue to the shareholders of Chinese acquiring firms over the vast majority of the event window following the takeover announcement date. Even here, however, the results obtained using the Corrado (1989) "z" statistics and the modified Corrado "z" statistics need to be contrasted with those obtained using the Patell (1976) "t" statistics where there are only very occasional and marginally significant economic benefits for shareholders of Chinese acquiring firms when alternative modes of consideration are used (as with the first trading day following the takeover announcement date and the seventeenth trading day after the announcement date as summarised in the fifth column of Table 8.4(a)). Furthermore, from

the second column and third column of Table 8.4(a), Table 8.5(a) and Table 8.6(a), as well as Figure 8.2(a), the CAARs which accrue to the shareholders of Chinese acquiring firms where alternative modes of consideration are used are considerably larger than the CAARs for shareholders of acquiring firms where cash is used as the sole mode of consideration. However, this is not always backed up by the statistical procedures we use to test for differences between the CAARs which accrue to the shareholders of Chinese acquiring firms where cash is the sole mode of consideration and the CAARs of acquiring firms that use alternative modes of consideration. In particular, all the results based on the $\overline{z}_t^{co}$ statistics associated with the Patell (1976) "t" statistics (as with column six of Table 8.4(a))   and all but one of the z_{ct}^{co} statistics associated with the Corrado (1989) "z" statistics (as with column six of Table 8.5(a)) show that there are no significant differences between the CAARs which accrue to the shareholders of Chinese acquiring firms where the mode of consideration is solely in cash and the CAARs which accrue to the shareholders of acquiring firms where alternative modes of consideration are employed. These results are in contrast with the $\overline{z}_t^{co}$ statistics associated with modified Corrado "z" statistics which show strong evidence that over the majority of the event window following the takeover announcement date the CAARs which accrue to the shareholders of Chinese acquiring firms where alternative modes of consideration are employed far exceed the CAARs which accrue to the shareholders of Chinese acquiring firms where the mode of consideration is solely in cash. This is consistent with the conclusion we draw from the CAARs summarised in the second column (consideration purely in cash) and third column (alternative modes of consideration) of Table 8.4(a), Table 8.5(a) and Table 8.6(a). As analysed in section 8.5.2 and section 8.5.3, we need to emphasise again that the divergence of the results obtained using the z_{ct}^{co} scores based on the Corrado (1989) "z" statistics and the $\overline{z}_t^{co}$ scores based on the Patell (1976) "t" statistic with the results obtained using the $\overline{z}_t^{co}$

scores based on the modified Corrado "z" statistics is probably due to a lack of power in the Patell (1976) and Corrado (1989) test statistics themselves rather than any lack of difference between the CAARs for acquiring firms where cash is used as the sole mode of consideration and the CAARs of acquiring firms where alternative modes of consideration are employed. In addition, it is doubtful whether the normal distribution assumptions that underpin the Patell (1976) "t" test are satisfied by our CAAR data (Harris and Küçüközmen , 2001; Ashton and Tippett, 2006).

8.6 Potential Reasons Contributing to the Different Results for Chinese Acquiring Firms as against Target Firms as well as their practical implications

Our analysis in previous sections of this chapter shows that when cash is used as the sole mode of consideration in Chinese M&A activities the shareholders of Chinese acquiring firms obtain no significant economic benefits either in terms of the average abnormal returns (AARs) or the cumulative average abnormal returns (CAARs) that arise in a 24-day event window around the takeover announcement date. However, when alternative modes of consideration are employed the shareholders of Chinese acquiring firms achieve significant economic benefits from takeovers in terms of both the AARs and the CAARs which arise over the event window. This contrasts with the economic benefits which accrue to the shareholders of Chinese target firms that arise from cash as against alternative modes of consideration as analysed in chapter seven of this dissertation. In particular, our analysis in chapter seven shows that when the mode of consideration is solely in cash there are significant economic benefits for the shareholders of Chinese target firms. Against this, when alternative modes of consideration are used there are no economic benefits of any significance for the shareholders of Chinese target firms. Section 7.6 chronicles some potential reasons for why the economic benefits that accrue to the shareholders of Chinese target firms are larger when cash is used as the sole mode of consideration as compared to the economic benefits that arise when alternative modes of consideration are employed. We now seek to explain why it is that the economic benefits that

arise for Chinese acquiring firms are larger when alternative modes of consideration are used to finance their takeover activities.

Huang and Walking (1987) note that when cash is employed as the sole mode of consideration, target firms will tend to demand higher takeover premiums due to the capital gains tax which will have to be paid by the shareholders of the target firm immediately after the takeover is consummated. However, if alternative modes of consideration are employed (shares, in particular) the capital gains tax can be deferred until such times as the shares issued by the acquiring firm to finance the takeover are sold. As a consequence of this, extra costs will be incurred by acquiring firms due to the higher takeover premiums demanded by target firm shareholders to cover the capital gains taxes that they will have to bear. Thus, in order to avoid the extra costs that arise from using cash as the sole mode of consideration, Chinese acquiring firms are likely to use alternative modes of consideration for their proposed M&A activities. The lower costs associated with using alternative modes of consideration will mean that there will be greater economic benefits for the shareholders of the acquiring firm. This is the first reason given in the literature as to why the economic benefits for shareholders of Chinese acquiring firms are larger when alternative modes of consideration are used to finance their M&A activities.

A second reason is given by Hansen (1987) who shows that acquiring firms will prefer to use alternative modes of consideration because of the information asymmetries that arise in the takeover process. In particular, target firms will tend to have a much better understanding of the value their own physical assets, their productive activities and their prospective contractual arrangements. Moreover, acquiring firms will have private information about the intrinsic value of their own shares. Hansen (1987) argues that these information asymmetries may lead acquiring firms to offer stock rather than cash for the proposed takeover, especially when the acquiring firm knows that its shares are over-valued on the stock market. The difference between the stock market value of the acquiring firm's shares and their intrinsic value will lower the implicit cost of the takeover and thereby

increase the economic benefits that accrue to the shareholders of the acquiring firm. Financing the takeover through the issue of new shares in the acquiring firm rather than cash also transfers some of the risks associated with the takeover from the shareholders of the acquiring firm to the shareholders of the target firm. This provides a second reason given in the literature as to why the economic benefits for shareholders of Chinese acquiring firms are larger when alternative modes of consideration are used to finance their M&A activities.

Our results have some very important implications for practice. In particular our empirical results show that using alternative modes of consideration brings significant economic benefits to the shareholders of Chinese acquiring firms. In contrast, when cash is used as the sole mode of consideration there are few if any economic benefits for the shareholders of Chinese acquiring firms. Hence, if Chinese acquiring firms are to maximise the economic benefits that accrue to their shareholders they should normally finance their M&A activities using alternative modes of consideration (that is, acquiring firms exchange their own shares for shares in the target firm, acquiring firms exchange some of their own assets for shares in the target firm, the acquiring firm repays target firm's debt in exchange for shares in the target firm, the acquiring firm issues convertible bonds and/or warrants in exchange for shares in the target firm, etc. or some mixtures thereof). Our empirical analysis shows that financing M&A activities through these alternative modes of consideration will bring significantly greater benefits for the shareholders of Chinese acquiring firms than if the M&A activities are financed purely through the medium of cash. Given this, it is somewhat perplexing that the vast majority of Chinese M&A activities continue to be financed solely in cash, even since the implementation of the shareholding structure reforms of 2005 (Guquan Fenzhi Gaige) which both facilitated and encouraged the use of alternative modes of consideration in Chinese M&A activities.

8.7 Summary and Conclusions

This chapter provides a detailed analysis of the economic benefits which accrue to the shareholders of Chinese acquiring firms as a result of using

cash as against alternative modes of consideration (shares of the acquiring firm, debt repayment, etc. and mixtures thereof, etc.) in their M&A activities. Specifically, we use the Patell (1976) "t" statistics, the Corrado (1989) "z" statistics and the modified Corrado "z" statistics respectively to assess the significance of the average abnormal returns (AARs) and the cumulative average abnormal returns (CAARs) that accrue to the shareholders of Chinese acquiring firms when the consideration is solely in cash as against when alternative modes of consideration are employed. Our analysis shows that the AARs and CAARs that accrue to the shareholders of Chinese acquiring firms when alternative modes of consideration are used are positive and significantly different from zero in a statistical sense. In contrast, the economic benefits for shareholders of Chinese acquiring firms when cash is used as the sole mode of consideration tend to be insignificantly different from zero and occasionally, negative. Moreover, we conduct a formal test of the hypothesis that the AARs and the CAARs for Chinese acquiring firms where alternative modes of consideration are used are larger than the AARs and the CAARs for Chinese acquiring firms where cash is used as the sole mode of

consideration using the $\overline{z_t^{co}}$ statistics associated with the Patell (1976) "t"

statistics, the z_{ct}^{co} statistics associated with the Corrado (1989) "z" statistics

and also, the $\overline{z_t^{co}}$ statistics associated with the modified Corrado "z" statistics. These tests show that the economic benefits which accrue to the shareholders of Chinese acquiring firms when alternative modes of consideration are employed far exceed the economic benefits for the shareholders of Chinese acquiring firms where cash is used as the sole mode of consideration.

