

Thesis
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THE EFFECT OF CORPORATE ACQUISITIONS ON
OPERATING PERFORMANCE OF MALAYSIAN COMPANIES

By

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Abstract

Recent research observed in a number of countries with developed capital markets, including the US and the UK, have produced inconclusive evidence on the presence of gains to acquiring company shareholders and indeed to the existing of net wealth gains. Thus, the current study aims to contribute to the debate on takeover activity by examining whether operational gains arise, using operating cash flow to measure operating performance of Malaysian companies involved in takeover activity between the period 1988-1992. Rather than investigating the distribution of shareholder wealth changes, however, the focus is whether takeover in Malaysia lead to an improvement in corporate performance.

Consistent with the characteristics of private acquisitions in the sample of 97 quoted acquiring and 117 target companies (comprising of 113 private, 3 public listed and 1 non-public listed), acquisitions in Malaysia appear to be non-disciplinary. Despite the non-disciplinary motives, the overall results reported in the current study suggest that acquisitions in Malaysia during the period 1988-1992 lead to operating cash flow improvements in the long run. The improvement in performance results from both increases in return on sales (operating cash flow per dollar of sales) and in asset turnover (sales per dollar of assets). These improvements are not achieved at the expense of the long-term viability of the combined firms nor does it appear to be driven by cost-cutting strategies.

In addition, empirical evidence in the thesis indicates that the major source of operating gains is the acquisition of companies with a high overlap of product market relatedness. In addition acquisitions that are financed by equity produce higher operating gains. Acquirers who make no immediate change to the management team of the target company following the acquisition also achieve a greater increase in

post acquisition performance, reinforcing the likelihood that this sample does not consist of disciplinary acquisitions. Further, the significant positive correlation between the share price market revaluation of acquiring firms around the bid period, the change in post acquisition operating performance and the premium paid for the target indicate that managers who anticipate post acquisition operating cash flow improvements will pay a premium to acquire the targets. The findings can also be viewed as evidence that cash flow data and market value data can capture real economic phenomena which explain a substantial proportion of the market's reaction to takeovers around the announcement period.

The results demonstrate that Malaysian acquisitions do lead to improvements in operating performance that provide potential for benefits to both the economy as a whole and bidding company shareholders. However, as the majority of target companies in the current study were previously privately owned businesses, researchers and policy makers should be wary before generalising from these results.

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Chapter 1

Introduction

1.1 Study Overview

One of the issues facing developing economies is to identify the extent to which they should adopt market-based policies. One particular area in which this issue arises relates to takeover activity. Takeover activity may be perceived as one aspect of the market for corporate control that provides a disciplinary mechanism on management (Jensen and Ruback, 1983). In a less-well developed economy it may not be possible to follow a 'liberal' approach to takeover activity. Other policies, such as that of transferring a greater proportion of ownership of productive assets to the indigenous population (as with the bumiputra policies adopted in Malaysia) may be perceived as more important¹. Even though corporate acquisition activity is relatively new in Malaysia, it is a significant aspect in the growth of business sectors and the development of the Malaysian economy. With an increase in the level of acquisition activity, corporate leaders need to be aware of the difficulties in achieving value maximising behaviour in corporate acquisition decisions. It is also important that legislators do not make hasty decisions about the need for regulation in a field which economic theory suggests has an important disciplinary role to play in a market-based economy.

The current study aims to contribute to the debate on takeover activity by examining the operating performance of a sample of Malaysian companies that made acquisitions in the period 1988-1992. Rather than focusing on shareholder wealth effects, however, the focus is on changes in operating cash flow performance. The thesis is more concerned with identifying whether takeovers in Malaysia lead to an

¹ The National Development Policy (NDP), which replaced the National Economic Policy (NEP) in 1991, sought to raise bumiputra ownership of national wealth to 30%.

improvement in corporate performance rather than with identifying the distribution of wealth changes, if any. The main approach adopted is to analyse the operating cash flow performance of Malaysian companies involved in takeover activity between 1988-1992.

1.2 Statement of the Problem

There are two research approaches normally employed in addressing the question of the efficiency of the takeover mechanism. One approach is to focus on security returns analysis and the wealth gains or losses to the various shareholder groups. The other approach is to focus on the profitability of companies involved, using accounting data. Both measures should be related to post acquisition cash flows, thus it might be assumed that they would lead to consistent results. However, previous studies that have used both measures suggest otherwise.

Market-based studies that focused on announcement period security returns have found that acquisitions on average improve performance, yet the recent literature on post acquisition performance concludes that acquisitions reduce wealth. Magenheim and Mueller (1988) and Jarrell and Poulsen (1989) are among studies in US that reported positive returns to targets and bidders around announcement period. In the UK, Franks and Harris (1989) and Sudarsanam et al. (1996) are among studies that found acquisitions on average are value enhancing for the shareholders around the bid period. Most of the existing research on acquisition in Malaysia examines share price behaviour around acquisition announcement. Md Isa and Lim (1993), Mat Nor (1993) and Md Isa (1994) are among studies that found corporate acquisitions in Malaysia as value enhancing activities around the announcement period, particularly to acquired firms. Mohammad (1993), on the other hand, reported that Malaysian companies involved in acquisitions break even around the bid period.

Using the *ex post* analysis, event studies in the US have also produced contradictory results and have not conclusively determined whether takeovers produce economic gains in the long run. Magenheim and Mueller (1988), Lahey and Conn (1990), and Clark and Ofek (1994) are among studies that found negative post acquisition performance for the merged firms. Only Franks, Harris and Titman (1991), and Loderer and Martin (1992) find positive post acquisition returns. The UK findings has been similar in that studies carried out by Limmack (1991), Kennedy and Limmack (1996), Sudarsanam et al. (1996), Gregory (1997), and Baker and Limmack (1999) report negative long run post acquisition returns for the acquiring firms. Only Franks et al. (1977) find that acquiring firms in the brewing industry gain in the long run from acquisition, while Franks and Harris (1989) provides conflicting results depending on the benchmark control used. This conflict has led a number of authors (Healy et al, 1992, Jarrell, 1995, and Gregory, 1997) to suggest that the results may be a reflection of methodological errors, including the use of inappropriate control models, rather than the acquisition per se. This view is partly reinforced by the length of time over which the negative post outcome returns are observed as this appears to contradict the notion of an efficient securities market (Ruback, 1988). Possible methodological errors include the choice of inappropriate control models or some form of selection bias either in the control model or the sample being examined.

Attempts to provide what are deemed to be more appropriate models by Franks et al. (1991), Agrawal et al. (1992) in US, Gregory (1997), Higson and Elliot (1998), and Baker and Limmack (1999) in UK have met with varying degrees of success. Agrawal et al. (1992) finds that acquisitions are followed by significant negative returns over a five-year period after the effective date, a result robust to various specifications of the returns-generating model. Gregory (1997) and Baker and Limmack (1999), that have used alternative controls for UK acquisitions and also report negative pattern of post outcome abnormal returns.

The alternative research approach focuses on the profitability of companies involved, using accounting data. Most accounting-based studies both for the UK and the US tend to lend support to the view that acquisitions do not result in improved performance and that acquisitions are non-value maximising to shareholders. Examples include studies by Mueller (1980), Ravenscraft and Scherer (1987), Clark and Ofek (1994), Philappatos and Baird (1996), and Denis, Denis and Sarin (1997) in US, Singh (1971), Utton (1974), Meeks (1977), Holl and Pickering (1988), and Dickerson, Gibson and Tsakalotos (1997) in the UK. However, Lorie and Halpern (1970), and Lev and Mendelker (1972) in US found that merging firms perform significantly better than non-merging firms.

In summary, the apparently conflicting results produced both by market-based studies and accounting-based studies highlight a fundamentally unresolved question of the long term effects of acquisitions on firm performance. In the current study an alternative research design is adopted, that which uses cash flow analysis in measuring the performance of companies involved in takeover activity. The approach adopted is similar to that used in the studies by Healy et al. (1992, 1997), Manson et al. (1994), Clark and Ofek (1994), Anand and Singh (1997), and Ghosh (1998). These latter studies provide evidence, which suggest that acquisitions create the opportunity for wealth increases and are economically efficient in the long run.

1.3 Research Objectives

The main purpose of the current paper is to provide evidence as to whether the operating performance improves post acquisition for companies involved in takeover activity in one developing market, that of Malaysia during the period 1988-1992. The specific objectives in this thesis are as follows:

- a) to analyse the level of pre acquisition operating performance of bidders, targets and their respective controls.
- b) to test if there is any improvement in the post acquisition operating performance five years after acquisition relative to four years pre acquisition operating performance
- c) to explore the sources of operating cash flow that might offer explanation for the changes in the performance of the combined firms after acquisition
- d) to examine the effect of bid characteristics of the companies involved in acquisitions on post acquisition operating performance.
- e) to test whether share price changes around the bid period and also in the post acquisition period is a function not only on the expectation of operating performance but also on the premium paid for the target.

1.4 Significance of the Study

Jensen (1984) argued that shareholders wealth increases in takeover situations are derived from improved operating performance and increased efficiency. As discussed in the previous section, recent research, however, has provided contradictory evidence on the presence of gains to bidding company shareholders and indeed on the existence of net wealth gains. There is, however, a fairly wide body of indirect evidence that takeover activity does provide a disciplinary role in market economies (Limmack, 2000). One possible way of reconciling the contradictory findings is to suggest that takeovers do indeed improve economic efficiency on average, but acquirers simply pay too much for the benefits. Researchers who have

attempted to address the question as to whether takeovers actually lead to an improvement in operating performance, however, have generally found little evidence to support this thesis. If the benefits from takeover activity are unclear in developed markets then there is no obvious benefit to outweigh what are perceived to be potentially harmful effects, including the development of monopoly power. The danger in this for developing markets is that politicians may favour legislation that inhibits not only the negative but also the positive aspects of takeover activity. From the regulatory viewpoint, it is therefore important that researchers establish a prima facie case for the presence of operating efficiencies in takeover activity. In this particular context it is less important to determine which group of shareholders, if any, benefits from improved operating performance.

This research is also motivated by the lack of published studies conducted on corporate acquisition in a developing economy like Malaysia due to its short capital market history, coupled with an underdeveloped financial base. Earlier studies undertaken in the country (example Mat. Nor, 1993; Mohammad, 1993 and Md. Isa, 1994) have employed share price data to examine the returns to shareholders around the bid period. The current study differs from previous studies in the following respects:

- a. The cash flow analysis in measuring the post acquisition performance in the current study has not been reported before in the published literature on Malaysian acquisitions
- b. It adds to the existing literature by identifying the sources of operating cash flow that may offer explanation to the improved post acquisition performance

In addition, the significance of the study may also be seen in the light of its contribution to knowledge in the following aspects:

- c. The cash flow analysis in the current study will contribute to the growing body of knowledge on corporate acquisition as an alternative in measuring post acquisition performance
- d. In the area of accounting policy, cash flow data can also provide a useful basis for financial analysis.
- e. Contribution to knowledge will also be made particularly in corporate acquisitions development in Malaysia since the target sample used in the study are those of privately held targets
- f. Findings from the study might shed some insights to academicians, corporate raiders and policy makers in formulating better and meaningful strategies so as to enhance resource allocation within the Malaysian economy.

1.5 Research Approaches

The current study focuses on takeovers of Malaysian companies that were initiated and completed during the period January 1, 1988 – December 31, 1992. The sample period selected provided a focus on recent acquisitions and also ensured that sufficient pre and post acquisition performance data was available. A list of takeover bids was individually identified from the Kuala Lumpur Stock Exchange's (KLSE) monthly Investors Digests. The list was then cross checked with the Annual Companies Handbook published by the KLSE and the respective companies' files in the KLSE to find out if the acquisition was successful. The final sample included 97

quoted acquiring and 117 target companies (consisting of 113 private, 3 public listed and 1 non-public listed targets). Financial reports on the quoted acquiring and quoted non-acquiring companies were obtained from the KLSE library while those on non-quoted target and non-quoted matched target companies were obtained either from the companies themselves or from the Malaysian Registrar of Companies (ROC) in Kuala Lumpur.

The relatively short time frame (1988–1992) suggests that the sample firms' performance may be influenced by economy or industry-wide changes. In assessing whether a sample of firms experience any unusual changes in post acquisition operating cash flow, a control was provided as a benchmark against which the sample firms can be compared. In the current study industry-matched control companies were selected from the population of non-acquiring and non-target companies. Bidders were also matched on the basis of size. Size matching was also undertaken as far as possible for target although the absence of full information on all potential controls made this more difficult. The definition of size is based on the book value of total operating assets at the end of the year prior to acquisition (represented by share capital plus reserves plus debt, less cash and marketable securities). Market values were not used as few of the targets were quoted.

The measure of cash flow is profit before tax, depreciation and interest, adjusted for changes in working capital. To compare performance across firms, operating cash flow is scaled by the book value of assets, defined as book value of shareholders fund and total debt less cash and marketable securities at the beginning of the year in question.

A pre acquisition consolidated measure of combined bidder and target operating performance is constructed for each of the four years prior to takeover (-4

to -1). The performance of each is weighted by the book value of operating assets of the two sample firms at the beginning of the relevant year. The post acquisition operating cash flow performance is calculated using the actual values reported by the combined firm, deflated by the book value of operating assets (represented by equity capital plus reserves plus debt, less cash and short-term investments) at the beginning of the relevant year.

A combined control company operating cash flow performance measure is then calculated for each pair of control companies in each of the four years prior to the bid and the five years after. For the pre acquisition period, the combined control company measure is weighted by the relative operating asset values of the *bidder* and *target* firms at the beginning of each year. The post acquisition combined control company cash flow performance is computed by weighting the individual company performance by the relative asset value of the *bidder and target firms at the end of the year prior to the acquisition*. The control adjusted operating performance is obtained by subtracting the relevant control company weighted measures of operating performance from the combined measure for the bidder and target companies.

In addition summary statistics are constructed for each takeover *individually* by calculating the median of the control adjusted measures (AP_{prei}^c) over the four years prior to acquisition and also for the median value over the five years after acquisition. Tests are undertaken of the difference in median control adjusted performance from before to after the bid. In addition the change in abnormal control adjusted cash flow returns is estimated using the following model.

$$AP_{postl}^c = \alpha + \beta AP_{prel}^c + \varepsilon_l$$

where

$AP^c_{post\ i}$ is the median annual control adjusted cash flow returns for pro forma company i for the post acquisition years

$AP^c_{pre\ i}$ is the pre acquisition median for the same pro forma company.

The intercept α represents the abnormal control adjusted cash flow returns (changes in performance caused by acquisition).

The slope coefficient β captures any correlation in cash flow returns between pre and posts acquisition years.

The advantage of using a regression analysis is that it avoids making an assumption that the combined firms will continue their preevent period of performance relative to respective control companies over post acquisition period (Ghosh, 1998).

1.6 Chapter Organisation

This study is organised into 13 chapters. Chapter 2 of the thesis discussed the history and economic background of the country, the financial and capital market, the regulatory policies and agencies in the country and the development of acquisitions in Malaysia.

The managerial economic literature has forwarded various motives to explain why companies make corporate acquisitions and also to predict the outcome of post acquisition performance. Two that have received a lot of attention are the shareholder wealth maximisation and management wealth maximisation theories. The traditional (neo-classical) theory (Manne, 1965) views corporate acquisitions as value-enhancing activities, that firms will make acquisitions only if the managers believe they will maximise shareholders wealth. An alternative motive for making acquisitions is the managerial motives theory (Mueller, 1969) which postulates that the takeover is

an attempt to maximise top management utility instead of their shareholders' value. Thus, Chapter 3 contains a discussion of the various motives for acquisition including shareholder and management wealth maximisation theories, together with a review of empirical studies on each.