We then outline some potential reasons as to why the economic benefits that accrue to the shareholders of Chinese acquiring firms appear to be larger when alternative modes of consideration are used in preference to cash. The first reason stems from the fact that in China a capital gains tax of 20% must be paid immediately by the target firm's shareholders when cash is used to

finance the takeover. In contrast, when alternative modes of consideration are used to finance the takeover, it is normally possible to defer the payment of capital gains tax until a date often in the distant future. Second, the information asymmetries that arise in the takeover process may lead acquiring firms to offer stock rather than cash for the proposed takeover, especially when the acquiring firm knows that its shares are over-valued on the stock market. The difference between the stock market value of the acquiring firm's shares and their intrinsic value will lower the implicit cost of the takeover and thereby increase the economic benefits that accrue to the shareholders of the acquiring firm. These considerations, when taken in conjunction with our empirical analysis, show that Chinese acquiring firms ought to employ alternative modes of consideration if they are to maximise the economic benefits that accrue to their shareholders from their M&A activities. Given this, it is somewhat perplexing that the vast majority of Chinese M&A activities continue to be financed solely in cash.

Finally, with regards to the different methodologies employed in the empirical work summarised in this chapter we again conclude that the modified Corrado "z" test is more powerful than both the original Corrado (1989) "z" test and the Patell (1976) "t" test. In particular, our empirical analysis shows that the modified Corrado "z" test detects significant AARs and CAARs when alternative modes of consideration are used to finance takeovers more frequently than either the Corrado (1989) "z" test or the Patell (1976) "t" test. Similarly, the modified Corrado "z" test is the most efficient test for detecting significant AARs and CAARs when cash is used as the sole mode of consideration. Moreover, the $\overline{z_t^{co}}$ associated with the modified Corrado "z" statistic is more powerful than the $\overline{z_t^{co}}$ statistic associated with the Patell (1976) "t" statistic and the z_{ct}^{co} statistic associated with the Corrado (1989) "z" statistics in detecting significant differences between the ARRs and the CAARs that accrue to Chinese acquiring firms which use cash as the sole

mode of consideration and the AARs and the CAARs which accrue to Chinese acquiring firms that use alternative modes of consideration.

CHAPTER NINE[1]

THE FAMA AND FRENCH ASSET PRICING MODEL AND THE DETERMINATION OF ABNORMAL RETURNS

9.1 Introduction

The empirical analysis in this dissertation is based exclusively on the one factor market model which in turn, is based on the Capital Asset Pricing Model (CAPM). However, in recent years a number of authors have suggested that because of the alleged deficiencies in the CAPM it is advisable to use the Fama and French Asset Pricing Model (1992, 1993, 1995, 1996) (in preference to the CAPM) to calculate the abnormal returns which accrue from M&A activities (André Kooli and L'Her, 2004). It is our view, however, that the Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model has numerous deficiencies of its own and that to base the calculation of abnormal returns upon this model has the potential to lead to a seriously flawed analysis of the abnormal returns which accrue to the shareholders of Chinese acquiring and target firms. Hence, in this chapter we outline our reasons for not employing the Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model to isolate the abnormal returns associated with Chinese M&A activities. Our analysis of this issue begins in the next section with a simple example that shows how it will only be possible to construct a Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model if one uses an index portfolio that does not lie on the Markowitz efficient investment frontier. In other words, if one chooses an index portfolio that does lie on the Markowitz efficient investment frontier, then it will always be the case that the average returns on the assets comprising a portfolio will be perfectly correlated with the betas computed with reference to the given (efficient) index portfolio. Factors such as the ratio of

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[1] Some of the material in this chapter is based on an article entitled "Constructing Asset Pricing Models with Specific Factor Loadings" jointly written by Ian Davidson, Qian Guo, Xiaojing Song and Mark Tippett that is forthcoming in the journal Abacus.

the book value of equity to the market value of equity and the "size" of assets can then add nothing towards the explanation of the average returns on the affected assets. However, the simple example employed in this section shows that it will always be possible to construct an inefficient index portfolio that leads to a Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model that is compatible with an abnormal returns vector of the user's choosing. In other words, if a researcher posits an hypothesis which requires that the abnormal returns vector is to take a particular form, then the researcher will always be able to base the calculation of betas on an inefficient index portfolio which leads to an abnormal returns vector that is compatible with the hypothesis which the researcher wishes to "prove". This means that it will always be possible for one to specify a desired abnormal returns vector and then determine the Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model which is compatible with it. In the next section we begin our analysis by determining the Markowitz efficient frontier and the particular form of the CAPM for a five asset economy. We then use this simple five asset example to demonstrate how it is possible to construct a Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model using an inefficient index portfolio that is compatible with an abnormal returns vector of the user's choosing. We then move on to discuss the implications of our analysis for the empirical work we conduct on Chinese M&A activities. A brief summary of the conclusion we reach is that one could construct a Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model that is compatible with any conclusion whatsoever that the researcher wishes to reach. This alone is a property that disqualifies the Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model as a suitable vehicle for isolating the abnormal returns that arise in Chinese M&A activities we examine – besides the numerous other deficiencies from which the model suffers. The final section of this Chapter contains our summary conclusions.

9.2 A Simple Numerical Example

One can demonstrate the fundamental points that we wish to make about the Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model by considering the $n = 5$ asset portfolio with the following vector of average returns:

$$\mu = \begin{pmatrix} 0.10 \\ 0.15 \\ 0.20 \\ 0.25 \\ 0.30 \end{pmatrix} \qquad (9.1)$$

Thus, the average return on the first asset is $\mu_1 = 0.10$ or 10%. Likewise, the average return on the second asset is $\mu_2 = 0.15$ or 15% and so on. The matrix of variances and covariances is given by:

$$\Omega = \begin{pmatrix} 0.8 & 0.1 & 0.1 & 0.1 & 0.1 \\ 0.1 & 0.8 & 0.1 & 0.1 & 0.1 \\ 0.1 & 0.1 & 0.8 & 0.1 & 0.1 \\ 0.1 & 0.1 & 0.1 & 0.8 & 0.1 \\ 0.1 & 0.1 & 0.1 & 0.1 & 0.8 \end{pmatrix} \qquad (9.2)$$

This shows that the variance of the return on the first asset is $\sigma_1^2 = 0.8$ whilst the covariance of the return between the first and second asset is $\sigma_{12} = 0.1 = \sigma_{21}$. The remaining entries in Ω are to be similarly interpreted. Now, it is not hard to show that the set of mean-variance or Markowitz efficient portfolios implied by the average returns vector, μ, and variance-covariance matrix, Ω, given above is as follows:

$$\sigma_p = \sqrt{28\mu_p^2 - \frac{56}{5}\mu_p + \frac{34}{25}} \qquad (9.3)$$

where μ_p is the average return on the portfolio, σ_p is the standard deviation of the return on the portfolio and $\mu_p \geq \dfrac{\frac{56}{5}}{2 \times 28} = 0.2$ defines the global minimum variance portfolio. Now suppose for pedagogical convenience, that the risk

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free rate of interest is zero. [2] It may then be shown that the capital market line takes the form:

$$\mu_p = \sqrt{\frac{17}{84}} \cdot \sigma_p \qquad (9.4)$$

Moreover, it is not hard to show that the capital market line is tangential to the mean-variance efficient frontier at the "orthogonal" portfolio with a proportionate investments vector of: [3]

$$\underset{\sim}{M} = \frac{1}{35} \begin{pmatrix} 1 \\ 4 \\ 7 \\ 10 \\ 13 \end{pmatrix} \qquad (9.5)$$

This means the orthogonal portfolio is comprised of an $M_1 = \frac{1}{35}$ proportionate investment in the first asset, an $M_2 = \frac{4}{35}$ proportionate investment in the second asset and so on.   One can graph these relationships as follows:

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[2] We would emphasise that assuming a risk free rate of return of zero makes no difference to the generality of the results we are about to report.

[3] Note that the orthogonal portfolio is always a mean-variance efficient portfolio but is not in general equivalent to the market portfolio.
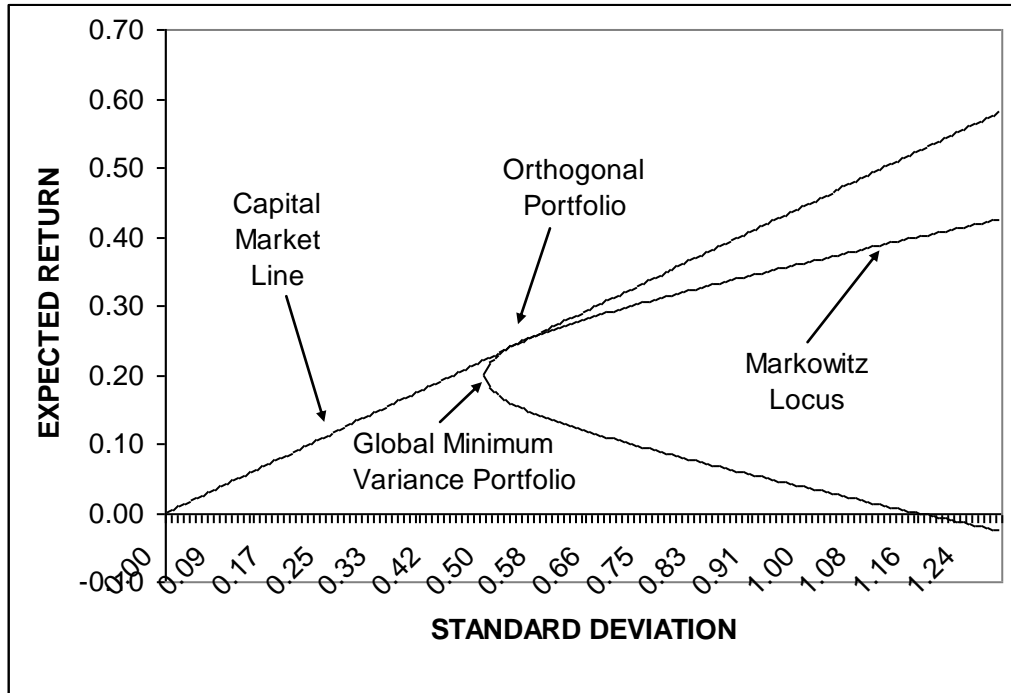
Moreover if one lets $\underset{\sim}{M}^T$ be the transpose of the vector $\underset{\sim}{M}$ then the orthogonal portfolio has an average return and variance of $\mu_M = \underset{\sim}{M}^T \cdot \underset{\sim}{\mu} = \dfrac{17}{70}$ and $\sigma_M^2 = \underset{\sim}{M}^T \Omega \underset{\sim}{M} = \dfrac{51}{175}$, respectively. One can then compute the vector of betas based on the orthogonal portfolio; namely:

$$\underset{\sim}{\beta} = \frac{\Omega \underset{\sim}{M}}{\underset{\sim}{M}^T \Omega \underset{\sim}{M}} = \frac{\dfrac{1}{50}\begin{pmatrix} 6 \\ 9 \\ 12 \\ 15 \\ 18 \end{pmatrix}}{\dfrac{51}{175}} = \frac{1}{34}\begin{pmatrix} 14 \\ 21 \\ 28 \\ 35 \\ 42 \end{pmatrix} \tag{9.6}$$