Chapter 4 centres on the discussion of using market-based studies in evaluating the impact of corporate acquisitions on shareholder wealth while Chapter 5 focuses on accounting and cash flow-based studies. Chapter 6 contains a discussion of the methodology and hypotheses applied in the current study including that relating to the sources of acquisition related changes in cash flow performance: return on sales, asset turnover, capital expenditure rate, asset sales rate and cash payment for expenses. Changes in the operating return on sales (operating cash flow divided by sales) and asset turnover (sales divided by operating assets) are measures of how efficiently the management is using its resources to improve the firm performance. It is also hypothesised that there is an increase in capital expenditure rate (capital expenditure divided by total assets) of the combined firms 5 years after acquisition indicating that the firm has not sacrificed its long term investments for the sake of its short-term improvement. Asset sales rate (cash receipts from asset sales divided by total assets) is expected to increase after the acquisition due to better management decision in disposing poorly performing assets to improve cash flow after acquisition. Cash payment for expenses ratio (cash payment for expenses divided by total assets) is also examined to determine whether the management has made cost-cutting strategies to improve economic efficiency.

The methodology used in analysing the bid characteristics is described in Chapter 7. Several studies (Servaes, 1991, Healy et al., 1997 and Ghosh, 1998, among others) have suggested that the level of post acquisition operating performance to the combined firms is dependent on the characteristics of the bid

itself. The specific bid characteristics to be analysed in the current study are the business relatedness, management turnover, the relative size of targets to bidders, the method of payment, and components of management ownership.

Chapter 8 describes the data used in the current study relating to companies involved in corporate acquisitions in Malaysia between January 1, 1988 and December 31, 1992. Samples were selected from quoted acquirers and quoted and non-quoted acquired companies. Filtering techniques used in company selection are classified together with the criteria used to select the sample and control firms and to determine secondary data.

The cash flow performance of acquiring and target firms are analysed in this study to test directly for changes in operating performance that result from acquisitions. Consideration is given to the performance of constituent firms prior to acquisition and the combined corporate entity after acquisition on determining the overall economic efficiency from takeovers. Chapter 9 provides the empirical results on the level of performance for bidders, targets and their respective controls in the pre acquisition period, and the changes in the post acquisition cash flow performance after 5 years. In addition, it is also important to identify the sources of such gains as a result of more effective utilisation of the combined firms' assets. Results of empirical tests of the impact of the characteristics of acquisitions on post acquisition operating performance are provided in Chapter 10.

To test the robustness of the results in post acquisition operating cash flow improvement, Chapter 11 explores different measures based on measuring accounting performance. The first measure uses the operating cash flow return (operating profit before tax and extraordinary item, adjusted for depreciation, interest and goodwill divided by operating assets) that is similar to the definition given by

Healy et al. (1992, 1997), Anand and Singh (1997) and Ghosh (1998). The other measures include return on operating cash flow net of interest (operating profit before tax and extraordinary item after interest and adjusted for changes in working capital divided by operating assets), and return on assets (net profit before tax and extraordinary item divided by total assets).

Chapter 12 focuses on an examination of returns to acquiring firm shareholders through the use of event study methodology. The main aim of the chapter is to test for evidence as to whether the share price changes around the time of the takeover (announcement to outcome date) is a function not only on the expectation of operating performance but also for the premium that is paid for the target. The chapter also examines whether there is any correlation between the post acquisition share market reaction, the change in post acquisition operating cash flow and the premium paid for the target.

The concluding Chapter 13 includes discussion of the study's results, its findings, limitations, implications and areas for further research.

The next chapter describes the history and economic background of the country, the financial and capital market, the regulatory policies and agencies in the country, and the development of acquisitions in Malaysia.

Chapter 2

The Malaysian Environment

2.1 Chapter Description

Acquisition activities are said to follow spurts of economic activity, thus, it is expected that there will be an increase in the level of acquisition activities in Malaysia as the country's economy is now on the path of economic recovery. The legislators are developing a more relaxed regulatory framework of the Malaysian capital market in support of the acquisition activities, but at the same time they are concerned whether there are any economic benefits derived from improved operating performance and increased efficiency brought about by the acquisition. Hostile takeover bids are rare in Malaysia and takeovers mainly involve the acquisitions of private companies and are therefore much more likely to be entering into voluntary combinations with their acquirer than is often the case in other countries. As such, it is important that legislators do not make hasty decisions about the need for regulation in a field which economic theory suggests has an important disciplinary role to play in a market-based economy.

The current study examines the role of corporate acquisitions by analysing the post acquisition performance of Malaysian companies involved in acquisition activity. Acquisitions in Malaysia may be influenced by the history and economic background of the country, the financial and capital market, and the regulatory policies and agencies in the country. Thus, there is a need to discuss each of these factors in the current chapter to understand the Malaysian environment in which the acquisition activities are involved. The development of mergers and acquisitions in Malaysia is also discussed in the chapter.

2.2 History and Economic Background

2.2.1 The New Economic Policy (NEP)

In 1998 Malaysia had a total population of 21.2 million, made up of multiracial groups of various races, religions, creeds, customs and languages. These multiracial groups fall into two main categories; those with cultural affinities indigenous to the region, classified as the Malays or Bumiputras (literally meaning 'sons of the soil'), and those whose cultural affinities lie outside, classified as non-Bumiputra (consist primarily of Chinese, Indians and others). At present the Bumiputra constitute about 66%, while the Chinese, Indians and other minor ethnic groups comprised of 26%, 7% and 1%, respectively (Bank Negara Malaysia, 1998). Malaysia has an estimated population growth of 2.3% per annum.

The British colonialism prior to Malaysia independence in 1957 had left a lasting effect in many aspects of the nation's life including its government, legal and economic structures. Before independence, Malaysia's economy was solely dependent on rubber and tin. It was the British that had brought in large number of Chinese and Indian labourers to work in tin mines and rubber estates respectively which created the multi-ethnic society that lives on until today. In addition, their policy of 'divide and rule' had a lasting effect on the Malaysian economic structure where the Ethnic-Chinese immigrants are mainly in the trading sector, the Malays in the agriculture sector, and the Indians in the estates (Selvaratnam, 1974). The Malays lived mainly in rural areas (mainly farming and fishing), while the Chinese inhabited the towns and controlled much of the economy, resulting in unequal distribution of income and wealth between races. In 1969 Bumiputras comprised 65% of the population (26 per cent Chinese and 9 per cent Indians) but owned a mere 2% of national wealth, defined as ownership of company share capital at par value

(Turnbull, 1989). As depicted in Table 2.1, the Malays had small share ownership and control of companies relative to other Malaysians and foreigners. In 1970, the Bumiputras owned only 2.4% of national wealth while other Malaysians and foreigners own 28.3% (of which Chinese owned 27.2%) and 63.4%, respectively. The balance of 6.0% of the national wealth was owned by the nominee companies, mainly trust agencies.

Table 2.1

Percentage distribution of share capital in limited companies

Ownership Category	1970	1975	1980	1990	1995	1998
¹ Bumiputra	2.4	9.2	12.5	20.3	20.6	19.4
Other Malaysians (of which: Chinese)	28.3 (27.2)	37.5 (27.2)	44.6 (43.6)	46.2 (44.9)	43.4 (40.9)	41.1 (38.5)
Foreign Residents	63.4	53.3	42.9	25.1	27.7	31.8
Nominee Companies	6.0	-	-	8.4	8.3	7.7

Note¹: including Bumiputra interests (that is, shares held in trust by agencies for the Bumiputra community)

*Source: Third Malaysia Plan (1976-80); Economic Planning Unit
Sixth Malaysia Plan (1991-95); Economic Planning Unit
Mid-term Review of Seventh Malaysia Plan (1999)*

In rectifying the problems faced by the indigenous population, the National Economic Policy (NEP) was incorporated in the Second Malaysia Development Plan (1971-75) with two broad goals: to wipe out poverty regardless of race, and to redress the economic imbalance between the majority Bumiputras (mostly Malays) and the wealthier Chinese minority, among other objectives². The NEP sought to raise Bumiputra ownership of national wealth to 30%, other Malaysians to 40 per cent and

² Tensions between the races erupted into riots on May 13, 1969, following general elections in which the Malay-dominated ruling coalition lost its two-thirds majority. A Chinese-based party that had won the 1969 constituency staged a raucous victory parade through a Malay part of town, resulting in a riot (Turnbull, 1989).

foreigners to 30 per cent by 1990 (Turnbull, 1989). Table 2.1 reveal that the Bumiputra ownership of share capital in the corporate sector between 1970 and 1990 has risen ten-fold (from 2.4% to 20.3% in 1990), albeit such a figure still fall short of the NEP's 30% target. Since the country's economy surged by an average of more than 7% a year for most of the period, the Malay's advance did not come at the expense of other races. Chinese equity ownership displayed a significant increase from 27.2% in 1970 to 44.9% in 1990. The NEP had successfully reduced the dominance of foreign ownership and control of the economy from 63.4% in 1970 to 25.1% in 1990. The NEP's 30% target has yet to be met even after replacing the NEP with the National Development Policy (NDP) in 1991³.

2.2.2 The Gross Domestic Product (GDP)

Prior to 1997 financial crisis, the nation had enjoyed rapid growth rates, averaging 8.5 per cent annually during the period 1987-1995⁴. Table 2.2 shows the Gross Domestic Product (GDP) growth rate from 1966-1998. The growth in its GDP was at its highest peak of 10 per cent in 1990, 8.9 per cent and 8.5 per cent for 1994 and 1995 respectively. The high growth rate was accompanied by low inflation and

³ Due to the recent economic turmoil, the Bumiputra's share stood at 19% in 1998, down from 21% in 1995, while the Chinese share was 39%, down from 41% in 1995 (Mid-term Review of the Seventh Malaysia Plan, 1999, p. 84). In contrast, foreign investors made significant inroads in the ownership of Malaysian corporate equity growing from 27.7% in 1995 to an estimated 31.8% in 1998. The slowdown in economic growth has led to the relaxation of rules on foreign equity ownership of manufacturing and selected companies in other sectors. In areas where local companies have inadequate or no capital, the new rules even allow foreigners to own 100% of all manufacturing projects approved and implemented between July 1998 and December 2000. As noted in the Mid-term Review of Seventh Malaysia Plan (1999), this relaxation was clearly necessary in view of the need to attract more foreign direct investment as part of the strategy to revitalise the economy even though it may result in foreigners acquiring corporate equity exceeding the 30% originally allocated to them under the NEP.

⁴ The moderation in growth of 7.8% in 1997 reflect both the dampening effect of the currency crisis on domestic demand as well as the effect of the adjustment measures (immediate 2% cut across the board in Government spending, among others) that had been put in place to pave the way for a more sustainable growth in economy (Bank Negara Malaysia, 1997). The effects of the economic crisis began to take their toll on the Malaysian economy in 1998 when GDP growth declined further to -8.6% in 1998 (Securities Commission, 1998).

low unemployment rate (2.9 per cent). Private investments and exports played a key role in spearheading the growth.

The First Five-year Malaysia Development Plan launched in 1966 gave priority to agriculture as the mainstay of the economy. It aimed to produce near self-sufficiency in rice, improve rubber and oil palm production, exploit forestry and fisheries and encourage diversification into new crops. However, traditional reliance on export agriculture like rubber and palm oil, and tin mining has subjected Malaysia to unstable economic pressures arising from declining rubber prices, and threatened exhaustion of tin reserves.

Table 2.2

Gross Domestic Product (GDP) Growth Rate

Year	Malaysia 7 year plan						
	<i>First</i> 1966-70	<i>Second</i> 1971-75	<i>Third</i> 1976-80	<i>Fourth</i> 1981-85	<i>Fifth</i> 1986-90	<i>Sixth</i> 1991-95	<i>Seventh</i> 1996-2000
1	6.2	10.0	11.6	6.9	1.2	8.8	8.6
2	1.0	9.4	7.8	5.9	5.2	8.7	7.8
3	4.2	11.7	6.7	6.3	8.8	8.3	-8.6
4	10.4	8.3	9.3	7.8	8.5	9.4	
5	5.0	0.8	7.8	-1.0	10	9.3	
Average	5.4	8.0	8.6	5.2	6.7	8.9	

Source: Bank Negara Malaysia (yearly annual report)

The GDP (as shown in Table 2.2 above) was -1.0 in 1985, a negative growth for the first time in a decade when rubber, palm oil and timber prices fell, and oil prices which accounted more than 20 per percent of export earnings were erratic. Thus, the country's transformation from an economy dependent on commodities such as rubber and tin into the world's 17th largest trading powerhouse, exporting a wide variety of manufactured goods since 1987 had contributed to its current growth. Malaysia's emphasis on industrialisation is depicted in Table 2.3, showing the

composition of the GDP based on sectors. In 1985, agriculture, forestry and fishing sector comprised of 20.8 per cent (40.2 per cent in 1955) of the GDP, compared to manufacturing 19.7 per cent (8.2 per cent in 1955). However, manufacturing has surpassed 30 per cent of the GDP since 1993 while the agriculture, fishing and forestry sectors continuously declined to 12 per cent of the GDP in 1997.

Table 2.3

Composition of the Gross Domestic Product (GDP) by industry of origin

Sector	1985	1991	1992	1993	1994	1995	1996	1997	1998
Agriculture, Forestry & Fishing	20.8	17.2	16.0	15.7	14.3	13.2	12.7	12.5	11.6
Mining & Quarrying	10.5	9.2	8.7	7.8	7.3	7.0	6.9	6.5	6.8
Manufacturing	19.7	28.1	29.9	29.4	30.9	32.2	32.5	33.6	32.2
Construction	4.8	3.8	4.0	4.0	4.1	4.4	4.5	4.3	3.6
Services	44.2	41.7	41.4	43.1	43.4	43.2	43.4	43.1	45.8

Source: Bank Negara Malaysia Annual Report 1991-1998

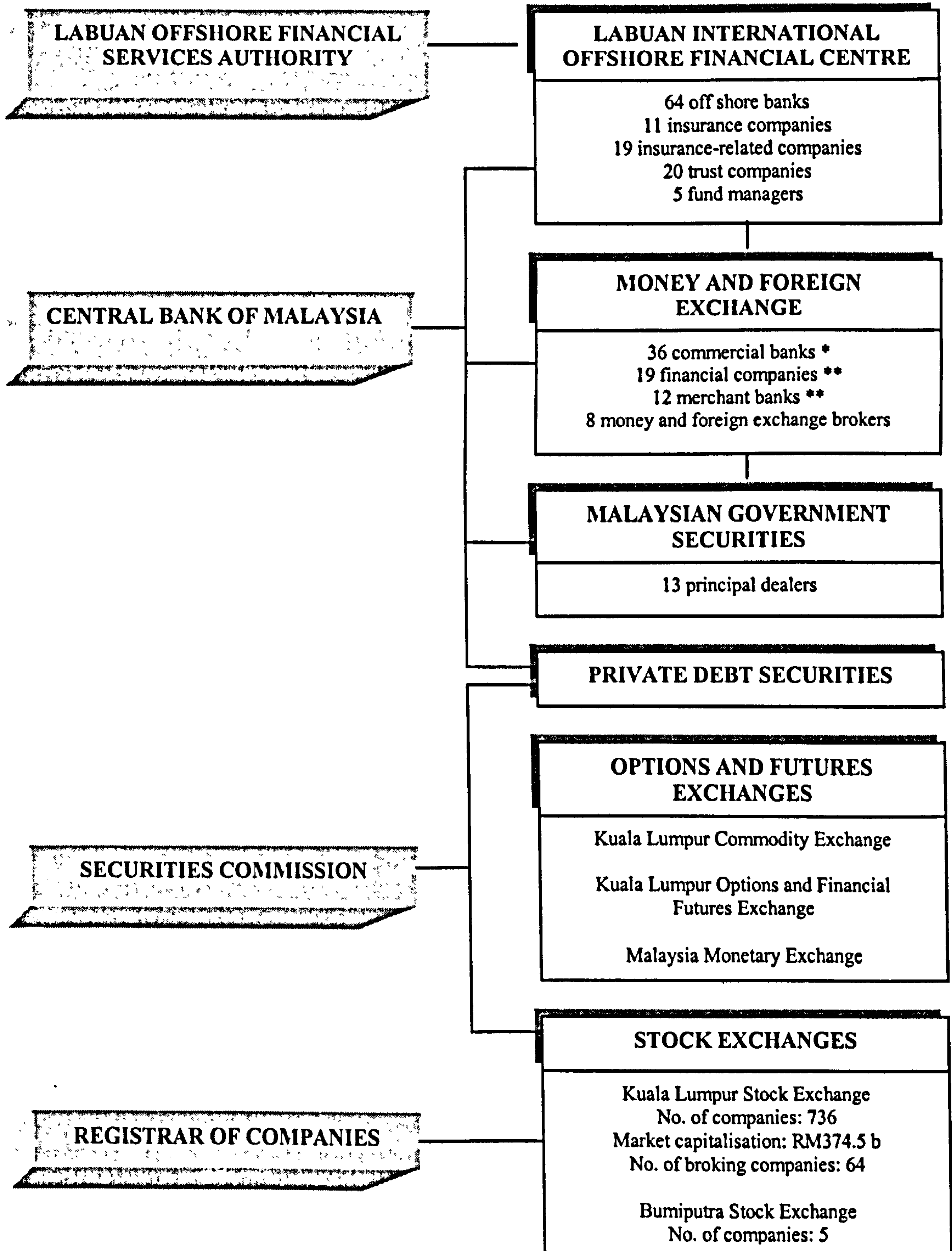
2.3 Development of the Capital Market ⁵

The structure of the Capital Market in Malaysia is as illustrated in Figure 2.1. Since the implementation of the industrial process, the capital market has emerged as a major source in financing the country's economic growth. Financing from the capital market account for a share of 35 per cent of total financing during the period 1990-96, compared with only 10 per cent during the period 1980-85, as depicted in Chart 2.1 (Bank Negara Report, 1996).

⁵ The description is based on the Bank Negara Report (1993-1998), the KLSE publication, 'Investing in the Stock Market in Malaysia' (1996), and the KLSE Companies Annual Handbook.

Figure 2.1

The Malaysian Financial Markets (As at 31 December 1998)



Source: Bank Negara Malaysia, 1999

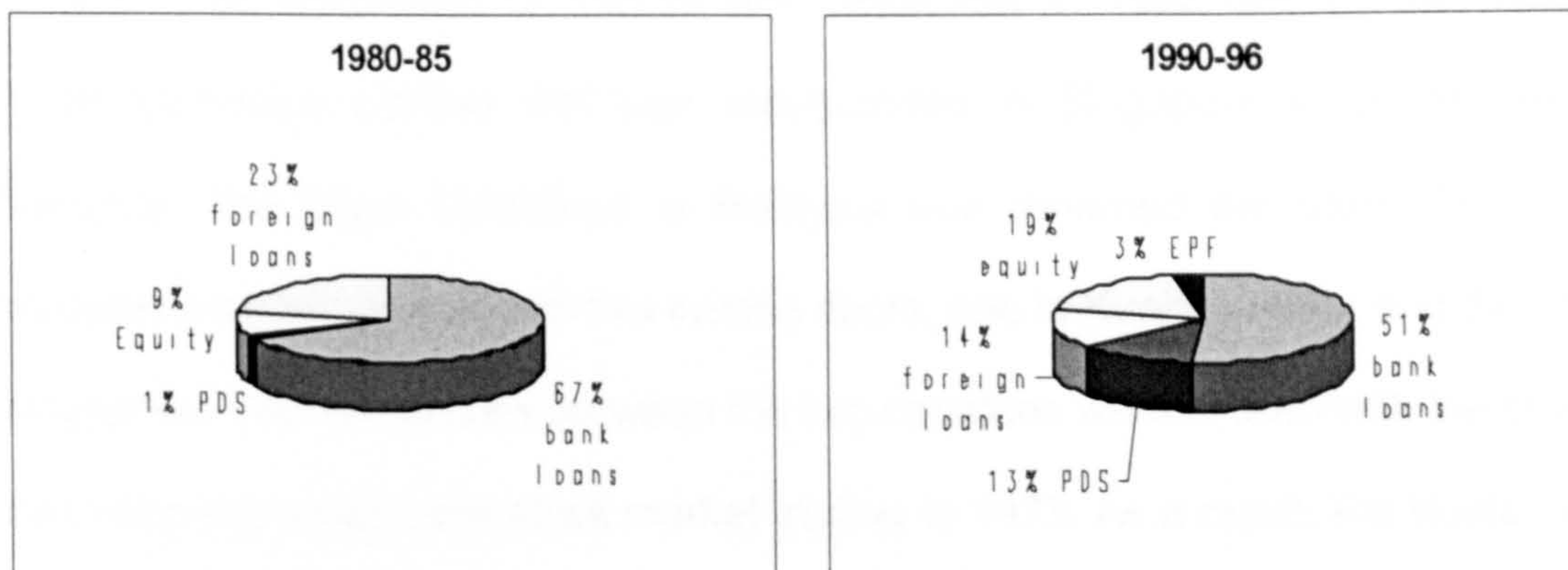
* including Bank Islam

** money market only

Chart 2.1

Net Funds Raised by the Private Sector

Source: Bank Negara Report, 1996



The Central Bank, Bank Negara Malaysia, has always been active in developing the capital market. Among the development of the capital market in the mid-1980s was the pronounced shift from the government to the private sector as the main engine of growth, in particular the implementation of the privatisation programme. Other developments include the establishment of the Private Debt Securities (PDS) market in 1987, example the National Mortgage Corporation (Cagamas) to issue bonds, and the ability of the banking sector to participate directly in capital market instruments and to finance other market players⁶. Reflecting the continuing efforts of the Government to broaden the financial system, Labuan in East Malaysia was established as an International Offshore Financial Centre (IOFC) in 1990⁷. The development of the financial futures and options market in Malaysia was witnessed with the establishment of The Kuala Lumpur Options and Financial Exchange (KLOFFE), which is within the jurisdiction of the Securities Commission (SC), in 1994.

⁶ For example, Banks are permitted to hold transferable subscription rights or warrants and stock options, and also allowed to convert their holding of derivative instruments as well as convertible loan stocks into shares within prescribed limits.

⁷ IOFC was aimed to enhance the attractiveness of Malaysia as an investment centre and to complement the onshore financial system centred in Kuala Lumpur.

Although the development of securities industry in Malaysia can be traced to the 1930s, the first Malayan Stock Exchange that operated in Singapore was formed in 1959. The separation of Malaya and Singapore in 1963 has led the Malaysian Stock Exchange Limited that was incorporated in Singapore to be registered in Malaysia. The Stock Exchange of Malaysia was renamed the Stock Exchange of Malaysia and Singapore, with two trading floors, one in Kuala Lumpur and the other in Singapore. The formal links between the two countries were broken with the ending of joint currency control and stock market trading in 1973. As a result, the Kuala Lumpur Stock Exchange was formed in July 1973. When the Securities Industry Act (SIA) 1973 was brought into force in 1976, a new company called the Kuala Lumpur Stock Exchange (KLSE) took over from the Kuala Lumpur Stock Exchange Berhad. However, a strong link still existed between KLSE and Stock Exchange of Singapore (SES) at that time as Malaysian incorporated companies were also listed and traded through the SES, and vice versa for Singapore incorporated companies.

Over the years, KLSE has added a number of changes to facilitate the demand of the investing public. Several changes towards a more efficient stock exchange in line with other capital markets include the establishment of the Securities Clearing Automated Network Services (SCANS) in 1983; the real-time share price reporting system (MASA) and the Advance Warning and Surveillance Unit (AWAS) in 1987. In 1988, the Second Board was introduced to facilitate less capitalised business companies (the requirements for initial public offerings of the main and second boards are shown in Table 2.4).

The Computerised Order Routing and Execution (SCORE) was implemented in 1989 to replace the previous trading system. A full implementation of SCORE was made in 1992, eliminating the need for a trading floor at the Exchange's premises. In a related development, the KLSE implemented its scripless trading system, known as

the Central Depository System (CDS) in 1992. Another development of the capital market was the formation of the Islamic Instruments Study Group (IISG) set up in 1994 to study Islamic capital market concepts and products based on the Syariah (Islamic Law).

Table 2.4
Requirements for Initial Public Offerings

	Main Board	Second Board
Issued and paid-up capital Ordinary shares of RM1.00	*Not less than RM40 million	Minimum of RM10 million but less than RM 40 million
Profit track record		
Track record (years)	5	3
Minimum average per year	RM5 million	RM2 million
Minimum achieved per year	RM2 million	RM1 million
Basis	After-tax	After-tax
Profit forecast		
Minimum to be achieved	RM6 million	RM2.5 million
Basis	After-tax	After-tax
Business Operation		
Minimum number of years In operation	5	5

*Prior to 1995, the minimum capital requirement was RM20 million

Source: Securities Commission Annual Report (1995)

A significant milestone for the KLSE came in 1990 which saw the mutual delisting of Singapore incorporated companies from the KLSE and vice-versa for Malaysian companies listed on the SES. This move heralded the growth of the KLSE as a stock exchange with a truly Malaysian identity, and was seen as a good strategy especially for the latter market to protect itself from being vulnerable to developments in Singapore (KLSE, 1996).

The delisting factor, the buoyant Malaysian economy in 1990 and the government's incentives for foreign investments have helped in the development of the capital market. Table 2.5 provides a summary of KLSE selected indicators over

the years (1992-1998). The growth in the equity market can be seen in terms of market capitalisation which expanded steadily from RM248 billion or 175 per cent of GDP at the end of 1992 to RM806.8 billion (322.9 per cent of GDP) in 1996 (Bank Negara Report, 1996)⁸. Similarly, the number of companies listed has increased substantially, despite the delisting of all Singaporean incorporated companies on the KLSE. Compared with only 138 companies at end of 1961, there were 369 and 745 listed companies by the end of 1992 and July 1999, respectively. The Kuala Lumpur Index (KLCI) also increased from 357 in 1988 to 1275 and 1238 at the end of 1993 and 1996, respectively.

Amidst concerned on the currency and interest rates in 1997, the Kuala Lumpur Index (KLCI) plunged 52.0 per cent (1996: 24.4 per cent) to finish the year at 594.4, levels it has not seen since 1992. The broader-based Emas Index followed the KLCI's lead by plummeting 56.5 per cent to close at 151.21, and the Second Board price index crashed 71.7 per cent to finish the year at 162.93. By 12 January 1998, the KLCI had already fallen by 17.3 per cent from its end level of 594.44.

⁸ However, the regional economic and financial turmoil precipitated in mid 1997 had caused the KLSE's market capitalisation to diminish by 53.4 per cent to RM375.8 billion at the end of 1997 (table 2.5).

Table 2.5

KLSE: Selected Indicators

	88	89	90	91	92	93	94	95	96	97	98
Price Indices											
Composite (KLCI)	357	562	506	556	644	1275	971	995	1238	594	586
Emas	n.a.	n.a.	n.a.	141	162	384	284	279	348	151	147
Second Board	-	n.a.	n.a.	n.a.	140	352	261	299	576	163	158
Total Turnover											
Volume (billion units)	4.0	10.2	13.2	12.4	19.3	107.7	60.1	40.0	66.5	72.8	58.3
Value (RM billion)	6.8	18.5	29.5	30.1	51.5	387.2	328.1	178.9	463.3	408.6	115.2
Market Capitalisation											
(RM billion)	98.7	156.1	131.7	161.4	245.8	619.6	509	566	806.8	375.8	374.5
No. of companies listed											
Main Board **	295	307	* 285	324	369	413	478	529	621	708	736
Second Board	295	305	271	292	317	329	347	369	413	444	454
	-	2	14	32	52	84	131	160	208	264	284
Market P/E											
	n.a.	n.a.	25.46	24.18	23	40.24	28	24.5	28.6	24.1	23.7

* the reduction in the number of companies listed is due to the delisting of Singapore incorporated companies from KLSE

** Inclusive of companies incorporated in UK: 4 in 1988, 3 from 1989 onwards

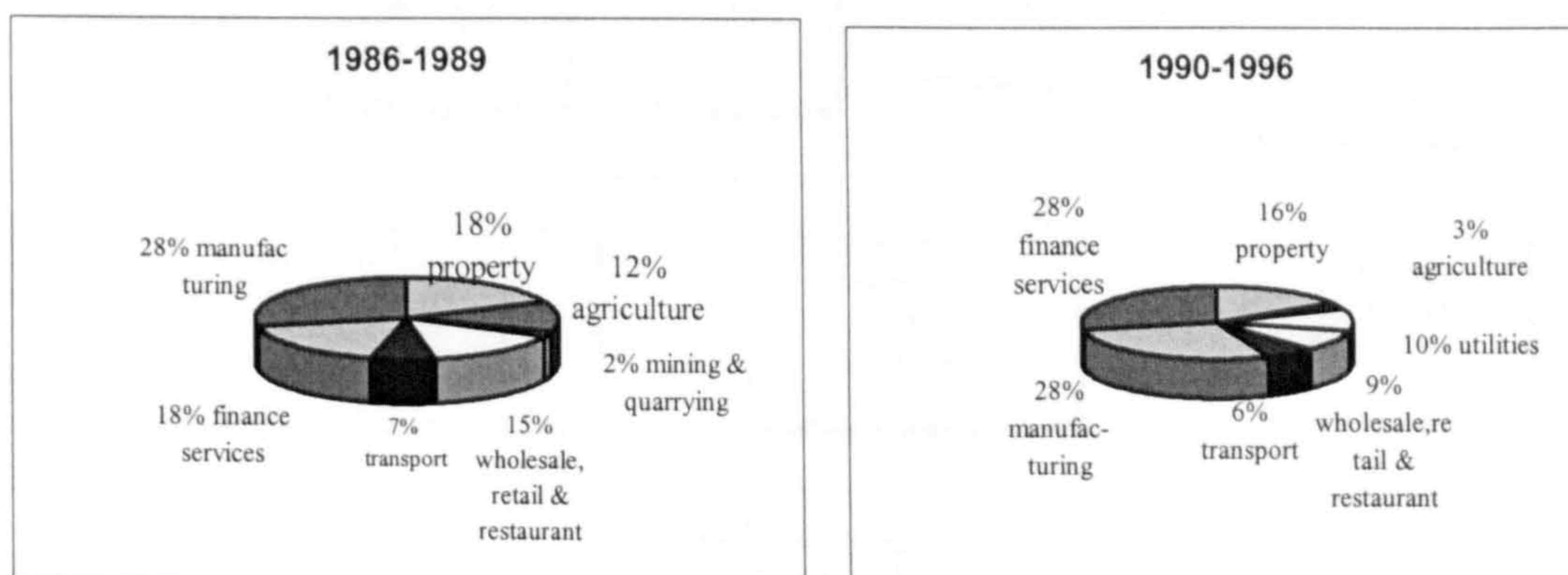
Source: Kuala Lumpur Stock Exchange

However, the improved economic outlook on both the domestic and global fronts saw the KLCI ended the year 1998 only 1.4 per cent lower at 586.13 points, while the Emas and Second Board indices closed 2.8 per cent and 2.8 per cent lower at 146.94 points and 158.37 points respectively. Unlike the recession in mid-80's where the government was heavily indebted, it is the private sector debt that is crippling the economy this time around.

The profile of securities issued in the equity market has changed as the economy diversified into new areas of growth and as the pace of industrialisation picked up. Chart 2.2 shows the capitalised value of equity market based on business sector. Relative to the period 1986-1989, the agriculture, and wholesale and retail was less significant in the period 1990-1996, while financial service, utilities and telecommunications companies increased in significance during the period.