Hence, the beta for the first asset is $\beta_1 = \dfrac{14}{34} \approx 0.4118$, the beta for the second asset is $\beta_2 = \dfrac{21}{34} \approx 0.6176$, and so on. Moreover, there is a perfect linear relationship between the vector of average returns, $\underset{\sim}{\mu}$, and the vector of betas, $\underset{\sim}{\beta}$, on which the example is based, or:

$$\mu = \begin{pmatrix} 0.10 \\ 0.15 \\ 0.20 \\ 0.25 \\ 0.30 \end{pmatrix} = \frac{17}{70} \times \frac{1}{34} \begin{pmatrix} 14 \\ 21 \\ 28 \\ 35 \\ 42 \end{pmatrix} = \mu_M \underset{\sim}{\beta} \qquad (9.7)$$

Hence, if one desires to "prove" that beta is a "sufficient statistic" for the determination of risky asset average returns then one can leave the analysis here and go no further. A simple least squares regression will show that there is a perfect linear relationship between the average returns and betas based on the orthogonal portfolio. In other words, beta will be a sufficient statistic for asset returns provided betas are based on an index portfolio that falls on the Markowitz efficient frontier (that is, an orthogonal portfolio). Other factors, such as firm size and the book to market ratio for equity, will add nothing to a regression based on these two variables. If, however, one wants to follow Fama and French (1992, 1993, 1995, 1996) in building a pricing formula in which firm size, the book to market ratio or some other combination of variables can be viewed as instrumental in determining asset prices then we now demonstrate how one can do this by basing the calculation of betas on an alternative and generally inefficient index portfolio; that is, an index portfolio that does not fall on the Markowitz efficient frontier.

9.3 The Fama and French Asset Pricing Model

We illustrate the procedures which can be used to build a Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model by using results summarised in the previous section to determine the set of generally inefficient index portfolios, $\underset{\sim}{\alpha}$, which have the same average return, $\mu_M = \dfrac{17}{70}$, as the orthogonal portfolio, $\underset{\sim}{M}$, defined above, namely:

$$\underset{\sim}{\alpha} = \underset{\sim}{M} + \sum_{j=1}^{3} \gamma_j \underset{\sim}{k}_j = \frac{1}{35} \begin{pmatrix} 1 \\ 4 \\ 7 \\ 10 \\ 13 \end{pmatrix} + \gamma_1 \begin{pmatrix} 1 \\ -2 \\ 1 \\ 0 \\ 0 \end{pmatrix} + \gamma_2 \begin{pmatrix} 2 \\ -3 \\ 0 \\ 1 \\ 0 \end{pmatrix} + \gamma_3 \begin{pmatrix} 3 \\ -4 \\ 0 \\ 0 \\ 1 \end{pmatrix} \qquad (9.8)$$

where γ_1, γ_2 and γ_3 are parameters which vary over the real line.[4] One can then use this expression to determine the betas, $\underset{\sim}{b}$, implied by these inefficient index portfolios, namely:

$$\underset{\sim}{b} = \frac{\Omega\underset{\sim}{\alpha}}{\underset{\sim}{\alpha}^T\Omega\underset{\sim}{\alpha}} = \frac{\frac{1}{50}\begin{pmatrix}6\\9\\12\\15\\18\end{pmatrix} + \gamma_1\begin{pmatrix}0.7\\-1.4\\0.7\\0\\0\end{pmatrix} + \gamma_2\begin{pmatrix}1.4\\-2.1\\0\\0.7\\0\end{pmatrix} + \gamma_3\begin{pmatrix}2.1\\-2.8\\0\\0\\0.7\end{pmatrix}}{\frac{51}{175} + \frac{21}{5}\gamma_1^2 + \frac{49}{5}\gamma_2^2 + \frac{91}{5}\gamma_3^2 + \frac{56}{5}\gamma_1\gamma_2 + \frac{77}{5}\gamma_1\gamma_3 + \frac{126}{5}\gamma_2\gamma_3}$$

$$(9.9)$$

Note that if one sets the three parameters γ_1, γ_2 and γ_3 all to zero then the betas will be those obtained earlier for the orthogonal portfolio $\underset{\sim}{M}$, and there will be a perfect linear relationship between the betas and the average returns.[5] When, however, any of γ_1, γ_2 and γ_3 assume values other than zero

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[4] One can use the Gram-Schmidt orthogonalisation procedure to determine an orthogonal basis for the proportionate investments vectors on which the inefficient index portfolios given here are based (Lipschutz, 1974, pp. 283-284). Inefficient index portfolios may then be determined from the following alternative expression:

$$\underset{\sim}{\alpha} = \underset{\sim}{M} + \sum_{j=1}^{3}\gamma_j\underset{\sim}{k}_j = \frac{1}{35}\begin{pmatrix}1\\4\\7\\10\\13\end{pmatrix} + \gamma_1\begin{pmatrix}0.05\\-0.1\\0.05\\0\\0\end{pmatrix} + \gamma_2\begin{pmatrix}0.1\\-0.05\\-0.2\\0.15\\0\end{pmatrix} + \gamma_3\begin{pmatrix}0.05\\0\\-0.05\\-0.1\\0.1\end{pmatrix}$$

where γ_1, γ_2 and γ_3 are again parameters that vary over the real line. The proportionate investments portfolios in this expression are orthogonal by which we mean $\underset{\sim}{k}_i^T.\underset{\sim}{k}_j = 0$ for integral i and j and provided $i \ne j$. Stating inefficient index portfolios in terms of orthogonal proportionate investments portfolios has distinct computational advantages over the expression for the inefficient index portfolios summarised in the text.

[5] One can use the orthogonal proportionate investments portfolios summarised earlier to state the betas implied by the inefficient index portfolios in the simpler form:

$$\underset{\sim}{b} = \frac{\frac{1}{50}\begin{pmatrix}6\\9\\12\\15\\18\end{pmatrix} + \gamma_1\begin{pmatrix}4.9\\-9.8\\4.9\\0\\0\end{pmatrix} + \gamma_2\begin{pmatrix}9.8\\-4.9\\-19.6\\14.7\\0\end{pmatrix} + \gamma_3\begin{pmatrix}4.9\\0\\-4.9\\-9.8\\9.8\end{pmatrix}}{\frac{51}{175} + \frac{1029}{5}\gamma_1^2 + 1029\gamma_2^2 + 343\gamma_3^2}$$

there is no longer a perfect relationship between the asset betas and their average returns. Moreover, prior analysis shows that the relationship between the error vector, $\underset{\sim}{e}$, and betas based on the orthogonal portfolio, $\underset{\sim}{\beta}$, and betas based on inefficient index portfolio, $\underset{\sim}{b}$, will be as follows:

$$\frac{1}{\mu_M}.\underset{\sim}{e} = \underset{\sim}{\beta} - \underset{\sim}{b} \qquad (9.10)$$

where $\mu_M = \mu_\alpha$ is the common average return on the orthogonal and inefficient index portfolios. One can substitute equations (9.6) and (9.9) into this expression and thereby show that for the five asset example considered here the components of the error vector, $\underset{\sim}{e}$, will be:

$$\frac{70}{17}\begin{pmatrix} e_1 \\ e_2 \\ e_3 \\ e_4 \\ e_5 \end{pmatrix} = \frac{1}{34}\begin{pmatrix} 14 \\ 21 \\ 28 \\ 35 \\ 42 \end{pmatrix} - \frac{\frac{1}{50}\begin{pmatrix} 6 \\ 9 \\ 12 \\ 15 \\ 18 \end{pmatrix} + \gamma_1\begin{pmatrix} 0.7 \\ -1.4 \\ 0.7 \\ 0 \\ 0 \end{pmatrix} + \gamma_2\begin{pmatrix} 1.4 \\ -2.1 \\ 0 \\ 0.7 \\ 0 \end{pmatrix} + \gamma_3\begin{pmatrix} 2.1 \\ -2.8 \\ 0 \\ 0 \\ 0.7 \end{pmatrix}}{\frac{51}{175} + \frac{21}{5}\gamma_1^2 + \frac{49}{5}\gamma_2^2 + \frac{91}{5}\gamma_3^2 + \frac{56}{5}\gamma_1\gamma_2 + \frac{77}{5}\gamma_1\gamma_3 + \frac{126}{5}\gamma_2\gamma_3}$$

$$(9.11)$$

It is important to note that the error expression given here is based on five equations but that there are eight unknowns – namely; the components of the error vector, e_1, e_2, e_3, e_4, e_5, and the three parameters γ_1, γ_2 and γ_3, which characterise the inefficient index portfolio. Hence, three of these eight variables can be specified so as to satisfy exogenously specified criteria. More generally, if the analysis is based on n assets then (n - 2) elements of the error vector, $\underset{\sim}{e}$, can be exogenously specified before the inefficient index portfolio on which the asset pricing formula is to be based is determined. If,

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where, as previously, γ_1, γ_2 and γ_3 are parameters which vary over the real line. Note that the cross product terms ($\gamma_1\gamma_2$, $\gamma_1\gamma_3$, $\gamma_2\gamma_3$) associated with the parameters in the denominator of the expression summarised in the text all disappear when an orthogonal basis is used for the proportionate investments portfolios. This simplifies both the calculations made here as well as those which follow.

for example, the researcher determines that firm size and the book to market ratio are to be important factors in the asset pricing process, then he can specify numerical values for any (n - 2) elements of the error vector so that they accommodate this hypothesis perfectly. There will then be a perfect linear relationship between the average returns for the (n - 2) firms for which the elements of the error vector have been specified and the factors (beta, firm size, book to market ratio, etc.) the researcher stipulates are to be important in the asset pricing process. Moreover, since large samples typify the empirical research of the area (Fama and French, 1992, 1993, 1995, 1996), the two firms for which there will be an inexact relationship can have only a minor impact on the analysis and can safely be discarded from any subsequent work based on the sample.

One can further illustrate the principles developed here by supposing an empirical researcher wants to determine an Fama and French (1992, 1993, 1995, 1996) asset pricing formula in which a firm's liquidity is viewed as a significant determinant of the return that accrues to its equity holders. We measure liquidity by the (natural) logarithm of the firm's current ratio (current assets divided by current liabilities) and the researcher has specified that the coefficient associated with the liquidity variable in an Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model is to be as close to five as possible. Prior analysis shows that the researcher will be able to determine an inefficient index portfolio with betas that when taken in conjunction with the asset liquidity measures will have a perfect linear relationship with the average return earned by (n - 2) = 3 of the n = 5 assets on which the analysis is based.[6]   One can illustrate the principles involved by supposing the empirical researcher determines the logarithm of the current ratio for the third, fourth and fifth firms and summarises them in the following vector:

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[6] This result has the important implication that the Fama and French (1993) three factor model can in general only have a perfect linear relationship with the average returns of (n - 2) of the n assets on which the estimation procedures are based. In other words the Fama and French (1993) three factor model can only have a perfect linear relationship for all n assets when the two endogenous components of the error vector, $\underset{\sim}{e}$, happen "by chance" to be equal to the exogenous values for these variables.

$$\underset{\sim}{c} = \begin{pmatrix} c_1 \\ c_2 \\ c_3 \\ c_4 \\ c_5 \end{pmatrix} = \frac{1}{26300} \begin{pmatrix} c_1 \\ c_2 \\ -53 \\ 125 \\ -37 \end{pmatrix} \qquad (9.12)$$

Thus, the logarithm of the current ratio for the third, fourth and fifth firms are $c_3 = \frac{-53}{26300}$, $c_4 = \frac{125}{26300}$ and $c_5 = \frac{-37}{26300}$, respectively. Now here it will be recalled that the researcher wants a coefficient of five (5) to be associated with the logarithm of the current ratio in an empirically determined Fama and French (1992, 1993, 1995, 1996) asset pricing formula which relates betas and the logarithm of the current ratio to asset average returns. Given this, the researcher will need to determine the inefficient index portfolio which leads to the following error vector:

$$\underset{\sim}{e} = 5\underset{\sim}{c} = \frac{1}{5260} \begin{pmatrix} e_1 \\ e_2 \\ -53 \\ 125 \\ -37 \end{pmatrix} \qquad (9.13)$$

One can substitute this latter vector into equation (9.11) and thereby determine the five unknowns using a numerical procedure such as the Newton-Raphson technique (Carnahan, Luther and Wilkes, 1969, p. 319). This procedure shows that $\gamma_1 = \frac{1}{35}$, $\gamma_2 = -\frac{1}{35}$, $\gamma_3 = \frac{1}{35}$, $e_1 = \frac{-154}{5260}$ and $e_2 = \frac{279}{5260}$ will lead to betas which return an error vector with the desired components. Substituting the computed values for γ_1, γ_2 and γ_3 into equation (9.8) shows that the inefficient index portfolio which will lead to betas that are compatible with the error vector (9.13) will be:

$$\underset{\sim}{\alpha} = \frac{1}{35}\begin{pmatrix} 1 \\ 4 \\ 7 \\ 10 \\ 13 \end{pmatrix} + \frac{1}{35}\begin{pmatrix} 1 \\ -2 \\ 1 \\ 0 \\ 0 \end{pmatrix} - \frac{1}{35}\begin{pmatrix} 2 \\ -3 \\ 0 \\ 1 \\ 0 \end{pmatrix} + \frac{1}{35}\begin{pmatrix} 3 \\ -4 \\ 0 \\ 0 \\ 1 \end{pmatrix} = \frac{1}{35}\begin{pmatrix} 3 \\ 1 \\ 8 \\ 9 \\ 14 \end{pmatrix}$$

(9.14)

This in turn means the inefficient index portfolio is comprised of an $\alpha_1 = \dfrac{3}{35}$ proportionate investment in the first asset, an $\alpha_2 = \dfrac{1}{35}$ proportionate investment in the second asset and so on. This will also mean that the betas for this inefficient index portfolio will be:

$$\underset{\sim}{b} = \frac{\Omega\underset{\sim}{\alpha}}{\underset{\sim}{\alpha}^T\Omega\underset{\sim}{\alpha}} = \frac{1}{526}\begin{pmatrix} 280 \\ 210 \\ 455 \\ 490 \\ 665 \end{pmatrix}$$

(9.15)

Hence, the beta based on the inefficient index portfolio for the first asset is $b_1 = \dfrac{280}{526} \approx 0.5323$, the beta for the second asset is $b_2 = \dfrac{210}{526} \approx 0.3992$ and so on. As expected, the linear relationship between the average returns and betas predicted by the CAPM breaks down when betas are based on the inefficient index portfolio detailed here. Indeed, the vector of errors that arise from basing the calculation of betas on the inefficient index portfolio turns out to be:

$$\underset{\sim}{e} = \underset{\sim}{\mu} - \mu_M\underset{\sim}{b} = \begin{pmatrix} 0.10 \\ 0.15 \\ 0.20 \\ 0.25 \\ 0.30 \end{pmatrix} - \frac{17}{70}\times\frac{1}{526}\begin{pmatrix} 280 \\ 210 \\ 455 \\ 490 \\ 665 \end{pmatrix} = \frac{1}{5260}\begin{pmatrix} -154 \\ 279 \\ -53 \\ 125 \\ -37 \end{pmatrix} \neq \underset{\sim}{0}$$

(9.16)

Thus, the error in the CAPM associated with the first asset is $e_1 = \dfrac{-154}{5260}$ whilst the error associated with the second asset is $e_2 = \dfrac{279}{5260}$. More important,

however, is that the errors associated with the third ($e_3 = \frac{-53}{5260}$), fourth ($e_4 = \frac{-125}{5260}$) and fifth ($e_5 = \frac{-37}{5260}$) assets are exactly five times the logarithm of the given firm's current ratio as summarised in the vector (9.13). Here it will be recalled that this is no coincidence as the index portfolio on which the calculation of betas is based was deliberately designed to return a perfect linear relationship between the average return, beta and logarithm of the current ratio for all but the first two firms on which the example is based. Thus, one can use the third, fourth and fifth elements of the vector of betas (9.15) and the logarithm of the current ratios (9.12) to confirm that there is a perfect linear relationship between the average return, beta and the liquidity measures for the affected firms, namely:

$$
\begin{pmatrix} \mu_3 \\ \mu_4 \\ \mu_5 \end{pmatrix} = \begin{pmatrix} 0.20 \\ 0.25 \\ 0.30 \end{pmatrix} = \frac{17}{70} \times \frac{1}{526} \begin{pmatrix} 455 \\ 490 \\ 665 \end{pmatrix} + 5 \times \frac{1}{26300} \begin{pmatrix} -53 \\ 125 \\ -37 \end{pmatrix} = \mu_M \begin{pmatrix} b_3 \\ b_4 \\ b_5 \end{pmatrix} + 5 \begin{pmatrix} c_3 \\ c_4 \\ c_5 \end{pmatrix}
$$

$$(9.17)$$

There is of course nothing unique about the Fama and French (1992, 1993, 1995, 1996) asset pricing formula determined here. If, for whatever reason, the empirical researcher needs liquidity to play an even more important rôle in the returns generating process then he could increase the coefficient associated with the liquidity variable in the error vector (9.13) and then determine the inefficient index portfolio which returns betas which are compatible with the existence of a perfect linear relationship between the average returns, betas and the revised and more prominent liquidity measures. Alternatively, if the researcher wants to show that other variables, such as firm size and/or the book to market ratio for equity are important in the asset pricing process then he can fix the coefficients associated with the vectors summarising these two variables at the desired levels and thereby determine the error vector which needs to be substituted into equation (9.11). The researcher can then solve equation (9.11) and in so doing determine the

inefficient index portfolio that leads to a set of betas which when taken in conjunction with the vectors summarising firm size and the book to market ratio, will have a perfect linear relationship with the average returns vector.