Chart 2.2

Equity Market by Sectors



Source: Bank Negara Report, 1996

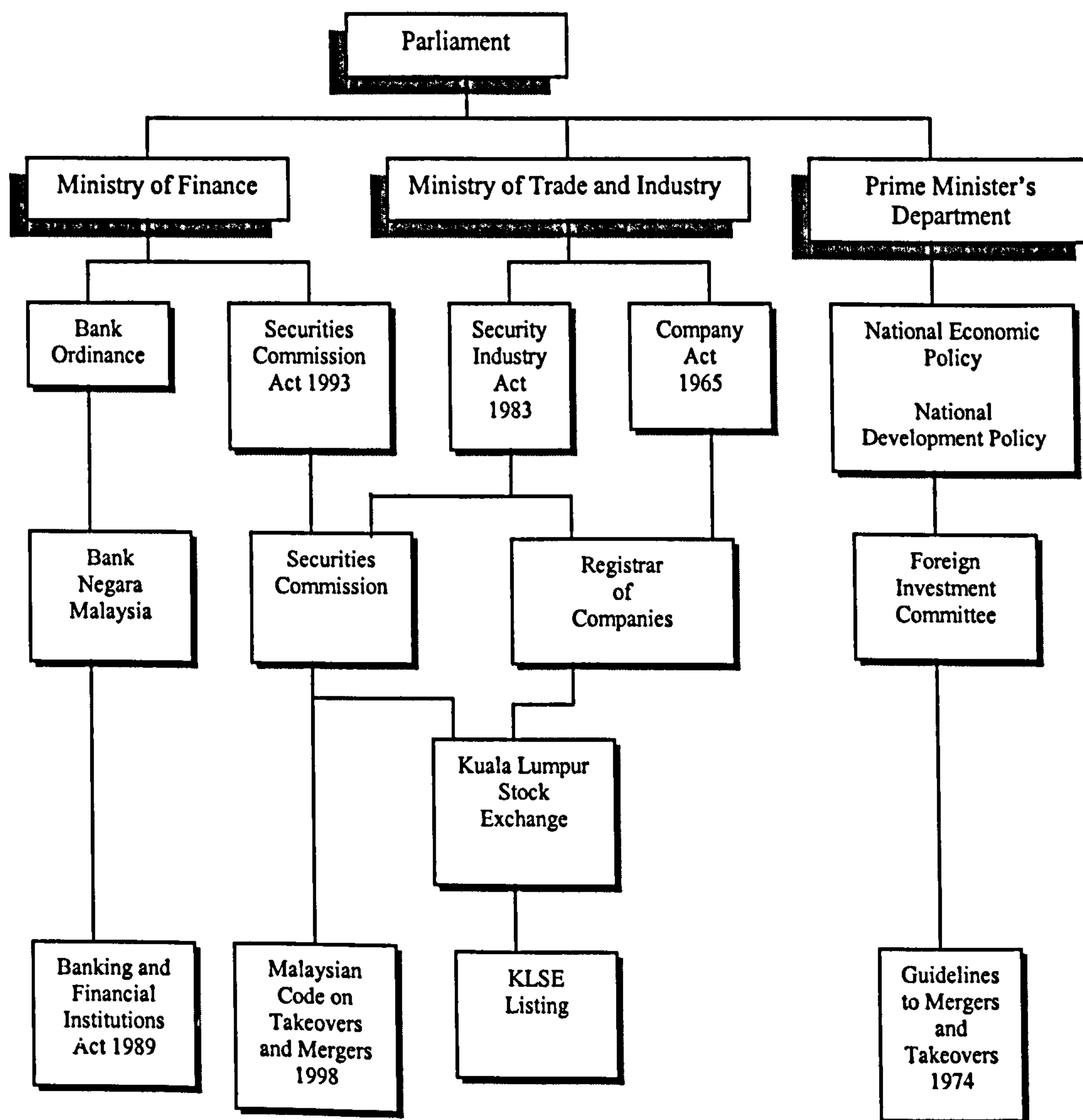
2.4 Regulatory Agencies on Acquisitions

The current section focuses on the regulatory agencies on acquisitions while the regulatory policies are described in Section 2.5. The structure of the Malaysian

regulatory agencies and policies relating to acquisition activities in Malaysia is shown in Figure 2.2.

Acquisition activities in Malaysia must contend with the existence of several authorities, some dealing with statutory provisions and many with administrative directives. The current statutory regime responsible in regulating takeovers and acquisitions in Malaysia are the Securities Commission (SC) and the Foreign Investment Committee (FIC).

Figure 2.2
Regulatory Agencies on Acquisition in Malaysia (1999)



Source: Information compiled from Kuala Lumpur Stock Exchange, and Securities Commission

Prior to the formation of the SC in 1993, the corporate planner who is involved in acquisitions has to be confronted with a wide array of authorities. Approval of acquisition proposals must be obtained from the FIC, the Capital Issues Committee (CIC) and the Panel of Takeovers and Mergers (the Panel). Further, the acquiring company has to deal with wide array of departments. The Registrar of Companies comes under the Ministry of Trade and Industry, and must administer both the Companies Act 1965 and the Securities Industries Act 1983. The FIC comes under the jurisdiction of the Prime Minister Department and the CIC is responsible to the Minister of Finance. The KLSE must be satisfied that the Listing requirements are complied with. If the bid relates to a financial institution, then approval must be obtained from the Bank Negara of Malaysia.

Currently, the Securities Commission becomes the single authority for the regulation and supervision of the securities and future markets in Malaysia. As shown in Figure 2.2, the FIC, MITI, Bank Negara Malaysia and the Ministry of Finance are still involved at various stages and in several aspects in relation to takeovers and mergers and securities. However, all corporate proposals relating to securities or takeovers and mergers have to be submitted to the Securities Commission. The Commission acts as the one-stop agency co-ordinating and ensuring approval from other agencies such as the FIC, MITI and Bank Negara Malaysia before final approval by the Commission. Thus, applicants need no longer make multiple submissions to the relevant agencies.

The next section focuses on the statutory regime regulating takeovers and acquisitions in Malaysia during the period of study (1988-1992), mainly the Capital Issues Committee (CIC) and the Foreign Investment Committee (FIC). The Securities Commission (SC) that was set up in 1993 is briefly discussed at the end of the section.

2.4.1 Capital Issues Committee (CIC)

The Minister of Finance established the CIC in June 1968 to ensure an orderly development of the capital market in regulating the primary issue of securities by public limited companies and listing of securities on the stock exchange. The functions of the CIC became more prominent with the introduction of the Security Industry Act, 1983. The main function of the CIC relates to the issuance of securities by public listed companies⁹. Matters in relation to the issuance of shares, listing of securities, right issues, bonus issues, and takeover and mergers were submitted to CIC for approval. The committee is also linked to other regulatory agencies such as Ministry of Trade, the Bank Negara Malaysia, and the Panel of Takeover.

2.4.2 Foreign Investment Committee

The Foreign Investment Committee (FIC) was set up under the Economic Planning Unit of the Prime Minister Department in February 1974. Besides implementing the Government's guidelines on regulation of acquisition of assets, mergers or takeovers, FIC is also responsible for major issues relating to foreign investment.

The members in this body comprise of the Director-General of the Economic Planning Unit (as Chairman), Secretary General of the Ministry of Finance, Governor of the Central Bank, Secretary General of MITI, Chairman of the Malaysian Industrial Development Authority, Director General of the Implementation and Coordination Unit, Secretary General of the Ministry of Domestic Trade and Consumer Affairs,

⁹ The ruling includes public limited companies incorporated outside Malaysia which intend to issue or offer for sale securities to the public or to list securities on KLSE.

Secretary General of the Ministry of Entrepreneur Development and the ROC (Ministry of Finance, 1996).

The FIC published the Guidelines to be applied equally to all parties including both local and foreign investors in regulating the acquisition of assets, mergers and takeovers in Malaysia. However, its main thrust is on the New Economic Policy (NEP) in implementing the Government's policies on a more balanced Malaysian and Bumiputra participation in ownership and control of corporations. The establishment of FIC was a result of an economic imbalance in the country in early 70's due to high dominance of foreign ownership and control of the economy. In 1970, foreigners owned 60% of the share capital of limited companies, 75% in agriculture and fisheries, 72% in mining, 63% in commerce and 59% in manufacturing. Thus, FIC was formed to provide certain guidelines to share ownerships of local companies and foreign investors in the country with a distribution of at least 30% Bumiputra participation, 40% participation by non-Malays and 30% by foreign investors in total commercial and industrial activities in all categories. The investment policies in the country are thus designed, via a policy of company acquisitions, to attract more local and foreign investment in promoting a higher level of economic growth for the country.

Thus, the functions of the FIC are two folds: to eradicate poverty and to improve the wealth imbalance of the various racial groups in Malaysia, to safeguard the ownership and control of Malaysian companies against foreign investors, and subsequently to increase the private investments of the local and foreign investors in the country.

2.4.3 Securities Commission (SC)

The existence of a number of regulatory agencies prior to the establishment of the SC resulted in various administrative problems, unnecessary duplication of functions, bad co-ordination and waste of valuable resources (Sharif, 1993). In examining the efficiency of the regulatory policies in handling acquisition activities in 1992, Mohammad (1993) found that the policies were not favourable in promoting acquisition activities in the country¹⁰. Barriers to acquisition activities that exist from regulatory policies were mainly due to high bureaucracy in government agencies and the approval periods for those activities. Substantial reforms to the regulatory framework of the Malaysian capital market were introduced with the setting up of the Securities Commission on 1 March 1993. Significant steps have been taken towards rationalisation of the regulatory structure for the securities and future industries.

The SC either administers or is affected by the following acts:

- Securities Commission Act 1993 (SCA)
- Securities Industry Act 1983 (SIA)
- Futures Industry Act 1993
- Securities Industry Act (Central Depositories) Act 1991

The SCA provided the SC with power to absorb the functions of the CIC established under the Securities Industry Act (SIA) 1983 and the Panel on Takeovers and Mergers set up under the Companies Act 1965.

¹⁰ 79 financial directors or controllers (40 had acquisition experience) interviewed by Mohammad (1993) in 1992 felt that acquisition activities have to be enacted within a regulatory framework and that the government has to initiate the move to improve its policies and the implementation of such policies.

The establishment of the SC was designed to streamline the regulatory framework of the Malaysian capital market, which in turn may help enhance efficiency, professionalism and orderly development of both the securities and futures industries.

2.5 Regulatory Policies on Acquisitions

Having discussed the regulatory agencies in the previous section, the current section focuses on the regulatory policies adopted by the said agencies. Several regulations and guidelines on acquisitions have been introduced in Malaysia to ensure a competitive, fair and efficient business and commercial environment. Prior to the formation of the Securities Commission Act (SCA) 1993, takeovers and mergers activities were regulated by the Companies Act 1965, Security Industry Act 1973, and Code of Mergers and Takeovers 1987.

The Companies Act 1965 is the principal Act for the regulation of companies in Malaysia. It is derived largely from legislation in the UK and Australia. The said Act regulates the pre-incorporation, incorporation, setting up, operations and duties of a company and its directors. The Registrar of companies (ROC) under the Ministry of Domestic Trade and Consumer Affairs, is the body responsible for the registration and incorporation of companies. Regulations pertaining to mergers and takeovers were prescribed in Section 179 of the Act. In exercise of the powers conferred by Section 179 (3) of the Act, the Panel of Takeovers established the Malaysian Code to Mergers and Takeovers in April 1987. However, the Section was deleted upon coming into force of the Securities Commission Act on 1 March 1993. Although the Securities Commission Act 1993 empowers the commission to prepare a code containing general principles and rule governing parties involved in acquisitions, the SC was still based on the Malaysian Code on Takeovers and Mergers of 1987. It was

only on 1 January 1999 that the SC prescribed the Malaysian Code on Takeovers and Mergers 1998.

One important statutory provision, which is often referred to in acquisition proposal, is Section 132G of the Companies Act. The section provides that the approval of the members in general meeting is required if an acquiring company acquire the shares or assets of another company where a shareholder or director or a person connected to such shareholder or director of the acquiring company has a substantial shareholding in the target company. The approval need not be obtained if the transaction or arrangement was entered into after 3 years from the period such shareholding was first held in the target company¹¹. Section 132 was inserted into the Companies Act to protect the interest of minority shareholders.

Currently, the regulations on acquisitions in Malaysia are contained mainly in the Securities Commission Act (1993). Other regulatory procedures to be adhered to include the guidelines set by the Foreign Investment Committee (FIC) and the Malaysian Code on Takeovers and Mergers 1998 (the Code). For companies listed on the Kuala Lumpur Stock Exchange (KLSE), the Listing requirements must further to be taken into consideration. The acquisition activities are also indirectly regulated by the Banking and Financial Institutions Act (1989), which is under the supervision of the Bank Negara Malaysia, and the guidelines of the Ministry of Trade and Industry, Malaysia (MITI). Bank Negara approval is required in any acquisition involving insurance companies or financial institutions. Approval from MITI is also required if the company being acquired is a licensed manufacturing company, that is, one that has been issued a manufacturing license by MITI. Section 46 of the Financial Act allows maximum permissible holdings in shares of licensed local institutions of ten

¹¹ A substantial shareholding as defined in Section 69D of the Act is holding no less than 5% of the aggregate nominal amounts of all the voting shares in the target company.

(10%) percent in the case of individuals, and twenty percent (20%) in the case of a person other than an individual. Section 49 of the Act further notified that no person should enter into an agreement or arrangement under reconstruction, unless it is made in writing, and subject to the Ministers approval. In such circumstances, the Bank Negara will act as the advisor to the Minister for the reconstruction purposes.

The next section that follows outline the regulations and guidelines on acquisitions currently found in Malaysia, mainly the Securities Commission Act 1993, Malaysian Code on Takeovers and Mergers (1998), the FIC Guidelines (1974), and the Kuala Lumpur Stock Exchange Listing.

2.5.1 Securities Commission Act 1993

Securities Commission Act 1993 (SCA) came into force on 1 March 1993 for the purpose of establishing the Securities Commission. Issues relating to takeovers and mergers are contained in Section 33 and Section 34 of the Act. The SCA 1993 empowers the commission to prepare a code containing general principles and rule governing parties involved in acquisitions, resulting in the operation of the Malaysian Code on Takeovers and Mergers 1998 on 1 January 1999.

Section 33 of the SCA indicates that a transaction will be regarded as a takeover in Malaysia if it gives the acquiring party the right to exercise or control the exercise, of more than thirty-three percent (33%) of the voting rights of the company being acquired. The threshold point of 33% was determined to accommodate special issues made in compliance with 33% Bumiputra equity participation of the New Economic Policy (NEP). However, if the threshold point of 33 % is not met, approval must be obtained from FIC, MITI or Ministry of Finance (MOF). In such cases, the

acquiring firms are normally required to increase the Bumiputra equity in the targets to at least 30% in a few years once the approval is given.

2.5.2 The Malaysian Code on Takeovers and Mergers 1998

The Malaysian Code on Takeovers and Mergers 1998, which was prescribed by the Securities Commission under subsection 33A(1) of the Securities Commission Act 1993, came into operation on 1 January 1999, replacing the old 1987 code. Prior to the operation of Malaysian Code on Takeovers and Mergers 1998, SC had adopted most of the principles and rules governing the conduct of all persons involved in acquisitions from the Malaysian Code on Takeovers and Mergers 1987. The 1987 Code was initially enacted under Section 179 of the Companies Act 1965 but was subsequently adopted by the SC after Section 179 of the Companies Act was repealed by the Securities Commission Act 1993.

The SC felt the need to amend the old code, which was heavily based on the London City Code, so as to reflect the nature of the Malaysian Code as a subsidiary legislation, as opposed to the London Code which is based on a system of self-regulation (Kamaludin, 1999). The new code seeks to correct various deficiencies in the old 1987 code and ensure higher standards of disclosure, corporate governance and greater professionalism from all parties involved in mergers and acquisitions.

Generally the Malaysian Code on Takeovers and Mergers 1998 (the Code) contains the general definitions of the terminology in the takeover process, and the general principles and rules which have a statutory backing of Section 33 of the Securities Commission Act (1993), and therefore constitutes as law. It has to be complied with by all parties concerned in an acquisition and applies to all quoted and unquoted

public companies as well as private companies¹². The basic concept of the new Code essentially remains the same, to ensure the observance of good standards of corporate behaviour in any takeover transactions so that minority shareholders should be treated fairly and equally. They should be given all necessary facts to make up their minds in relation to an offer and should be given sufficient time to do so. The new code is also to ensure adequate disclosure of information by all parties connected to the bidder or the target. In addition, the Commission also issues rulings in the form of practice notes in the interpretation of the Code and lay down the practice and conduct of persons involved in or affected by a take-over offer, merger or compulsory acquisition.