9.4 Summary and Conclusions

There are several lessons to be taken from our analysis of the Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model given in this chapter. The first is that one has to be very careful about the index portfolio on which the calculation of betas is based. In particular, if the index portfolio does not fall on the Markowitz efficient frontier, then it is easy to come to the potentially *false* conclusion that the CAPM provides an inadequate description of the way risky asset prices are determined. Here it is important to note that even when the CAPM is descriptively true it will nonetheless always be possible to determine an inefficient index portfolio that leads to a Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model which also appears to provide an adequate description of the way that risky asset prices are determined. In other words, even when there is a perfect linear relationship between asset betas and their expected returns, it will still be the case that one can base the calculation of betas on an inefficient index portfolio which when taken in conjunction with other determining factors (such as the book to market ratio and firm size) leads to a Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model which also appears to provide a very good description of the way that risky asset prices are determined.

One can give a simple example of this by noting that it will always be possible to determine the Markowitz efficient frontier corresponding to an asset average returns vector, $\underset{\sim}{\mu}$, and the variance-covariance matrix, Ω, associated with it. One can then use an arbitrary (that is, orthogonal) portfolio that lies on the Markowitz locus as the basis for determining the asset betas. These asset betas will be perfectly correlated (that is, have a perfect linear relationship) with the asset average returns. In other words, the book to market ratio and size variables which are so instrumental in the Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model, will have no rôle to

play in determining the asset average returns if one adopts this particular procedure for determining betas. Thus, if one can *always* find an index portfolio for which the betas will have a perfect linear relationship with the asset average returns, what can be (or is) proved by showing that the book to market ratio and size plug the gap in the returns process if one mistakenly chooses an inefficient index portfolio on which to base the calculation of asset betas? It is this which explains my unwillingness to apply the Fama and French (1992, 1993, 1995, 1996) Asset Pricing Model in my empirical work dealing with Chinese M&A activities.

CHAPTER TEN

SUMMARY AND CONCLUSIONS

We began this dissertation by noting in chapter one how the Chinese economy has experienced a prolonged period of rapid expansion with a growth rate in Gross Domestic Product (GDP) which far exceeds that of most western economies (Prasad, 2004). We also noted how the vibrancy of the Chinese economy has attracted significant investment from both domestic firms and virtually every advanced industrialised country in the world (Fei, 2004). In particular, the Chinese government has actively encouraged Chinese firms to initiate foreign acquisition and merger (M&A) activities – especially in relation to western corporations - in order to strengthen Chinese capital markets and also, to act as a conduit for technological and managerial expertise transfer. This in turn has fuelled the development of M&A activities in China, especially in relation to foreign acquisitions (Fei, 2004). Unfortunately, relatively little research has been conducted into the impact that M&A activities can have on the Chinese economy. Moreover, such empirical work as has been conducted on Chinese M&A activities is naïve and relatively unsophisticated. Given this, our principal objective in this dissertation has been to conduct a deep and thorough empirical analysis of Chinese M&A activities and of their impact on the Chinese economy.

Chapter one provides a brief introduction to the dissertation and in particular, summarises the principal results obtained from the empirical work that was conducted for this dissertation on Chinese M&A activities. Chapter two then goes on to briefly summarise the literature relating to M&A activities both for the western and Chinese economies. Our analysis in this chapter shows that there are very few studies that have undertaken an empirical analysis of the important issues that arise in Chinese M&A activities. Thus, in order to bridge this gap in the Chinese literature, I undertook a series of empirical and other analyses on a range of important issues dealing with issues that arise in

Chinese M &A activities. Particular issues considered in this dissertation include: the wealth effects of the varying motivations for takeovers on the shareholders of Chinese acquiring and target firms; the impact that different modes of consideration have on shareholder wealth for both Chinese acquiring and target firms; the effect that hostile as against friendly takeovers can have on shareholder wealth for both Chinese acquiring and target firms, etc. Furthermore, I also note that the empirical work conducted on Chinese M&A activities often employs an accounting (book) based methodology rather than the market model methodology which is invariably used in western empirical work. In addition, I find that the empirical research conducted on Chinese M&A activities is often plagued by methodological and other errors. For example, empirical work on Chinese M&A activities is generally based on discrete returns (the price "today" less the price "yesterday" divided by the price "yesterday") rather than the continuously compounded (or logarithmic) return. Our empirical work on Chinese M&A activities is based exclusively on the continuously compounded return.[1] Most importantly, I employed an hitherto unused non-parametric testing procedure in my empirical work to assess the significance of the abnormal returns which accrue to the shareholders of acquiring and target firms involved in Chinese M&A activities.

Chapter three of the dissertation deals primarily with the laws and regulations governing M&A activities in China. We begin our analysis in this chapter by briefly summarising the development of China's securities markets; this includes an introduction to China's main stock exchanges together with their listing requirements and distinctive characteristics. Probably the most important distinguishing characteristic of the two mainland Chinese stock markets is that traded shares are comprised of A shares and B shares. The reason behind the division between A shares and B shares is that the Chinese government has implemented a policy of limiting the amount of the RMB (Yuan) which can leave the country in order to preserve the nation's foreign currency reserves. This in turn means that a distinction has had to be drawn

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[1] For a detailed exposition of the dangers that can arise from basing empirical analysis on discretely calculated (rather than continuously compounded) returns see chapter one of the text by Davidson and Tippett (2012).

between foreign investors and Chinese national investors; in particular, until recently and with rare exceptions only Chinese citizens have been allowed to hold A shares whilst foreign investors have generally been limited to holding B shares. Another important characteristic of the two mainland Chinese stock markets is that the majority of A shares in most listed Chinese firms are controlled by the Chinese government or its instrumentalities. A shares controlled by the government are called state-owned shares and until recently, could not be traded on any of the Chinese mainland stock exchanges. However, in April, 2005, the Chinese government began implementing a reform programme called "GuQuan Fenzhi Gaige" (Shareholding Structure Reform) under which non-tradable A shares will be gradually converted into tradable shares. But the conversion process will be slow and cumbersome and it will take many years for it to be fully implemented. Furthermore, this distinction between A and B shares points to some of the unique characteristics that determine the laws regulating M&A activities in China and of how they are different from the "equivalent" laws in most western countries.

The most important laws and regulations governing mergers and acquisitions in China are the Takeover Measures, 2006, the Anti-Monopoly Law, 2008, the Declaration Thresholds which supplement the Anti-Monopoly Law, 2008, and finally, the Provisions on Mergers and Acquisitions of a Domestic Enterprise by Foreign Investors, 2009 (otherwise known as the Foreign M & A Provisions, 2009). The Takeover Measures, 2006 cover such areas as the mandated bid rules, tender offer rules, the disclosure of substantial shareholdings and the defence mechanisms which may be mounted against takeovers and mergers, etc. The Anti-Monopoly Law, 2008 details the mandatory pre-merger and acquisition notification process, the investigation procedures that are to be used by the Ministry of Commerce (MOFCOM) and other government instrumentalities and the procedures MOFCOM must use for promulgating its decisions, etc. The Foreign M & A Provisions, 2009 specify inter alia the regulations which govern share swap transactions by foreign investors merging with or acquiring Chinese domestic firms and the regulations which apply to Special Purpose Companies (SPC). We conclude this chapter with the observation that the Anti-Monopoly Law, 2008, the Foreign M & A

Provisions, 2009 and the Takeover Measures, 2006 have made China's M&A legal framework more complete, mature and importantly, more in compatible with best international practices and norms.

Our principal objective in chapter four has been to assess the significance of the abnormal returns earned by target firms involved in Chinese M&A activities. In particular, we employ nonparametric testing procedures in order to enhance the robustness of our empirical analysis. A significant difficulty here, however, is that the standard nonparametric testing procedures in the area – of which Corrado (1989) is probably the best exemplar – have only limited power in comparison to the traditionally employed parametric "t" tests. We address this issue by modifying the Corrado (1989) test so as to increase its power relative to the benchmark Patell (1976) "t" test. In particular, we employ a consistent estimator for the variance of the ranks of abnormal security returns and then use this consistent estimator to obtain an exact closed form expression for the Corrado (1989) test statistic. This simplifies the computational procedures behind the Corrado (1989) test considerably – to the point where they can be implemented using only a hand held calculator. Moreover, we also extend the original Corrado (1989) analysis by determining the distributional properties of the sum of the ranks of the individual abnormal returns over a given event window. We apply both the original Corrado (1989) test and our modification of it to data on Chinese target firms involved in M&A activities occurring over the period from 1 January, 1990 until 31 December, 2008. Our empirical analysis shows that there are significant abnormal returns around the takeover announcement date for the Chinese target firms – although a significant proportion of these abnormal returns decay away within a few weeks following the takeover announcement. Moreover, our modification of the original Corrado (1989) test shows significantly more power in detecting these abnormal returns than the original Corrado (1989) test itself. Indeed, the modified Corrado test employed in our empirical analysis has almost the same power as the Patell (1976) "t" test but has the distinct advantage of not being based on the assumption of normally distributed returns (Harris and Küçüközmen , 2001; Ashton and Tippett, 2006).

In chapter five we turn to a detailed analysis of the wealth effects that M&A activities have for the holders of B and H shares in Chinese target firms. We begin the chapter by explaining how the data was selected on which our empirical analysis of B and H shares of Chinese target firms is based. We then discuss the methodology used to calculate the abnormal returns which arise on the of B and H shares of Chinese target firms comprising our sample as well as the statistical methodology used to assess the significance of these abnormal returns. We then turn the focus of our attention to the wealth effects that M&A activities have for the holders of B shares and H shares in Chinese target firms, respectively. Our general conclusion is that whilst there are positive abnormal returns around the takeover announcement date for the holders of B shares in Chinese target firms, they tend to be of marginal significance at best. In contrast, the abnormal returns around the takeover announcement date for the holders of H shares tend to be larger than those for B shares. Furthermore, the abnormal returns for H shares around the takeover announcement date tend to be statistically significant at any reasonable level, irrespective of whether one employs the Patell (1976) "t" test, the Corrado (1989) rank test or the modified Corrado test. However, our sample of H shares is small and possibly, not representative of the wider Chinese securities market.

The sixth chapter of this dissertation provides a detailed analysis of the wealth effects of M&A activities for the shareholders of Chinese acquiring firms. We begin the chapter by explaining how the data on which our empirical analysis of Chinese acquiring firms was selected. We then outline and discuss the methodology used to calculate the abnormal returns which arise on the Chinese acquiring firms comprising our sample as well as the statistical methodology used to assess the significance of these abnormal returns. We assess the significance of the abnormal returns obtained for our sample of Chinese acquiring firms by using the Patell (1976) "t" test, the Corrado (1989) rank test and my modification of the Corrado (1989) rank test. The empirical analysis of Chinese acquiring firms summarised in the current chapter confirms previous results (as in chapter 4 for target firms) that the modified Corrado test provides a much more robust statistic for isolating the

significance of abnormal returns than both the Patell (1976) "t" test and the original Corrado (1989) test. We then move on to provide a detailed analysis of the empirical results obtained on the wealth effects that Chinese M&A activities have for the holders of A shares, B shares and H shares in Chinese acquiring firms, respectively. Our empirical results in this section of chapter six show that the shareholders of Chinese acquiring firms obtain virtually no economic benefits from their M&A activities. In this respect our results for Chinese acquiring firms are very similar to those obtained by researchers for western acquiring firms, although there are some important differences. In particular, there appear to be statistically significant abnormal returns for the shareholders of Chinese acquiring firms around the first public announcement of the takeover but these generally decay away over the next ten to fifteen trading days thereby leaving the shareholders of acquiring firms with no significant benefits from the M&A activities. We provide some possible explanations for this phenomenon by linking our empirical results with the Chinese political, economic and capital systems which are fundamentally different from those of the western economies.

We then move on to chapter seven which provides a detailed analysis of the economic benefits which accrue to the shareholders of Chinese target firms as a result of using cash as against alternative modes of consideration (issue of shares in the acquiring firm, transfer of assets from the acquiring to the target firm, the repayment of the target firm's debt, etc. and mixtures thereof) in the takeover process. The chapter begins by explaining how the sample of target firms employed in our empirical analysis was selected. The economic benefits which accrue to Chinese target firms when cash is used as the sole mode of consideration are then compared with the economic benefits which accrue to target firms when the consideration is other than purely in cash. The relevant economic benefits are measured in terms of the average abnormal returns (AARs) and the cumulative average abnormal returns (CAARs) on the equity stock of the given firms. In particular, the Patell (1976) "t" test, the original Corrado (1989) rank test and the modified Corrado (1989) test are employed to evaluate and compare the AARs and CAARs for Chinese target firms where the consideration is solely in cash as against Chinese target firms where the

consideration is other than purely in cash. We find that that the Patell "t" (1976) test is the most powerful of the three tests employed but also, that the modified Corrado test has significantly more power than the original rank test proposed by Corrado (1989). All three tests show that when the mode of consideration is solely in cash the AARs and CAARs which accrue to the shareholders of Chinese target firms around the takeover announcement date are positive and significantly different from zero. One can also compare these results with those obtained for target firms where the takeover consideration is other than purely in cash. These show that irrespective of which test statistic is used our empirical analysis is compatible with the hypothesis that there are no economic benefits (and indeed, probably economic losses) for the shareholders of Chinese target firms when the consideration for the takeover is other than purely in cash.

Chapter eight of this dissertation provides a detailed analysis of the economic benefits which accrue to the shareholders of Chinese acquiring firms as a result of using cash as against alternative modes of consideration (issue of shares in the acquiring firm, transfer of assets from the acquiring to the target firm, the repayment of the target firm's debt, etc. and mixtures thereof) in their M&A activities. Economic benefits are again measured in terms of the AARs and the CAARs that accrue to the shareholders of Chinese acquiring firms when the consideration is solely in cash as against when alternative modes of consideration are employed. Our analysis shows that the AARs and CAARs that accrue to the shareholders of Chinese acquiring firms when alternative modes of consideration are used are positive and significantly different from zero in a statistical sense. In contrast, the economic benefits for shareholders of Chinese acquiring firms when cash is used as the sole mode of consideration tend to be insignificantly different from zero and occasionally, negative. We then outline some potential reasons as to why the economic benefits that accrue to the shareholders of Chinese acquiring firms appear to be larger when alternative modes of consideration are used in preference to cash. The first reason stems from the fact that in China a capital gains tax of 20% must be paid immediately by the target firm's shareholders when cash is used to finance the takeover. In contrast, when alternative modes of

consideration are used, it is normally possible to defer the payment of capital gains tax until a date that is far into the distant future. Second, the information asymmetries that arise in the takeover process may lead acquiring firms to offer stock rather than cash for the proposed takeover, especially when the acquiring firm knows that its shares are over-valued on the stock market. The difference between the stock market value of the acquiring firm's shares and their intrinsic value will lower the implicit cost of the takeover and thereby increase the economic benefits that accrue to the shareholders of the acquiring firm. These considerations when taken in conjunction with our empirical analysis show that Chinese acquiring firms ought to employ alternative modes of consideration if they are to maximise the economic benefits that accrue to their shareholders from their M&A activities.

In chapter nine we note how in recent years several authors have suggested that the Capital Asset Pricing Model (CAPM) has serious deficiencies and that these deficiencies flow through to the market model on which much of our empirical analysis is based (Ashton and Tippett, 1998; Roll, 1977; Roll, 1978). We note how in response to this Fama and French (1992, 1993, 1995, 1996) have formulated an asset pricing model which allegedly addresses the deficiencies of the market model and therefore, which should be used in preference to the market model for isolating the abnormal returns which accrue in event studies of the kind employed in this dissertation. Our analysis in this chapter shows, however, that the Fama and French Asset Pricing Model (1992, 1993, 1995, 1996) will have to be based on an index portfolio which does not fall on the Markowitz locus and that because of this, it is easy to come to the potentially *false* conclusion that the CAPM provides an inadequate description of the way risky asset prices are determined in practice. In other words, even when the CAPM is descriptively true it will nonetheless always be possible to determine an inefficient index portfolio that leads to a Fama and French Asset Pricing Model (1992, 1993, 1995, 1996) which also appears to provide an adequate description of the way that risky asset prices are determined. However, the abnormal returns obtained from the empirically determined Fama and French Asset Pricing Model (1992, 1993, 1995, 1996) will be different (and invariably substantially so) from those

obtained under the (descriptively true) CAPM. Since all scientific theories have to be potentially falsifiable this will mean that the Fama and French Asset Pricing Model (1992, 1993, 1995, 1996) can never form the basis of a scientific theory of the asset pricing process (Popper, 1963, p. 36). Given this, we have elected to base our analysis on the CAPM and its empirical counterpart – namely, the market model – since this procedure suffers from fewer theoretical deficiencies when compared to using the Fama and French Asset Pricing Model to isolate the abnormal returns associated with Chinese firms involved in M&A activities. [2]

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[2] Many of the analytical results summarised in chapter nine are based on an article entitled "Constructing Asset Pricing Models with Specific Factor Loadings" that is jointly written by Ian Davidson, Qian Guo, Xiaojing Song and Mark Tippett and which is forthcoming in the journal Abacus.

References

Bachrack, M., Huang, C. and Modrall, J., 2009. Merger Control under China's Antimonopoly Law: The First Year. Available from: http://www.chinabusinessreview.com/public/0907/aml.html (Last accessed on 28 December, 2009)

Baker and McKenzie International (2006). Available from http://www.bakernet.com/NR/rdonlyres/FE57B90B-018F-4F47-AD19-E6EF9E554E47/40680/ChinaAlertMASep062.pdf (Last accessed on 21 December, 2009).

Chao, H. and Xu, K.C., 2008. China's Regulation of "Round Trip Investment". O' Melveny &Mayers LLP Research Report, Available from http://www.omm.com/files/Publication/4cdb8217-4aa1-4ad7-9091-0130a5ea4528/Presentation/PublicationAttachment/b76d9dbd-f240-43c2-b29b-01dcb3fd9928/TICLRoundTripInvestments.pdf (Last accessed on 16 December, 2010)

Farmer, S., 2009. The Evolution of Chinese Merger Notification Guidelines: A Work in Progress Integrating Global Consensus and Domestic Imperatives. Available at SSRN: http://ssrn.com/abstract=1411727. (Last accessed on 22 December, 2009)

Hastings, P., 2008. China's New Merger Notification Rules: What Does This Mean to International Investors? Available at: http://www.paulhastings.com/assets/publications/974.pdf?wt.mc_ID=974.pdf (Last accessed on 21 January, 2010)

Huang, D., 2009. MOFCOM Amends M&A Rules to Unify Reporting Thresholds for Concentration of Business Operators. Dorsey & Whitney LLP, Available from
http://www.dorsey.com/china_ma_rules_amended/ (Last accessed on 18 January, 2010)

OECD (Organisation for Economic Cooperation and Development), 2006. Recent developments in China's Policies towards Cross-Border Mergers and Acquisitions (M&A). Available from
http://www.oecd.org/dataoecd/1/26/37808943.pdf (Last accessed on 18 January, 2010)

Seto, M. and Chow, P., 2009. An Overview of China's New Anti-monopoly Law and Its Relevance to Foreign Investors. Available from,
http://www.metrocorpcounsel.com/current.php?artType=view&artMonth=February&artYear=2009&EntryNo=9378 (Last accessed on 24 December, 2009)

The Illinois Business Law Journal, 2006. China New M&A Regulations. Available at:
http://iblsjournal.typepad.com/illinois_business_law_soc/2006/10/chinas_new_ma_r.html (Last accessed on 19 December, 2009)

Wang, P., 2008. New Merger Notification Thresholds Under The AML Published. Available form
http://www.thefreelibrary.com/New+Merger+Notification+Thresholds+Under+The+AML...-a0182851224. (Last accessed on 18 December, 2009)

Wei, Y., 2008. The Development of the Securities Market and Regulation in China", Loyola of Los Angeles International and Comparative Law Review, 27(3), pp. 479-514. Available at SSRN:
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1285324 (Last accessed on 21 January, 2010).