A mandatory general offer in the present Section 6 of the Code requires that whenever a shareholder sells a controlling block of shares, any other holder of shares in the company is entitled to have an equal opportunity to sell his shareholding on substantially the same terms¹³. The threshold of control above which the bidder should make available a cash alternative to any bid in Malaysia is 33 per cent as compared to 30 percent in UK.

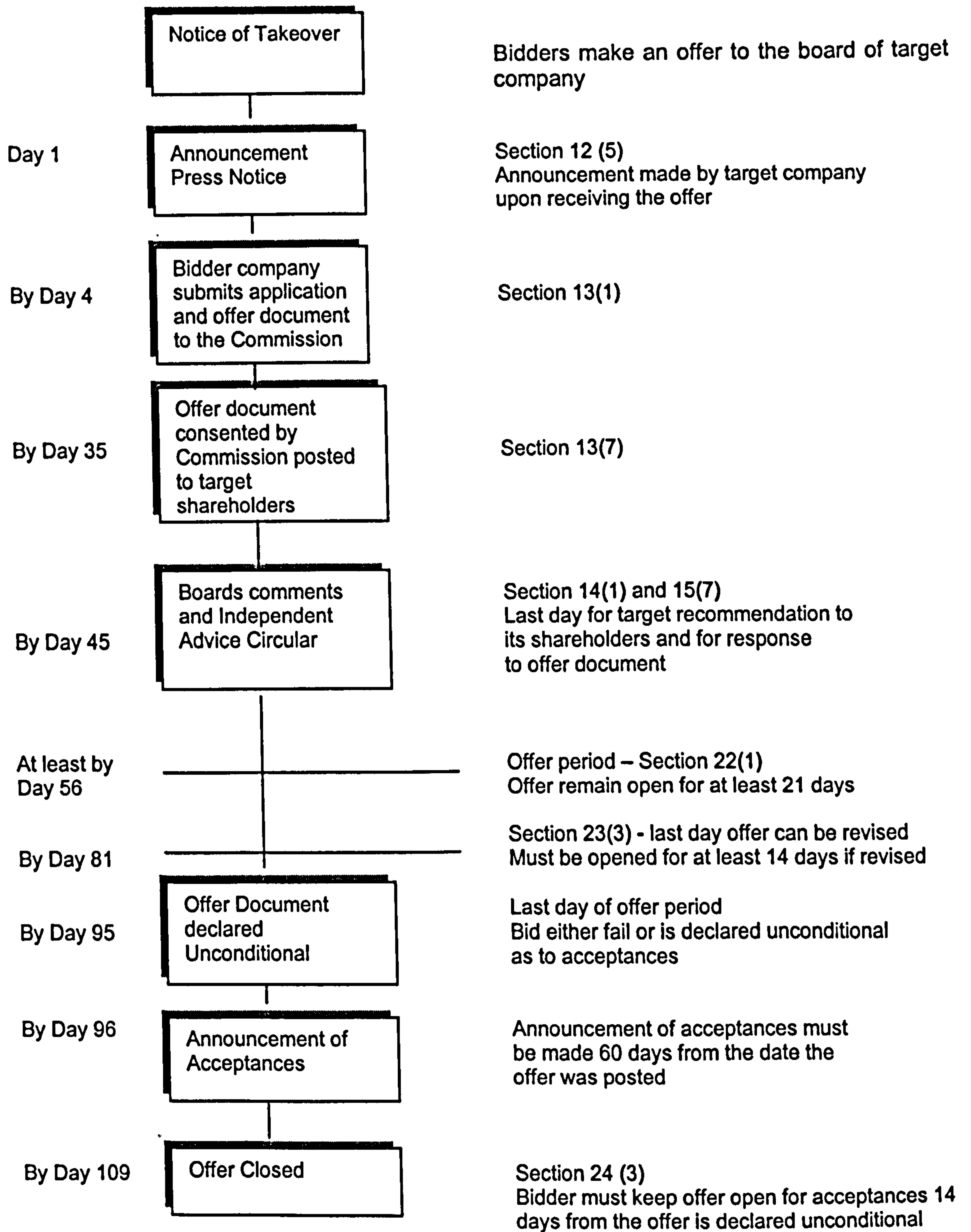
Figure 2.3 refers to the schedule of a mandatory general offer under the Malaysian Code 1998 where a party has triggered the Code's mandatory general offer obligations after acquiring a controlling block of shares in the company. An application is initially made to the Foreign Investment Committee (FIC) to seek its approval for holding more than 33% of the voting rights of the target company.

¹² As stated in Practice Note 1.2, the Code applies to a take-over of a private company which has either shareholders' funds or a paid-up capital of RM10 million or more based on the latest audited accounts, and where the purchase consideration is RM 20 million or more.

¹³ This provision has direct statutory force in Section 33 of the SCA. Failure of compliance may result in such persons being guilty of such an offence.

Figure 2.3

Schedule of Acquisitions under the Malaysian Code on Takeovers and Mergers 1998



Source: Information extracted from Malaysian Code on Takeovers and Mergers 1998

Since the mandatory requirement is triggered, FIC will approve the initial acquisition of more than 33% interest subject to a general offer being made to the remaining shareholders of the target company on terms no less favourable. Both the UK and Malaysia have a 60-day period for the offer to become unconditional as to acceptances following posting of the offer document. In the UK an offer document should be posted within 28 days of the announcement of a firm intention to make an offer (Sudarsanam, 1994). In Malaysia, the offer must be posted by day 35. The bidders must return the shares acquired under a general offer if they have not obtained over 50% of the target.

The bid will fail if the bidder is not successful in obtaining more than 50% of the voting rights of the target company. In the event that a mandatory offer is not successful, the bidder will normally be barred from making a bid for a further year. The Code also provides for various situations under which a waiver from the mandatory general offer can be applied for (Practice Note 2.9). An example is where a waiver may be sought should the obligation for a mandatory general offer arise in a restructuring exercise or pursuant to an acquisition involving the issue of securities.

2.5.3 FIC Guidelines to Takeovers and Mergers (1974)

FIC issued the first guidelines for the regulation of acquisition of assets, mergers and takeovers in 1974. These guidelines were applied equally to all parties including both local and foreign investors with respect to acquisitions of assets, mergers and takeovers in Malaysia. The content of the guidelines mainly refers to the acquisition activities that should result in a more balanced Malaysian participation in ownership and control.

The guidelines apply to six situations involving acquisition activities in the country:

- a. any proposed acquisition of foreign interests of any substantial fixed assets in Malaysia;
- b. any proposed acquisition of assets or any interest, mergers and takeovers of companies and businesses in Malaysia by any means, which will result in ownership and control passing to foreign interests;
- c. any proposed acquisition of 15% or more of the voting power by one foreign interest or associated group, or by foreign interests in the aggregate of 30% or more of the voting power of a Malaysian company and business;
- d. control of Malaysian companies and businesses through any form of joint-venture agreement, management, and technical assistance agreement or other agreements;
- e. any merger or takeover of any company of business in Malaysia whether by Malaysian or foreign interest;
- f. Any other proposed acquisition of assets or interests exceeding in value the sum of RM5 million, whether by Malaysian or foreign interests.

However, these guidelines are not applicable to specific projects approved by the government, such as the Ministries, Government Departments, Ministry of Finance, State Secretaries and privatisation projects. The restraints on foreign ownership and from the New Economic Policy will shape the behaviour of the bidders. However, acquisition by foreigners of assets or interest of Malaysian companies and

businesses that are left unregulated can accentuate the economic imbalances and nullify the objectives of NEP. Thus, the broad objective of the FIC Guidelines is to ensure that the aspirations of the Government's NEP can be realised by moving towards a balanced ownership and control, rather than impede the acquisition activities in the country.

2.5.4 Kuala Lumpur Stock Exchange (KLSE) Listing

The listing requirements of the KLSE apply to all the companies listed on the Exchange. In relation to acquisitions, the KLSE requirements relate mainly to the disclosure of the proposed acquisition contained in the offer document. This is in line with the corporate disclosure policy, which is regarded by the KLSE as being essential for the conduct of a fair and orderly market, and to avoid speculative trading based on rumours and distant rumblings.

2.6 Takeover and Merger Activities in Malaysia

The Foreign Investment Committee (FIC) recorded the first acquisition activity in Malaysia in 1974. However, such records were made for the purpose of regulating the acquisition of assets, acquisition activities of companies, and data needed for making government strategies. The records are kept in the respective firm files depending on the date of submission of acquisition proposals but there has been no comprehensive database to capture salient features of the acquisition transactions. In addition, the companies involved and other information related to the acquisitions were not available to the public (Mohammad, 1993).

Table 2.6 provides a summary of the acquisition activities for the years 1984-1990 as reported by Mohammad (1993) in an earlier study of takeover activity in

Malaysia¹⁴. According to Mohammad (1993), acquisition activities declined during the period 1985-1987 due to slow global economic movement. There was an upward trend of acquisition activities from 1988-1990 as a result of an economic recovery. As can be seen in Mohammad's (1993) study, there were more private than public companies involved in acquisition activities in Malaysia.

Table 2.6

Acquisition activities during the years 1984-1990

	<u>Private</u>	<u>Public</u>
1984	92	56
1985	94	32
1986	65	62
1987	40	30
1988	35	32
1989	57	53
1990	77	55

Source: Mohammad (1993)

Chart 2.3 depicted the number of applications to Securities Commission relating to various applications under the Malaysian Code on Takeovers and Mergers during the period 1993-98¹⁵. Acquisition activity in Malaysia appears to follow the growth of the economy. The number of applications in respect to takeover transactions related to the Code increased from 1993-1996, but decreased slightly to 153 applications in 1997. During the economic slowdown, only 79 applications were received in 1998 in which 18 involved the making of general offers, a marked decrease of 72.7 per cent from the previous year (1997: 66)¹⁶.

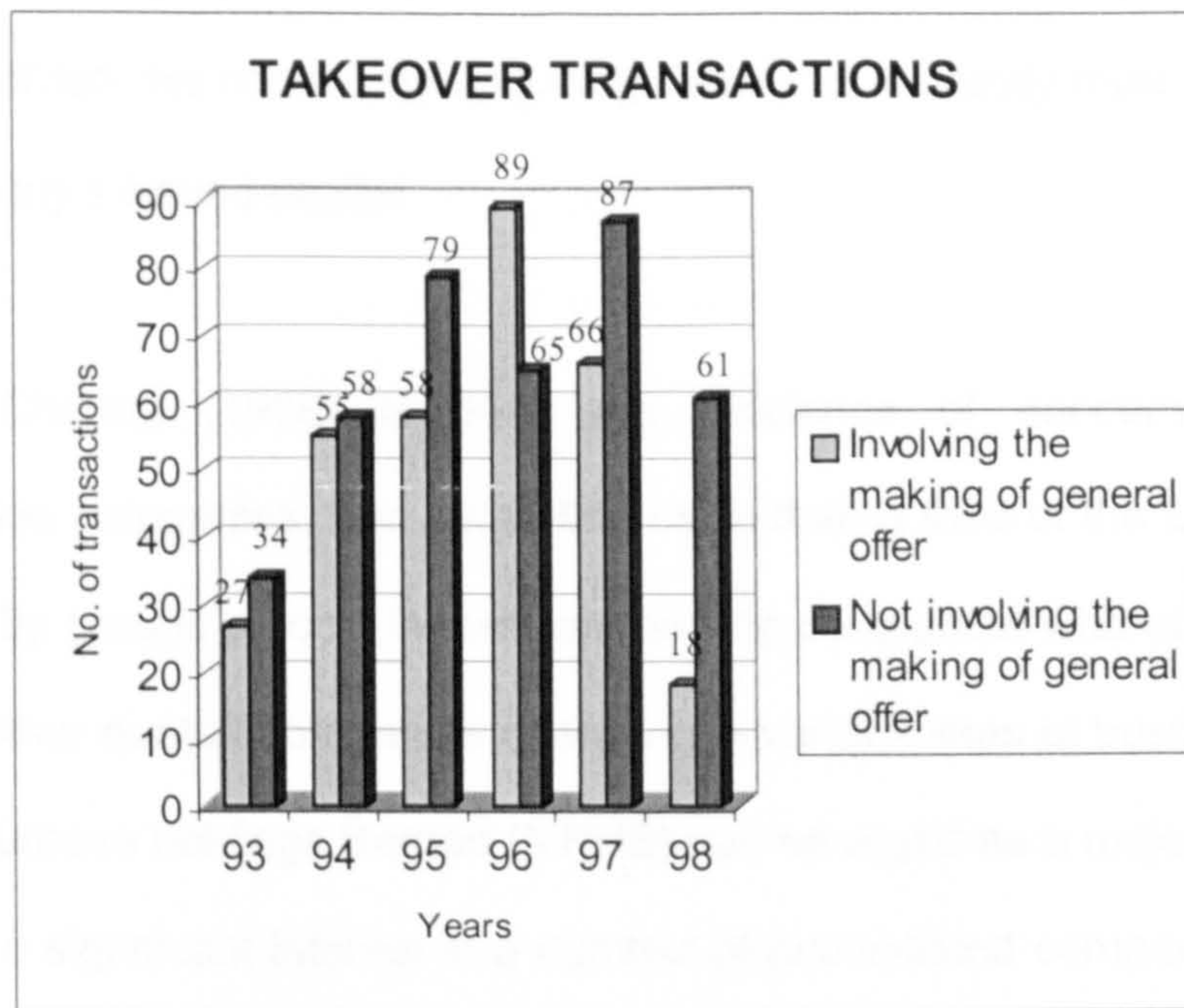
¹⁴ However, Mohammad (1993) did not breakdown these companies into acquiring and target firms. Neither did she provide a list on these companies.

¹⁵ Securities Commission was established on 1 March 1993.

¹⁶ As explained in the previous section, an acquirer is required to make a mandatory general offer when it acquires more than 33% but less than 50% of the target's voting shares.

Chart 2.3

Takeover Applications



Source: Securities Commission Annual Report 1994-1998

Note: a. 1993 figure is for a ten-month period.

b. A mandatory general offer occurs when an acquirer acquires more than 33% but less than 50% of the voting shares of target firms.

It is also worth mentioning that in contrast to takeovers in the UK and US, hostile takeover bids that seek to acquire control are still rare in the Malaysian market. A large number of companies in Malaysia are controlled by a single shareholder or by a group of shareholders acting in concert. These companies started from a family business or are of an entrepreneurial type rather than having a large diversified ownership. A change of control in such entities is normally achieved by the controlling shareholder agreeing to sell his shareholding via private arrangement (SC Annual Report, 1994). Thus, there will be fewer contested takeovers as the control of a public company will tend to pass with the controlling block, and the ownership of these companies not widely dispersed.

Thus, the existing situation explains the common occurrence of mandatory general offers in Malaysia to safeguard the interest of all shareholders. As mentioned

earlier, the mandatory offer is required to be made where control has already changed through private agreement, or where the controlling shareholder is seeking to consolidate his control, by acquiring directly or indirectly more than 33.3 per cent of a company's issued capital.

Cheong (1989) reported the existence of concentration ownership in Malaysian companies. She noted that more than a third of the quoted companies are owned by groups of local investment holding companies who each owned between 4 and 5 other quoted companies operating in various lines of business. As an example, Multi-Purpose Holdings Berhad (MPHB) had emerged as a major conglomerate which owned a significant interest in a number of public-listed companies such as Malaysian Plantations Bhd, Bandar Raya Developments Bhd, Dunlop Estates Bhd, and Magnum Corporation Bhd. Through Magnum Corporation Bhd, MPHB obtained a stake in TA Enterprise Bhd, Leisure Management Sdn Bhd, Land and General Bhd and Pilecon Engineering Bhd (Malaysian Business, 1992). Lee (1992) also noted that major transformations to Malaysian companies were due to the NEP. For instance, business groups under the NEP are no longer confined to a single sector but they invest in divergent fields, priding themselves as builders of conglomerates with interests in a number of industries that may not be closely related. Examples are Antah Holdings Bhd, Berjaya Corporation Bhd group, Aokam Tin Bhd and Hong Leong Company (Malaysia) Bhd¹⁷.