Yam, T., 2005. Holding Out for China Share Reform Benefits. Available from http://www.ftmandate.com/news/fullstory.php/aid/937/Holding_out_for_china_ share_reform_benefits.html. (Last accessed on 15 December, 2009).

Zhang, Y., Wang, P. and Harris, S., 2007. New Chinese Anti-Monopoly Law. Available from http://www.jonesday.com/pubs/pubs_detail.aspx?pubID=S4662(Last accessed on 24 December, 2009)

Zhang, X. and Zhang, V., 2009. Chinese Merger Control: Patterns and Implications. *Journal of Competition Law & Economics, Forthcoming*. Available from: http://ssrn.com/abstract=1439765 (Last accessed on 28 December, 2009)

Agrawal, A., Jaffe, J. and Mandelker, G., 1992. The Post-Merger Performance of Acquiring Firms: A Re-examination of an Anomaly. *Journal of Finance,* **47**(4), pp. 1605-1621.

André, P., Kooli, M. and L'Her, J-F., 2004. The Long-Run Performance of Mergers and Acquisitions: Evidence from the Canadian Stock Market. *Financial Management*, **33**(4) (December), pp. 27-43.

Ashton, D. and Tippett, M., 1998. Systematic Risk and Empirical Research. *Journal of Business Finance and* Accounting, **25**(9&10) (November/December), pp. 1325-1356.

Ashton, D. and Tippett, M., 2006. Mean reversion and the Distribution of United Kingdom Stock Index Returns. *Journal of Business Finance and* Accounting, **33**(9&10) (November/December), pp. 1586-1609.

Asquith, P., 1983. Merger Bids, Uncertainty, and Stockholder Returns. *Journal of Financial Economics*, **11**(1), pp. 51-83.

Asquith, p., Bruner, R. and Mullins, D., 1990. Unpublished working paper, *Massachusetts Institute of Technology and University of Virginia*.

Baron, D., 1983. Tender Offers and Management Resistance. *Journal of Finance*, **38**(2), pp. 331-343.

Bergstrom, C. and Tang, E., 2001. Price Differentials between Different Classes of Stocks: an Empirical Study on Chinese Stock Market. *Journal of Multinational Financial Management,* **11**(4&5), pp. 407-426

Berkovitch, E. and Narayannan, M., 1990. Competition and Medium of Exchange in Takeovers. *Review of Financial Studies*, **3**(2), pp.153-174.

Berkovitch, E. and Narayannan, M., 1993. Motives for Takeovers: An Empirical Investigation. *Journal of Financial and Quantitative Analysis,* **28**(3), pp. 347-362.

Berry, A., 1941. The Accuracy of the Gaussian Approximation to the Sum of Independent Variants. *Transactions of the American Mathematical Society*, **49**, pp. 122-136.

Bradley, M., Desai, A. and Kim, E. H., 1988. Synergetic Gains from Corporate Acquisitions and Their Division between the Stockholders of Target and Acquiring Firms. *Journal of Financial Economics*, **21**, pp. 3-40.

Bruner, R.F., 2003. Does M&A Pay? A Survey of Evidence for the Decision-Maker. *Journal of Applied Finance,* **12**, pp. 48-69.

Campbell, C., 2006. *Legal Aspects of Doing Business in Asia and the Pacific,* Yorkhill Law Publishing.

Campbell, C. and Wasley, C., 1993. Measuring Security Price Performance using Daily NASDAQ Returns. *Journal of Financial Economics*, **33**(1), pp. 73-92.

Carnahan, B., Luther, H. and Wilkes, J., 1969. *Applied Numerical Methods*. New York: Wiley.

Chen. X. and Zhang T., 1999. The Market Reaction to the Mergers and Acquisitions-Empirical Analysis of M&A Transactions Occurred on Shanghai Stock Exchange in 1997. *Research on Economy*, **9**.

Corrado, C., 1989. A Nonparametric Test for Abnormal Security Price Performance in Event Studies. *Journal of Financial Economics*, **23**, pp. 385-95.

Davidson, I. and Tippett, M., 2012. *Principles of Equity Valuation*. London: Routledge.

Davis, J., Fama, E. and French, K., 1997. Characteristics, Covariances, and Average Returns: 1929 to 1997. *Journal of Finance*, **55**(1) (February), pp. 389-406.

Dimson, E., 1979. Risk Measurement when Shares are Subject to Infrequent Trading. *Journal of Financial Economics*, **17**, pp. 197-226.

Ding, H. and Yang, M., 2008. The Analysis on the Reasons for Choosing the Cash as the Mode of Consideration and Its Economic Impact on Tax in Mergers and Acquisition Activities for Chinese Listed Companies. *Commerce and Economy*, **5**

Dittmar, R., 2002. Non-Linear Pricing Kernels, Kurtosis Preference and Evidence from the Cross Sections of Equity Returns. *Journal of Finance*, **57**(1) (February), pp. 369-403.

Dodd, P., 1980. Merger proposals, management discretion and stockholder wealth. *Journal of Financial Economics,* **8**(2), pp.105-138.

Dodd, P. and Ruback, R., 1977. Tender offers and stockholder returns: An empirical analysis. *Journal of Financial Economics,* **5**(3), pp. 351-374.

Du, Q. and Nie, P., 2007. The Empirical Test on the Wealth Effect of M&A Activities in Chinese Listed companies. *The Securities Market Newspaper*, **1**, pp: 29-38.

Esseen, C., 1945. Fourier Analysis of Distribution Functions: A Mathematical Study of the Laplace-Gaussian Law. *Acta Mathematica*, **77**, pp. 1-125.

Fama, E., 1996. Multifactor Portfolio Efficiency and Multifactor Asset Pricing. *Journal of Financial and Quantitative Analysis*, **31**(4) (December), pp. 441-465.

Fama, E. and French, K., 1992. The Cross-Section of Expected Stock Returns. *Journal of Finance*, **47**(2) (June), pp. 427-465.

Fama, E. and French, K., 1993. Common Factors in the Returns on Stocks and Bonds. *Journal of Financial Economics*, **33**(1) (February), pp. 3-56.

Fama, E. and French, K., 1995. Size and Book-to-Market Factors in Earnings and Returns. *Journal of Finance*, **50**(1) (March), pp. 131-155.

Fama, E. and French, K., 1996. Multifactor Explanations of Asset-Pricing Anomalies. *Journal of Finance*, **51**(1) (March), pp. 55-84.

Fei, Y., 2004. The Institutional Change in China after its Reform in 1979. Unpublished Ph.D dissertation*, Erasmus University of Rotterdam.*

Fidrmuc, J., Goergen, M. and Renneboog, L., 2006. Insider Trading, News Releases, and Ownership Concentration. *Journal of Finance*, **61**, pp. 2931-2973.

Firth, M., 1980. Takeovers, Shareholder Returns and the Theory of the Firm. *Quarterly Journal of Economics*, **94**, pp. 235-260.

Firth, M., 1991. Corporate Takeovers, Stockholder Returns and Executive Rewards. *Managerial and Decision Economics*, **12**(6), pp. 421 - 428

Fischel, D., 1978. Efficient Capital Market Theory, the Market for Corporate Control and the Regulation of Cash of Cash Tender Offers. *Texas Law Review*, **57**(1), pp. 1-46.

Fishman, M., 1989. Preemptive Bidding and the Role of the Medium of Exchange in Acquisition. *Journal of Finance*, **44**(1), pp. 41-57.

Fisz, M., 1963. *Probability Theory and Mathematical Statistics*. New York: Wiley.

Fix, E. and Hodges, J., 1955. Significance Probabilities of the Wilcoxon Test. *Annals of Mathematical Statistics*, **26**, pp. 301-12

Freeman, H., 1963. *Introduction to Statistical Inference*. Reading, Massachusetts: Addison-Wesley Publishing Company.

Freund, J., 1971. *Mathematical Statistics.* Englewood Cliffs. New Jersey: Prentice-Hall, Inc.

Friedman, W.I., 2002. One Country, Two Systems: The Inherent Conflict between China's Communist Politics and Capitalist Securities Market. *Minnesota Journal of International Law,* **477**(27), pp. 484-85.

Fuller, K., Netter, J. and Stegemoller, M., 2002. What do Returns to Acquiring Firms Tell Us? Evidence from Firms that make Many Acquisitions. *Journal of Finance,* **57**(4), pp. 1763-1793.

Ge, P. and P, J., 2009. The Empirical Research on the Mode of Consideration after the Shareholding Structure Reform in China. *Friends of Accounting*, **23**.

Ghosh, A., 2002. Increasing Market Share as a Rational for Corporate Acquisitions. *Baruch College working paper*.