In addition, Mohamad Haniffa (1999) provides evidence that interlocking directorships or cross-holdings of directorship, which refers to the situation where directors sit on more than one board, are common in the Malaysian business

¹⁷ Antah Holdings Bhd is an investment holding and management company belonging to the royal family of Negeri Sembilan. Berjaya Corporation Bhd principal activities consist of manufacture and sale of steel wires and wire ropes and investment holdings while its subsidiaries are more diversified. Hong Leong Bhd is also an investment company which started 55 years ago under the first generation Kweks who came from China.

environment¹⁸. For example, Tan Sri Nasrudin bin Mohamad who is a director of Amalgamated Steel Mills Bhd is also a director in Sime Darby Bhd, Hong Leong Industries Bhd, and Federal Flour Mills Bhd (KLSE Annual Handbook, 1990, 1992). Having interlocking directorship might be a motive for targets to sell their business or firm managers might imitate the acquisition activities of those other firms to which they are tied through directorship (Haunschild, 1993)¹⁹. However, Mohammad (1993) found that interlocking of directorship among companies in Malaysia is not a factor motivating the targets to sell off their business. Based on questionnaires, Mohammad (1993) ascertained that the three most important motives that influence Malaysian bidders to make acquisitions are diversification, synergistic effect and horizontal integration while targets motive are managerial reasons and better market conditions or opportunities.

Lee (1992) also noted that the manner of business expansion is also different under the NEP. There is a decline in growth through greenfield investment (expansion into vertically related fields at a relatively slow pace to allow steady consolidation) in favour of growth through 'financial takeovers, shifts into established and proven industries, rapid acquisition of franchise and marketing systems, and fast growth not only vertically or horizontally but also crosswise into totally unrelated areas of business' (Lee, 1992, p. 106). There is also the emergence of entrepreneurs who have specifically concentrated on exploiting political connections to achieve business objectives. An example of politically based entrepreneurship is Multi-Purpose Holdings Bhd, a public listed company incorporated in 1975, that is the chief

¹⁸ Mohamad Haniffa (1990) found that 13 (9.4%) of the 139 companies in her study had between 7-8 of their directors having cross-holdings while the 92 (66.2%) of the companies have directors in 1-4 other quoted companies.

¹⁹ Haunschild (1993) provide evidence that firms with interlocking directorship make many acquisitions since these firms are exposed to private acquisition information (in the form of general acquisition know how) than firms with no ties to other firms.

corporate vehicle of the Malaysian Chinese Association (MCA)²⁰. The Malaysian Indian Congress (MIC) has produced an equivalent political-business organisation, Maika Holdings Bhd. Representing the interest of the ruling Malay component of the National Front government (UMNO) is the Fleet Group Sdn Bhd.

Gomez and Jomo (1997) also noted that politically connected business groups have sprung up rapidly in the NEP period, resulting in large conglomerates which blur the distinction between business and politics. Although the NEP was conceived to advance Malay business interests, the Chinese businessmen who have close links with powerful Malay patrons have prospered more than those Chinese businessmen who have no such link (Heng, 1992, and Gomez and Jomo, 1997). The successful Chinese businessmen have chosen members of the various royal families, high-ranking former civil servants and military personages as their Malay patrons and allies. For example, Tan Sri Nasruddin bin Mohamed who have served the secretary-general of the Ministry of Trade and Industry, and Tan Sri Dato' Zain bin Hashim who have served as a General in the Ministry of Defence are among the directors of William Cheng's Amalgamated Steel Mills (KLSE Annual Companies Handbook, 1992).

2.7 Summary

The chapter has looked at various factors that may have an impact on acquisition activities in Malaysia. These include the history and economy of the country, the financial and capital market, and the regulatory policies and agencies in

²⁰ The ruling party in Malaysia is Barisan Nasional (National Front) which is a multi-ethnic, multi-party coalition, comprising of United Malay's National Organisation (UMNO), the dominating party, while the other coalitions are MCA and MIC.

the country. The development of acquisition activities was also briefly mentioned in the chapter.

The New Economic Policy (NEP), announced in 1970, was to achieve national unity by 'eradicating poverty', irrespective of race, and by 'restructuring society' to achieve inter-ethnic economic parity between the predominantly Malay Bumiputras and the predominantly Chinese non-Bumiputras. This second prong basically involved affirmative action by the Malays to reduce inter-ethnic economic differences, especially with the Chinese community. The NEP was replaced by the National Development Policy (NDP) in 1991 but raising Bumiputra ownership of national wealth to 30% has yet to be met. However, the NEP has brought about major transformations to Malaysian companies. Among these are: a shift in emphasis from single line of business to multi-industry conglomerates, a decline of growth through greenfield investment in favour of growth through acquisitions, a movement from reliance on internally generated funds to external borrowings or sale of shares, and the emergence of corporations that are politically linked.

Prior to the financial crisis in mid 1997, the buoyant economy, and political stability in Malaysia has witnessed the inflow of foreign funds in the country. The existence of foreign direct investors has in the past played a key role in transferring new technology and boosting productivity in the country (Heibert, 1999). The nation had enjoyed rapid growth rates averaging 8.5% annually during the period 1987-1995. The booming domestic stock market during the period 1993-1996 was the result of the vigorous economic growth rate, a steady inflow of foreign funds, better organised and improved trading facilities in the market, and the overall good performance of companies. Acquisition activities appear to parallel the growth of the economy and are boosted by notable changes in technology and economic infrastructure. On top of that, the establishment of the Securities Commission in 1993

as a single regulatory body has resulted in takeover and merger activities in the country being more effectively regulated and developed. Prior to the formation of SC, approval of acquisition proposals was required from each of the FIC, CIC and the Panel of Takeovers and Mergers. As a result, there was an upsurge in the number of takeover transactions during the strong economic growth of 1993-1996.

The number of applications was markedly reduced during the economic crisis, from 153 takeover transactions in 1997 to only 79 applications in 1998. Conversely, the government is optimistic that Malaysia's economy has halted its downward spiral and now on the path of economic recovery. There are encouraging signs of improvement with the economy registering a lower contraction of 1.3 per cent for the first quarter of 1999 as compared to 10.3 per cent contraction in the last quarter of 1998 (Mid-term Review, 1999). Among others, manufacturing output has recorded positive growth, international reserves have strengthened, inflation rate which average 5.3 percent in 1998 has declined to 2.9 per cent in May 1999, and the Kuala Lumpur Composite Index has rebounded from 262 on 1 September 1998 to 846 points on 2 July 1999. The government also argued that the exchange control measures had minimal impact on economic activities as 'the general convertibility of current account transactions and the free flow of direct foreign investments and repatriation of interest, profits, dividends and capital are guaranteed' (MITI, 1999).

On the basis of the above analysis, it can be surmised that Malaysia remains a potential growth area that could possibly attract more foreign and local investors to boost the country's economy. Since acquisition activities are said to follow spurts of economic activity, it is expected that acquisitions will be on the rise again in the near future. The investment policies in the country are designed, via a policy of company acquisitions, to attract more local and foreign investment in promoting a higher level of economic growth for the country. Despite the Government's policies on a more

balanced Malaysian and Bumiputra participation in ownership and control of corporations, the recent economic crisis has led to the relaxation of rules on foreign equity ownership of companies in Malaysia. This relaxation was clearly necessary in view of the need to attract more foreign direct investment as part of the strategy to revitalise the economy even though it may result in foreigners acquiring corporate equity exceeding the 30% originally allocated to them under the NEP.

The following chapter describes the various motives for corporate acquisitions including shareholder wealth maximisation and management wealth maximisation theories.

Chapter 3

Motives for Acquisition Activity

3.1 Chapter Description

The current chapter identifies the main motives put forward to explain acquisition activity. The first part of the chapter begins by an examination of agency theory and then extends to examine various motives for acquisition including shareholder wealth maximisation and management wealth maximisation theories. These theories are used to explain why companies make corporate acquisitions and also to predict possible outcomes in terms of post acquisition performance. Disciplinary motives and the potential sources of shareholders' gains are discussed under shareholder wealth maximisation while those for management wealth maximisation include growth maximisation and diversification.

3.2 Agency Theory

For many years economists have been concerned with problems that arise when security ownership in large corporation is separated from control of the firm's investment and financial decisions, which is the basis of the theory of agency. The management of many companies is not the sole owner, but rather managers (without ownership shares) are agents to whom equity owners have delegated authority for more effective control. The agency problem arises because the agent may not always act in the best interests of the principal. This possibility gives rise to agency costs, which may include monitoring costs incurred by the principal to limit the discretionary behaviour of the agent, bonding costs incurred by the agent to put limits on and/or provide guarantees about the agent's discretionary behaviour and residual losses to the principal(s) resulting from the agent's discretionary behaviour. The agency

problem is particularly relevant in a large publicly held corporation where ownership and control are separate because it is virtually impossible for a diverse group of atomistic shareholders (the principals) to monitor the behaviour of the management (the agents). The theoretical basis of agency theory can be traced to the work of Coase (1937, 1960), Berle and Means (1936), Manne (1965, 1969), Alchian (1950), Alchian and Demsetz (1972), each of whom considered rather broad questions concerning the nature and the reasons for the existence of the corporate form of organisation.

Agency theory has its roots in the study by Berle and Means (1936) which explicitly recognise the potential divergence of ownership and control in the formulation of the theory of the firm. They identified the increasing degree of separation between those who supply capital and those who manage it, with ownership of corporate wealth and control over it in different hands. Berle and Means (1936, p.69) concluded that 'ownership of wealth without appreciable control and control of wealth without appreciable ownership appear to be the logical outcome of corporate development'. Within companies free from strong external market pressure, the separation of ownership from control of the firm's activities gives rise to incentives and opportunities for the agents (the managers) to direct the firm's resources away from owners (the shareholders) to themselves. Thus, the study by Berle and Means (1936) has addressed the question of whether the shareholders' benefits depend upon the degree to which control over the firm's activities is delegated to others.

The potential for conflict between contracting parties also has its foundation in Coase's (1937, 1960) work. From his viewpoint, a 'firm' represented nothing more than an aggregation of individuals or groups who found it cheaper to contract with one another within the firm because the costs of using markets were greater than the costs of using direct authority. The concept of the firm as a group of contracting

parties was stressed even more strongly in the work of Alchian and Demsetz (1972). In a team process, it is normally difficult to accurately measure individual effort and therefore to assign rewards. Further, managers have no legitimate property rights to the cash flows of the firm other than their explicitly stated compensation during the time of their contract. Thus, an incentive exists for the individuals involved to shirk, i.e. to act in such a way that an individual satisfaction will be increased, but at the expense of the owners. Shirking can take many forms, e.g., working less vigorously to seek out positive net present value investment opportunities, or consuming an excessive amount of perquisites, either of which would increase managerial satisfaction to the detriment of the firm's security holders. Alchian and Demsetz (1972) attribute the task of disciplining management primarily to the risk bearers (the shareholders) who are assisted to some extent by managerial labour market and by the possibility of outside takeover. Similarly, Jensen and Meckling (1976) have pointed out that the incentive for managers to shirk increases with the separation between those who own (shareholders) and those who control the firm (agents). They define an agency relationship as '.. a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent' (Jensen and Meckling, 1976, p.308). The shareholders are also in control of the management to ensure that the management does not engage in on-job consumption in excess of their contractual contracts.

Shareholders are best seen as contractual risk bearers who bear the residual risk of the organisation, and whose principal concern are that the inputs of the firm are combined efficiently, and that the outputs are distributed scrupulously according to the specifics of the contracts²¹. The shareholders who typically holds an investment

²¹ Residual risk is the risk associated with the difference between the random cash inflows and outflows of the organisation (Jensen, 1984).

portfolio are likely to spread their wealth across many firms and not be interested in directly controlling the management of an individual firm. Thus, Fama (1980) and Williamson (1983) argue forcibly that the primary mechanism that constraints corporate management to be efficient and scrupulous is the managerial labour market, where individuals inside and outside the firm compete for management positions. The board of directors, composed of top management and outside directors, is required to oversee the corporate decision-making, and to replace managers or restructure the firm when it is being poorly run. However, if the board fails to respond to pressures for change, the market for corporate control then serves as a discipline of last resort, similar to that described by Jensen and Ruback (1983, p. 5) as “the market in which alternative managerial teams compete for the rights to manage corporate resources - the rights to hire, fire and set the compensation of top level management”. That is, the board of directors of the acquiring firm acquires the right to manage the resources of the target firm after an acquisition. Thus, it is the operation of this market, together with well-designed compensation contracts and the labour market for management, that ensures that management’s interest will not diverge far from the shareholders’ interests.

3.3 Shareholders Wealth Maximisation

Undoubtedly, the seminal work in the development of the corporate control theory mentioned above is that of Manne (1965, 1969). The principal value of this work is the justification for the invocation of the shareholder wealth maximisation paradigm. It is the redeployment of management to maximise shareholders’ wealth via dividends and increases in the market price of the company shares. Manne (1965) argued that if managers acted in a manner that was inconsistent with existing equity holders’ wealth maximisation, control of the corporate assets would pass to others. That is, takeovers serve as an incentive device for management to perform in

the shareholders' interests by shifting control of an acquired firm's assets from a relatively inefficient management to the superior managers of the acquiring firm. A new management team would gain control of the corporate assets by a take-over bid and follow a value-maximising course of action. Along with competitive product markets and an efficient managerial labour market, an efficient takeover market is hypothesised to be one of the primary means by which corporate managers are induced to act in the best interests of the firm's shareholders to maximise value, that is, maximisation of the net present value of future cash flows. Jensen and Meckling (1976) also state that market for corporate control provides a mechanism for monitoring and enforcing the wealth-maximisation objective of the firm. Thus, an active takeover market is an integral element of the mechanism by which assets are valued and society's resources are allocated, thus enhancing economic performance.

In its purest form the market for corporate control is theorised to be one of the principal means by which management-shareholder conflicts are resolved. Hindley (1969) described the operation of the market for corporate control in the following manner:

A perfectly working, frictionless market in corporate control would allocate managerial skills in such a way that each firm used the quality of management which maximised returns to owners. If the firm were controlled by a non-optimum grade, there would be an incentive to replace it with the optimum quality ... any cost of inefficient management would be borne by managers, not owners. (Hindley, 1969, p. 435)

Noting that others had characterised corporate acquisitions as a civilised alternative to bankruptcy (Dewey, 1961), Manne (1965, p.112) pointed out that 'the function so wastefully performed by bankruptcies and liquidations would be economically performed by acquisitions at a much earlier stage of the firm's life'. Hence,

acquisitions may be viewed as one of the means by which failing firms are returned to health, presumably by significant changes in the operating and financial policies pursued by firm management. Assuming no imperfections in the market and, for example no barriers to entry or monopoly situation, only those firms which maximise company performance are the survivors and those who do not will disappear or be taken over (Alchian, 1950, p.213; Singh, 1971, p.12). In other words, the takeover threat, that is competition in the capital market, will force managers to pursue profit maximisation in order to survive, whether or not they prefer other goals. Further, if the capital market attempts to reallocate funds to their most efficient use in a successful acquisition, theory predicts that successful bidders are likely to be more profitable than their targets.

3.3.1 Disciplinary Motives

The current section provides the results of previous studies in examining the disciplinary motives for acquisition activity in the UK and the US.

Singh (1971) examined the characteristics of acquiring and acquired firms in the UK for the period 1955–1960. He found evidence that acquisitions usually involve the takeover of a smaller and less profitable firm by a larger and more profitable one, supporting the traditional economic view. However, in his later study Singh (1975) felt that the evidence concerning acquisitions in the 1960's did not conform to his earlier results. Singh (1975) reported that a significant degree of stock market discipline for unprofitable firms existing only for small size firms rather than the large ones, indicating the weakness in takeover mechanism in trying to discipline unprofitable firms. Most of the available evidence in the study suggested that takeovers themselves are not an efficient resource allocation mechanism. Thus, Singh (1975, p. 511) concluded that ‘.. the takeover process may well actually encourage salaried

managers in large corporations to concentrate even more on size rather than profitability', thus giving very little support to the neoclassical theory of shareholders wealth maximising discussed above. The general conclusion emerging from other studies (example Meeks, 1977; and Cowling et al., 1980) seems to be that companies taken over are characterised by small size rather than low profits, and that the takeover mechanism does not bring about an improvement in the profitability of acquiring firm.