Goergen, M. and Renneboog, L., 2003. Shareholder Wealth Effects of European domestic and Cross-Border Takeover Bids. *European Corporate Governance Institute*, Finance working paper no. 08/2003.

Goergen, M. and Renneboog, L. (2004), "Shareholder Wealth Effects of European Domestic and Cross-border Takeover Bids", European Financial Management, **10(1)**, pp. 9-45.

Gregory, A., 1997. An Examination of the Long Run Performance of UK Acquiring Firms. *Journal of Business Finance & Accounting*, **24**(7&8), pp. 971-1002.

Hansen, H., 1987. A Theory for the Choice of Exchange Medium in Mergers and Acquisitions. *Journal of Business*, **60**(1), pp. 75-95.

Harris, R. and Küçüközmen, C., 2001. The Empirical Distribution of U.K. and U.S. Stock Returns. *Journal of Business Finance and Accounting*, **28**(5&6), pp.715-740.

Hodges J. and Lehmann, E., 1956. The Efficiency of Some Nonparametric Competitors of the "t" Test. *Annals of Mathematical Statistics*, **27**, pp. 324-35.

Hodgkinson, L. and Partington, G., 2008. The Motivation for Takeovers in the UK. *Journal of Business & Accounting*, **35**(1), pp. 102-126

Houston, J., James, C. and Ryngaert, M., 2001. Where do merger gains come from? Bank mergers from the perspective of insiders and outsiders. *Journal of Financial Economics*, **60**(2&3), pp. 285-331.

Huang, H., 2006. *International Securities Markets: Insider Trading Law in China*. Netherlands: Kluwer Law International.

Huang, H., 2008. The New Takeover Regulation in China: Evolution and Enhancement. *The International Lawyer*, **42**(1), pp. 153-175.

Huang, H., 2007. China's New Regulation on Foreign M &A: Green Light or Red Flag. *University of New South Wales Law Journal*, **13**(2), pp. 30-36.

Huang, Y., 1987. Target Abnormal Returns Associated with Acquisition Announcements: Payment, Acquisition Form, and Managerial Resistance. *Journal of Financial Economics*, **19**, pp. 329-350.

Huang, Y. and Walking, R., 1987. Target Abnormal Returns Associated with Acquisition Announcements: Payment, Acquisition Form and Management Resistance. *Journal of Financial Economics*, **19**, pp. 329-349.

Jennings, R., Coffee, J., Seligman, J. and Sale, H., 1992. *Securities Regulation: Cases and Materials*. Washington: Foundation Press.

Jensen, C. and Ruback, R., 1983. The market for corporate control: The scientific evidence. *Journal of Financial Economics*, **11**, pp. 5-50.

Jin, Q. and Yu, V., 2009. Fund Governance and Collusion with Controlling Shareholders: Evidence from Nontradable Shares Reform in China. *Shanghai University of Finance and Economics*, People's Republic of China.

Lakonishok, J. and Lee, I., 2001. Are Insiders' Trades Informative? *Review of Financial Studies*, **14**, pp. 79–112.

Langtieg, T., 1978. An Application of a Three-Factor Performance Index to Measure Stockholders Gains from Merger. *Journal of Financial Economics*, **6**(4), pp. 365-384.

Li, M. and Zhu, T., 2005. The Wealth Effect of M&A Activities in Chinese Listed Companies. *The Newspaper of Zhongshan University*, **5**(5), pp. 80-86

Li, P. and Zhang, X., 2007. Has China's the Non-tradable Shares Improved Listed Companies' Performance? A DEA Evaluation of China's Listed Companies. *Central University of Finance and Economics*, People's Republic of China.

Li, S. and Chen, Y., 2002. The Wealth Effect of Mergers and Acquisitions on the Listed Companies. *Research on Economy*, **11**.

Liu, L. 2005. The Empirical Research on Benefits Creating for Listed Chinese Firms in Mergers and Acquisitions. *Commercial Research*, 24, pp. 30-33.

Lipschutz, S., 1974. *Linear Algebra.* New York: McGraw-Hill Book Company.

Mangelker, G., 1974. Risk and Return: The Case of Merging Firm. *Journal of Financial Economics*, **1**(4), pp. 303-335

Martin, K., 1996. The Method of Payment in Corporate Acquisitions, Investment Opportunities, and Management Ownership. *The Journal of Finance,* **51**(July), pp. 1227-1246

Martynova, M., Oosting, S. and Renneboog, L., 2006. The Long-term Operating Performance of European Mergers and Acquisitions. *European Corporate Governance Institute Working Paper Series in Finance.*

Martynova, M. and *Renneboog*, L., 2008. A Century of Corporate Takeovers: What Have We Learned and Where Do We Stand? *Journal of Banking and Finance*, **32**(10) (October), pp. 2148-2177.

Mitchell, M.L. and Stafford, E., 2000. Managerial Decisions and Long-Term Stock Price Performance. *Journal of Business*, **73**(3), pp. 287-329.

Moeller, S., Schlingemann, F. and Stulz, R., 2003. Do Shareholders of Acquiring Firms Gain from Acquisitions? *Ohio State University Working Paper*

Mulherin, J.H. and Boone, A.L., 2000. Comparing Acquisitions and Divestitures. *Journal of Corporate Finance*, **6**, pp. 117-139.

Nikitin, Y., 1995. *Asymptotic Efficiency of Nonparametric Tests.* Cambridge: Cambridge University Press.

Patell, J., 1976. Corporate Forecasts of Earnings per Share and Stock Price Behavior: Empirical Test. *Journal of Accounting Research*, **14**, pp. 246-76.

Popper, K., 1963. *Conjectures and Refutations.* London: Routledge.

Prasad, E., 2004. China's Growth and Integration into the World Economy: Prospects and Challenges. *Occasional Paper, Washington, D.C.: International Monetary Fund*, **232**.

Qi, D., Wu, W. and Zhang, H., 2000. Shareholding Structure and Corporate Performance of Partially Privatized Firms: Evidence from Listed Chinese Companies. *Pacific-Basic Finance Journal*, **8**(5), pp. 587-610.

Roll, R., 1977. A Critique of the Asset Pricing Theory's Tests – I. *Journal of Financial Economics*, **4**(2) (March), pp. 129-176.

Roll, R., 1978. Ambiguity when Performance is Measured by the Securities Market Line. *Journal of Finance*, **XXXIII**(4) (September), pp. 1051-1069.

Roll, R., 1986. The Hubris Hypothesis of Corporate Control. *Journal of Business*, **59**, pp. 197-216.

Savage, R., 1961. Probability Inequalities of the Tchebycheff Type. *Journal of Research of the National Bureau of Standards – B. Mathematics and Mathematical Physics*, 65B(3), July-September 1961.

Schnitzer, M., 1994. Hostile versus Friendly Takeovers. *Economica*, **63**, pp. 37-55.

Shevtsova, I., 2007. Sharpening of the Upper Bound of the Absolute Constant in the Berry–Esseen Inequality. *Theory of Probability and its Applications*, **51**, pp. 549-553.

Song, L., Zhang, S. and Chu, H., 2008. The Empirical Test on the Wealth Effect of Share Swap in Chinese M&A Activities. *Chinese Industrial Research*, **7**, pp. 111-120.

Walker, M., 2000. Corporate Takeovers, Strategic Objectives, and Acquiring-firm Shareholder Wealth. *Financial Management*, **29**(1), pp. 53-66.

Walter, C. and Howie, F., 2003. *Privatizing China: The Stock Markets and their Role in Corporate Reform*. New York: John Wiley & Sons Inc.

Wang, Y., 2003. A Summary of the Research on the Mode of Considerations in Takeover Transactions. *Teachers of Economy*, **4**.

Wansley, J., Lane, W. and Yang, H., 1983. Abnormal Returns to Acquired Firms by Types of Acquisition and Method of Payment. *Financial Management*, **12**(3), pp. 16-22.

Wei, Y., 2006. Volatility of China's Securities Markets and Corporate Governance. *Suffolk Transnational Law Review*, **29**(2), pp. 207-236.

Wong, L., 1999. The Effect of Mergers and Acquisitions Announcement on the Security Prices of Bidding Firms in Asia. *Masters Dissertation. University of Hong Kong.*

Wu, H.M, 2009. Merger Activities and Stock Market Valuation in China. *Financial Sector Development in the Pacific Rim, East Asia Seminar on Economics,* **18**, pp. 241-260.

Wu, X. and Zhang, M., 2009. The Research on the Loss of Acquiring Firms in Chinese M&A Activities. *Working Paper Series of China Center for Economic Research.*

Yang, C. and Liu, B., 2002. Research on the Behaviour of Share Price of Share Swap Merger and Acquisitions. *Social Science Publicaiton.*

Yook, K., 2003. Larger Returns to Cash Acquisitions: Signaling Effect or Leverage Effect? *Journal of Business*, **76**(3), pp. 477-498.

Yu, G. and Yang, R., 2000. The Theoretical and Empirical Analysis on the Impact of Mergers and Acquisitions. *Concurrent Finance and Economy*, **7**.

Zhang, W. and Gu, H., 2002. The Empirical Analysis of Performance of Mergers and Acquisitions on the Listed Companies in China. *Securities Market Newspaper*, **9**.

Zhang, X., 2003. Whether the M&A Activities in China Can Create Wealth for Shareholders: Empirical Test and Theoretical Analysis on Chinese Securities Market. *Economy Research*, **6**.

Zhang, Y., Wang, Y. and Meng, L., 2007. The Research on the Mode of Consideration in Chinese Merger and Acquisitions. *Sci-Technology and Management,* **2.**

Zhu, T., 2009. The Empirical Research on Chinese M&A Activities in the Transitional Period. *China Finance Publishing.*