When considering characteristics of US targets during the period 1971-1979, Palepu (1986) identify that poorer share price performance prior to the bid increases the probability of takeover for all targets. He also find that the likelihood of being taken over decreases with the size of the firm since the transaction costs associated with the absorption of the target are likely to increase with size. Palepu (1986) provides further evidence that target firms in US are characterised by growth resource imbalance in the sense that they possess lower growth, high liquidity and lower leverage than non-target firms (that is, lower growth, resource rich). However, Harford (1999) found that firms rich in cash are less likely to be taken over, indicating that firms with large cash stockpiles may deter takeover attempts. In addition, he also found that firms with good growth opportunities (measured by market to book value) are less likely to be targets, similar to the findings by Palepu (1986). However, Harford (1999) did not find size (measured by natural log of total assets a year prior to acquisitions) to be a contributing factor for a firm to be taken over.

In developing a model of takeover likelihood in UK during the period 1984 to 1991, Powell (1997) confirms the findings of earlier studies that the characteristics of acquired and non-acquired firms differ. Based on binomial models (treating targets as a single group) Powell (1997) documents that the lower the liquidity, the smaller the

firm size, and the larger the free cash flows, the higher the takeover likelihood²². Prior performance as measured by either return on capital employed or market-to-book ratios are not significant factors for targets to be taken over, suggesting that inefficient management hypothesis is not prevalent in UK targets.

Using accounting data for a total of 282 UK firms over the period 1965-76, one of the main findings in the study by Holl and Pickering (1988) was that target companies taken over tended to be smaller, slower growing and less profitable than their acquirers and also in comparison with target companies not taken over. The result is consistent with the hypothesis that firms which do not perform well on either managerial or shareholder criteria will be taken over. They also found that successful acquiring firms tended to be those which had faster growth, higher gearing, liquidity and retentions, but not superior profits, than unsuccessful acquiring firms. Fast growth and financial strength seem to be more important influences on bidding success than profit orientation. In addition, they found that the post acquisition performance of the merged firms in successful acquisition was worse than that for the companies in abandoned acquisitions, consistent with the view that poor performing firms prior to acquisitions make bad investment decisions. Taffler and Holl (1991) did not find any evidence in UK that acquiring firms are more profitable than the target companies they are bidding for, and that acquisitions do not bring about improved financial performance to the merged firms. The result is inconsistent with the view that the takeover market acts as an efficient allocation of resources.

Clark and Ofek (1994) document that acquiring firms are unable to successfully restructure distressed target firms when examining the effectiveness of

²² However, in using multinomial model (separating hostile and friendly takeovers into separate groups), Powell (1997) found that inefficient management is common among hostile takeovers. He document that the larger the size, the lower the liquidity, the lower the profitability and the higher the market-to-book ratios are characteristics of hostile targets. On the other hand, the likelihood of a friendly takeover is higher when the firm is smaller and leverage higher.

acquisitions in restructuring 38 US distressed firms. Although the distressed targets had extremely poor pre acquisition performance, Clark and Ofek (1994) find no indication that the acquiring firms were performing better or worse than average prior to the acquisition. They find only nine attempts at restructuring are successful, nine are marginally successful, and 20 are clear failure²³. They also provide evidence that performance of acquiring firms that acquired distressed targets tends to decline in the post acquisition period, suggesting that acquiring firms are unable to successfully restructure targets.

Philippatos and Baird III (1996) also provide evidence that there are no significant differences in pre acquisition performance between acquiring and acquired firms, and to their respective industries. In examining 71 mergers and tender offers in US for the period 1973-87, using accounting data, Philippatos and Baird (1996) reported that the acquiring and acquired firms' pre acquisition relative excess value by sales (EVS) and relative return on capital are not significantly greater than their respective industries²⁴. There were also no significant differences in pre acquisition performance between acquiring and acquired firms, inconsistent with the view that target firms were taken over because they had performed poorly prior to acquisition, nor were the acquiring firms better than firms in the same industries or than acquired firms. In their study the pre acquisition performance of acquired firms seems to have little effect on the post acquisition value gains of the combined firms.

²³ 'Successful' or 'marginal' are firms that have no evidence of failure, while 'failures' are firms that have involved in bankruptcy, liquidation, or substantial write off.

²⁴ Excess value is the difference between the firm's market value and its book value of total assets. It represents the capitalised value of the expected stream of future excess profit or loss arising when price differs from average cost.

$$EVS = (\text{Market Value} - \text{Book Value}) / \text{Sales}$$

Pre acquisition profitability is measured in terms of return on total capital as follows:

$$ROC = (\text{Cash flow} - \text{tax}) / \text{Total Capital}$$

Evidence on the hypothesis that acquisitions act as a disciplinary mechanism on the management of poorly performing firms is the finding of Lang et al. (1991). They found that the largest increases in the combined values (abnormal returns) of acquirer and target occur when firms with high values of Tobin's q acquire targets with low values of q . Servaes (1991) also found that bidder and target returns are larger when the bidder is a high q firm and the target is a low q firm, vice versa. To the extent that q proxies for management quality, the results indicate that the market expects more value to be created when a firm with good management acquires a firm with bad management than if the opposite occurs. Similarly, Barber et al. (1995) found that US hostile and conglomerate acquisitions during the period 1963-1968 were carried out to discipline or remove inefficient target managers. Targets of hostile acquisitions had significant low q ratios than their friendly counterparts and there is a strong negative relation between q ratios and conglomerates²⁵. The results are consistent with the hypothesis that poorly managed firms investing in poor projects have lower q ratios and would be likely targets of disciplining acquisitions.

Other evidence on the hypothesis that disciplinary mechanism is a motive for acquisition is claimed in a study by Kennedy and Limmack (1996)²⁶. The hypothesis was tested in their study by exploring the relationship between security returns and CEO turnover in UK target companies within the period from 1980-1989²⁷. Bidding companies appear to achieve superior performance while target companies are found

²⁵ Similar to Amit, Livnat and Zarowin (1989), Barber et al. (1995) defined Q ratio as the sum of market value of common equity, the book value of long term debt and debt due within one year and the liquidating value of preferred stock divided by the book value of total assets.

²⁶ Previous empirical study supporting this hypothesis includes that of Mandelker (1974). In examining the impact of mergers on US firms during the period 1948-1967, he found that the acquired firms experience negative abnormal returns during the period (-35, -7), and at its lowest level in the ninth month preceding the merger. However, the shareholders of the acquired firms earn on average, abnormal returns of approximately 14% in the seventh month prior to merger. The result is consistent with the hypothesis that acquisitions act as a disciplinary mechanism in replacing incompetent management.

²⁷ The post of Chief Executive Officer (CEO) selected for examining turnover in the study is based on the grounds that this person is the director responsible for decision making in the company.

to achieve significantly negative returns over the five years prior to the bid. They also found a significant increase in CEO turnover two years after the takeover. Kennedy and Limmack (1996) conclude that their results are consistent with the role of takeovers in UK as a disciplinary mechanism on non-wealth maximising management.

However, Matsusaka (1993) and Hubbard and Palia (1999) found high retention rates of target management by acquiring firms after acquisitions. Hubbard and Palia (1999) reported 0.75 of the target firm's management was retained in the three years after acquisition. They also found that acquisitions in their study earn positive abnormal returns after acquisition. Hubbard and Palia (1999) conclude that the high retention rate of target management indicates that disciplinary or removing target management is not the main reason for high bidder returns.

In another study, Mikkelson and Partch (1997) investigate the relationship between managerial turnover and performance on 200 US firms during the active acquisition market of 1984-1988 and the less active market of 1989-1993. They provide evidence that a significant relation exists between management turnover and performance in the period of active acquisitions, but not in the less active acquisition period²⁸. Furthermore, for firms in the lowest quartile of performance, 33% experience complete management turnover during the active period and 17% in the less active period. The evidence suggests 'the intensity of managerial discipline, in the form of board decisions to replace top management, depends on the level of activity in the market for corporate control' (Mikkelson and Partch, p. 207). That is, the internal control system does not function effectively without an active external control market. The results substantiate the conclusions of previous studies mentioned above that

²⁸ Performance is measured by pre-tax operating income before interest and depreciation scaled by assets.

acquisition activity assist corporate boards in carrying out their duty to oversee and discipline management.

Further, the information that the company will be taken over may be used by target management to improve the performance of the company to avoid being taken over, termed 'kick in the pants' by Bradley, Desai and Kim (1983). In other words, the takeover mechanism acted as a spur for the current target management to improve operating performance of the company by implementing a higher-valued operating strategy on its own. Even if the acquisition is not successful, it is still possible for the market to exercise discipline over the target firm, referred to as corrective discipline by Taffler and Holl (1991). Limmack (1994), for example, found that those target firms that had improved operating performance after unsuccessful acquisitions were more likely to retain their increase in wealth than firms that had not improved their operating performance. The study by Holl and Pickering (1988) shows that there is a strong performance improvement by the target companies from unsuccessful acquisitions over the three years post acquisition period in respect to their growth rate, their financial strength (retention) return to shareholders and return on capital employed. The evidence shows that target companies in abandoned acquisitions successfully adopt a strategy of improving performance after an acquisition. Taffler and Holl's (1991) result differed to that of Holl and Pickering (1988) when they found no evidence to support the prediction that target companies that successfully resist a bid subsequently improve their financial performance. The post acquisition performance of both bidding and target firms in unsuccessful acquisition showed no significant improvement, finding no support for the hypothesis that unsuccessful targets are disciplined by the market.

Further, Jensen and Warner (1988) argue that if acquisition attempts signal poor managerial performance, the oversight by the board of directors as internal

monitoring mechanism to replace top management intensifies even if the acquisition attempt is unsuccessful. For example, Denis and Denis (1995) found that forced resignations of top management are often due to acquisition-related pressures and lead to improvements in performance. Consistent with this view, Denis and Serano (1996) find that 34% of targets experience high incidence of top management turnover among poorly performing firms following unsuccessful acquisition between 1983 and 1989. Those firms with disciplinary managerial turnover exhibit significant share price increases above its pre-contest level and improvement in operating performance. In contrast, firms with no top management changes do not exhibit shareholder wealth increases. The evidence from the above studies support the view that one of the motives for acquisitions is to acquire previously under-utilised resources (Jensen, 1986) and that the market for corporate control (as mentioned earlier) is an important mechanism for reallocating resources to more efficient corporate users.

3.3.2 Potential Sources Of Gains From Acquisitions

The studies discussed in Section 3.3.1 above dealt with the motives for acquisitions that lead to either shareholders wealth maximisation or otherwise. An acquisition accompanied by an increased in bidder's value would indicate the presence of shareholders wealth maximisation, and vice versa. While consideration must be given to the performance of constituent firms prior to acquisition and the combined corporate entity after acquisition in determining the overall economic efficiency from acquisitions, it is also important to identify the sources of such gains, if any. Thus, it is the objective of this section to describe the potential sources of gains from acquisitions and the related studies involved.

There are two broad sources of potential gains to shareholders from acquisitions. One is when the combination of the two firms may result in some form of 'synergy', that is, a combined net gain that is more than the sum of the value of the individual firms. This may involve a more effective utilisation of the combined companies' assets by implementing a higher-valued operating strategy, the benefits of which can be captured by the existing shareholders. Bradley et al. (1983, p.184) identify that operating strategy changes after acquisition may involve 'more efficient management (see Section 3.3.1 above), economies of scale, improved production techniques, the combination of complementary resources, increased market power, the redeployment of assets to more profitable uses, or any number of value-creating mechanisms that fall under the general rubric of corporate synergy'. In general, two types of synergy can be distinguished: efficiency and financial gains. The other broad source of gain is when the managers believe that they can purchase the target firm at a price below the present value of its future cash flow (asymmetric information).

The three types of gains, namely efficiency, financial and asymmetric information, are discussed in the next sub-sections.

3.3.2.1 Efficiency Gains

Firms normally accumulate the necessary resources required to compete and then to exploit them in product markets to generate revenue. Barney (1991, p.101) defined resources as 'all assets, capabilities, organisational process, firm attributes, information, firm knowledge etc., controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness'. Thus, one of the central concerns in assessing the consequences of acquisition is measuring changes in the firm's productive efficiency. The term 'efficiency' is defined by Cowling et. al (1980, chapter 4) as the process of turning given inputs into given outputs. It

involves a more effective utilisation of the combined companies' assets in order to achieve positive net present value investments by implementing a higher-valued operating strategy. A coherent account of efficiency gains comes from the theory of corporate diversification, as discussed in the next section. Penrose (1959) developed a theory of internal inducement to expand and diversify in directions that use the existence of a 'pool of unused productive services, resources and special knowledge' that is created within the firm through routinisation of activities. This theory rests on the assumption that large business enterprises have assets of multiple uses that can be internalised by the firm. The 'lumpiness' of such assets induces the firm to expand or diversify as a means of using its resources more profitably. Although the arm's-length rental of the services of the assets is an alternative, acquisitions can provide the solution if at any time some firms find themselves either needing the services of such a lumpy assets or possessing one with excess capacity, provided the benefits obtained from acquisition is more than the premium paid for it.

There are several potential sources of efficiency gains due to post acquisition improvements in operations. These gains may be classified broadly into economies of scale, technical and managerial skill or knowledge transfer (Porter, 1987), and asset restructuring. The term economies of scale implies that the individual firms are not operating efficiently prior to the combination because the scale of enterprise is too small. Thus, when the scale of common activities increases through firms combining in some way (for example acquisitions), there is a potential for overall costs to decrease leading to an improved net cash flow. By producing a higher quantity of outputs at a lower cost the merged firm also has the ability to under-price the competing firms' offers and thus increase market share. Economies of scale can arise in marketing, for example with advertising cost, or in research and development, and in distribution where fleets of vehicles or larger warehouses can bring down the cost per unit of transport and storage.

Operating economies can be gained from horizontal combinations as well as from vertical combinations²⁹. Horizontal and vertical integration could lead to economies of scale with the new combination operating fewer and more efficient plants. The specialised resources in related acquisition may result in increased efficiencies in technological or product market activities but these specific gains are not expected to be realised in unrelated acquisitions (Singh and Montgomery, 1987). Levy and Sarnat (1990) contended that operating gains could be achieved from horizontal and vertical acquisitions, but not from conglomerate acquisitions. By contrast, Weston et al. (1990) explained that economies of scale, in the form of generic management skills transfer, could also be achieved from unrelated acquisitions³⁰. Economic gains are achieved when general management functions are transferred over a variety of activities, 'spreading a fixed factor over a large number of activities to achieve scale economies and to lower cost function for the output range' (Weston et al., 1990, p. 87).

Chatterjee's (1986) study suggests that the wealth gains of unrelated targets are higher than that of related targets. However, most hypotheses which suggest opportunities for efficiency gains from conglomerate acquisitions have been discredited theoretically or empirically (Mueller, 1977; and Hughes et al., 1980). Results obtained by Palepu (1985), and Singh and Montgomery (1987) have shown that firms which have ventured into related businesses create higher value and have greater total value gains than unrelated acquisitions. In analysing the post acquisition performance of business units that changed ownership for 356 US manufacturing

²⁹ Horizontal contributions arise when the firms concerned are in the same stage of production process. A horizontal merger leads to control of a larger share of output in a particular market. Vertical contributions arise when the firms concerned are expanding backward towards the source of raw materials or forward in the direction of the ultimate consumers.

³⁰ Generic management functions are those managers who have the experience and capability to perform general management functions of planning, organising, directing, and controlling. Weston et al. (1990) argues that generic management functions are readily transferable to all types of business firms. By contrast, specific management functions (research, manufacturing, marketing etc.) can only be carried-over to firms in related activities.

firms during the period 1980–1984, Brush (1996) found market share predictions increase with business ownership changes³¹. Brush (1996) argued that the source of improved performance is explicitly due to the increased opportunities for each acquired business to share resources and activities in the acquiring firm relative to the selling firm. Ramaswamy (1997) examined the impact of strategic similarities (market coverage, marketing posture, risk propensity, operational efficiency and client mix) on changes in post acquisition performance of US target and bidding banks for the period 1984-90³². He found that banks exhibiting similar strategic characteristics result in better performance than those involving dissimilar banks.

There are two competing views on the overall economic impact of vertical and horizontal acquisitions. One is that acquisition will lead to economies of scale which leads to improved economic efficiency, and the other is the collusion or anti-competitive effect which is not favourable to customers. The coming together of two related firms by definition enhances concentration and eliminates competing firms. It was documented by Levy and Sarnat (1990) that increases in market power is attractive to the firm and that the higher the level of concentration, the greater is the level of profits. However, market power represents no efficiency gains as the wealth is transferred from the firm's customers to shareholders. The basic proposition of the collusion hypothesis is that rivals of the merging firms can expect to benefit from news of the horizontal acquisitions since successful collusion limits output and raises product prices and/or lowers factor prices, leading to market power. Even though Chatterjee (1986) find that collusive synergy is associated with the highest value as compared to financial and operational synergy, tests of the market power hypothesis, in general, indicate that the gains associated with acquisitions do not come from the

³¹ Brush (1996) used market share as measure of performance.

³² Ramaswamy (1997) used return on assets as a measure of performance. Risk propensity is the level of asset risks that the bank assumes, while market emphasis include market coverage and marketing activity. Operational efficiency includes synergies arising from integrating operations that process individual financial transactions, information systems that track loans, customer data, deposits etc.

creation of market power³³. Hughes et al. (1980) supported the belief that horizontal acquisition can contribute to an increase in efficiency without increasing market power. A study by Eckbo (1983) on horizontal acquisitions found very little evidence that horizontal and vertical acquisitions have collusive, anti-competitive effects. Similarly, Stillman (1983) argued that no anti-competitive effects were found in horizontal mergers, supporting the view that the purpose behind related acquisitions is to seek more efficient allocation of resources rather than acting on monopolistic or anti-competitive type of activities.

Capron (1996) as cited in Anand and Singh (1997) also failed to find support the market power motive in horizontal acquisitions. Healy, Palepu and Ruback (1992, 1997) suggest that operational gains rather than increases in market power provide the gains to target firms' shareholders in horizontal acquisitions. In an analysis of the 50 largest US acquisitions between 1979 and mid 1984, Healy et al. (1992) document significant improvements in asset productivity relative to their industries, leading to higher operating cash flow returns³⁴. Brush (1996) also highlights that increased opportunities to share resources and activities (operational synergy) among businesses of acquired firms may have contributed to post acquisition performance improvement of 356 US manufacturing firms in the acquisitions that occur between 1980 and 1984. Flanagan (1996) also suggests that some level of product-market relatedness can boost post acquisition performance. In a study of 'purely' related and 'purely' unrelated acquisitions for US mining and manufacturing firms between 1972-

³³ Chatterjee (1986) explains collusive synergy as the ability of the firm to increase prices because of collusion among the industry participants.

³⁴ The evidence on operating improvements is equally strong in Leveraged Buyouts (LBO). Palepu (1990) provides evidence that shareholders gain and that improvements occur in virtually all-accounting measures of performance over the three years surrounding the transactions.

90, Flanagan (1996) found that purely related acquirers achieve higher abnormal returns around announcement period than purely unrelated acquirers³⁵.

Another way in which firm seeks to realise synergy through economies of scale is by having technical and managerial skill or knowledge transfers from one firm to another (Singh and Montgomery, 1987, Porter, 1987, and Ravenscraft and Scherer, 1987). Technical and managerial skill transfer may also be possible with rapidly changing technology or market conditions that are not the fault of incumbent managers, but to which they have difficulty in adjusting (Jensen and Ruback, 1983). For instance, managers may find it difficult to abandon major projects, relocate facilities, close or sell facilities or divisions that can no longer contribute to the organisation's survival. Strategies offered by management team of the bidding firms include 'shedding assets, improving the organisational structure and incentives, and changing the mix and level of investment' (Jensen, 1992, p. 657).

One example highlighted by Jensen and Ruback (1983) on the technical and managerial transfer is of the oil industry. They argue that acquisition occurs in the 1960s because the managers of the acquired companies failed to reduce their investments in exploration, which was called for after the decline in the expected future prices for oil. Jensen and Ruback (1983) relate this 'mismanagement' to the substantial free cash flow (as expressed earlier) in the industry. The theory predicts that managers who are unable or unwilling to make the cutbacks will be replaced by managers who will manage the firm with higher-valued strategy.

³⁵ Flanagan (1996) defines purely related acquisitions as those acquiring and target firms operating in the same SIC code at the three or four digit level prior to acquisition while purely unrelated acquisitions are those that do not share such code.

Technical and managerial skill transfer can be realised via acquisitions, by combining a firm that possesses excess managerial resources with a firm that is inefficiently managed (Weston et al., 1990, p 191). Since related acquisitions operate in common product markets, and top management will be familiar with the product, market and technical characteristics of the two firms, executives from acquired firms are more easily replaced by those from acquiring firms. As suggested by Shelton (1988), the potential for long-run value creation is greatest in related acquisitions where the top executives of both acquiring and target firms share similar functional skills and common managerial premises, and are therefore in a good position to develop collectively and implement programmes that use the assets of the target firms in new or more efficient ways. As mentioned in earlier sections, Walsh (1988), Walsh and Ellwood (1991), Martin and McConell (1991) and Mikkelsen and Partch (1997) are among studies in US and Kennedy and Limmack (1996) in UK that have reported significant increases in turnover of top management in target companies following acquisition.

Cannella and Hambrick (1993), and Krishnan et al. (1997) argued that the retention of the top management in unrelated acquisition seems essential since acquiring firms have little experience in the operation of the acquired business. The target's top management who are familiar with their organisation's environment is still needed by the acquiring firm and most likely to be retained after acquisition. In analysing the value consequences of acquisition on Beatrice Company, Baker (1992) argued that early conglomerate acquisitions in US transferred management skills but retained target management when they bought well-performing target firms that have been managed by competent managers. Matsusaka (1993) and Hubbard and Palia (1999) found that both related and unrelated acquisitions retained target management after acquisition but related acquisition retained a greater proportion of target management.

3.3.2.2 Financial Gains

Financial gains result from the ability of bidding and target firms to take advantage of each other's financial positions. The motive of the acquisition is to capture additional investment opportunities available by lowering the cost of capital of the combined firm through the acquisition. There are several ways of lowering the cost of capital. Provided the cash flows of the two merging firms are not perfectly correlated (most likely in unrelated acquisitions), the risk of insolvency will be reduced (Lewellan, 1971). Under these circumstances, the acquiring and acquired firms act as co-insurers of each other's outstanding debt. In other words, the probability of default for each firm has been decreased because additional cash flows are now available for debt repayment if they are needed. The probability of bankruptcy of the combined unit is smaller and so the debt capacity is larger when a few individual units merge and operate as a single unit. This results in a windfall gain in the form of higher expected cash flow to lenders. Since interest expenses are tax-deductible the combined unit enjoys the payment of lower taxes. As such, the acquisition will effectively increase the debt capacity of the combined firm which, given the interest tax benefit associated with debt, increase its value, thereby increasing the shareholders value.

It has been argued that the financial gains described by Lewellen (1971) cannot be achieved in an efficient capital market (Higgins and Schall, 1975; and Montgomery and Singh, 1984). In the absence of taxes and bankruptcy costs, a reduction in the probability of bankruptcy is insufficient to warrant an increase in shareholders wealth. Without any real synergies or pure financial effect, combining two separate cash flows that are not perfectly correlated will reduce the risk of default of the merging firm which in turn will increase the market value of the merging firms

outstanding debt³⁶. Since the total operating cash flows of the consolidated firm are the same, the increase in the market value of the outstanding debt will be accompanied with a reduction in the market value of the merging firms share price. Stapleton (1982) concludes that increasing the debt capacity of a firm as a result of mergers and acquisition causes a wealth transfer from shareholders to bondholders, assuming no increase in the level of outstanding debt after merger. According to Higgins and Schall (1975), the value of the combined firm must remained unchanged in a perfect capital market. Since the residual cash flow of one firm serves to 'co-insure' the cash flows of the other, it is the shareholders that actually pay for any financial benefits of the acquisition. As a result, the authors concluded that the financial effects of the acquisition would result in an increase in bond prices and lower share prices, i.e., a wealth transfer from shareholders to bondholders.

Kim and McConnell (1977) reported an increased in post acquisition level of debt financing in their study, consistent with the hypothesis that if managers were shareholder wealth maximisers, they would act to neutralise the wealth transfer from shareholders to bondholders described above by issuing debt after the merger. This would have the effect of increasing the overall default risk of the firm and decreasing the value of all its outstanding debt until the firm's shareholders value are returned to their pre acquisition positions.

Empirical evidence consistent with the above hypothesis can also be found in the work of Asquith and Kim (1982). On examining the effect of acquisition announcement on both the shareholders and bondholders of conglomerate acquisitions, Asquith and Kim (1982) found that shareholders of the target firms gained while on average bondholders do not earn positive or negative abnormal

³⁶ Pure financial effect is indicated by firms having the ability to reduce their operating risk through diversification and thus increase their leverage, resulting in additional tax benefits of interest deduction.

returns. They also found that abnormal gains obtained by the target firm shareholders do not come at the expense of the other security holders. Thus, their results are consistent with an efficient capital market that efficiently resolves conflicts of interest between shareholders and other security holders. Similarly, Choi and Phillipatos (1983) have supported the existence of the coinsurance effect for conglomerate acquisitions. They investigated the synergistic aspect of increased debt capacity due to merger between 1950-1973 on 81 merged firms. They showed that those firms which restructured their debt after acquisition to take advantage of increased post acquisition debt capacity obtained significantly higher wealth increases.

In sum, Levy and Sarnat (1970, 1990) showed that, under acceptable assumptions about financial markets, there are no economic gains for unrelated diversification. However, if one introduces some frictions into the financial markets, such as bankruptcy costs and taxes, there may be financial gains for acquisitions (Lewellen, 1971, Galai and Masulis, 1976, Stapleton, 1982, Asquith and Kim, 1982, and Choi and Philippatos, 1983). Amit and Livnat (1988) found that firms which implemented pure-financial diversification were characterised by lower variability of cash flows, i.e. lower operating risk, and were also more highly geared. The results substantiate the view that the greater stability of cash flows will enable the firm to increase leverage, thus enjoy lower tax payments due to the deduction of tax for the additional financing.

Another financial motive for acquisitions in terms of complementary fit is that acquiring firms may have excess cash flow, but a lack of profitable investment opportunities. In contrast, the acquired firms may have low free cash flows and be in need of additional funds to finance an abundance of potentially profitable investment opportunities in their industries. The low free cash flows of the target firms provide synergistic opportunities in financing, thus add value to the shareholders. A similar

view has been advanced by Myers and Majluf (1984) and Smith and Kim (1991) that firms rich in financial slack (defined as cash, cash equivalents, and unused capacity to raise low-risk debt) will take over firm with investment opportunities but poor in financial slack without issuing risky securities³⁷. According to Smith and Kim (1991), a firm with high operating cash flow relative to asset is liquid. However, whether excess cash is desirable depends on the investment opportunity available to the firm. Under the financial slack hypothesis, liquidity is valuable for financing a firm with growth opportunity since additional resources would reduce under-investment³⁸. On the other hand, liquidity is undesirable if investment opportunities are limited. Under the free cash flow hypothesis, if growth opportunities are low, excess cash may lead managers to make over-investments and limits monitoring by the capital market. Thus, combining slack-poor firms with firms having free cash flow can solve potential resource allocation problems. Myers and Majluf (1984) hypothesis was supported by Bruner (1988) who also finds that successful bidders have more slack than unsuccessful bidders and, similarly, successful targets have less slack than unsuccessful targets. As mentioned in Section 3.3.1 Palepu (1986) and Powell (1997) finds empirical evidence that mismatch between growth and resources in a firm will make it more likely acquisition target.

In addition, Smith and Kim (1991) found that announcement period returns of acquiring firms with free cash flow are negative, confirming Jensen's (1986) free cash flow theory (mentioned earlier) that acquiring firms with free cash flow tend to overpay for target firms. However, Smith and Kim (1991) provide evidence that total returns

³⁷ Myers and Majluf (1984) contended that issuance of shares as a form of financing tells the market that the shares of bidding firm are too high and cash offers as signal of bidding firms' shares being undervalued. Thus, rather than issuing shares, undervalued firms lacking financial slack will sometime forgo valuable investment opportunities to avoid transferring wealth from new investors to existing shareholders.

³⁸ Slackness is relative to the available positive net present (NPV) investment opportunities. Low growth prospects suggest that firms have few opportunities to reinvest the excess cash in the firm's current line of business.

are most positive, at 16.88% when 'slack poor' bidders acquire high free cash flow targets. They also reported that returns to bidders are more positive when 'slack poor' bidders acquire targets with free cash flow than when free cash flow bidders acquire slack poor targets. The results obtained by Smith and Kim (1991) provide a resolution to the under/over investment problem identified above. Benefits from acquisition are predicted to arise from combinations involving a 'slack-poor' firm and a firm with excess free cash flow. It was further reported by Sudarsanam et al. (1996) that financial gains dominate operational gains in their study. Similarly, the positive coefficient of MATCASH in the study by Sudarsanam et al. (1996) affirms the hypothesis that combining firms with complementary fit in terms of liquidity slack and surplus investment opportunities increases shareholder wealth for both bidder and target³⁹.

Further, internal financing can have an advantage over issuing securities (external financing) when managers and shareholders have asymmetric information on the value of the firm's assets (Myers and Majluf, 1984). When the firm issues risky securities, the market believes that the firm is overvalued and that the firm is transferring wealth from new investors to existing shareholders. This asymmetry information causes new investors to prevent the wealth transfer by responding negatively to issue announcement. Other examples on asymmetry information will be discussed in Section 3.3.2.3 below.

³⁹ Sudarsanam et al. (1996) used MATCASH as a proxy for mismatch of resources, defined as the mismatch between relative liquidity and relative growth opportunities of bidder and target.

3.3.2.3 Asymmetric Information Theory

The information effect theory assumes that the managers of the bidding firms possess superior or unique information regarding the value of the target firms (Ravenscraft and Scherer, 1987). The information may be about the possible advantages to be derived from the acquisition of the target firm or the bidder may have detected that the share price of the target firm is undervalued. The bidding firm would thus be able to obtain assets at a discount, below the 'true value' of the target firm. For an acquisition to be value maximising, an acquisition will occur if the undervalued share prices of the target firm represents a positive net present value investment.

One situation when target undervaluation may arise occurs when the share market underestimates the true value of the company, referred to by Bradley et al. (1983) as 'sitting on a gold mine' hypothesis. The bidder has special information which might indicate that the target firm has a favourable market conditions, maybe, the possibility of entering into a profitable contract in the future or whether the target firm is about to discover oil etc. It has been argued that this hypothesis is in conflict with the view of an efficient capital market since the latter claims that the share market price fully reflects all available information (Ravenscraft and Scherer, 1987)⁴⁰. However, it is possible for the bidding firm to have new information about the target's value that has not yet reached the market or from internal information that the bidder possess on synergistic gains. The bidder may make a bid for the shares of the target at below their 'true value' and this bid will signal information to other bidders (to make the same bids) in order to obtain the benefits about the value of the target. To

⁴⁰ An efficient market is defined as one where a share price fully incorporates all available information on that security and that share prices provide accurate signals for resource allocation (Fama, 1970).

discourage competing bids that may result in an expensive bid battle, the first bidder may offer a sufficiently large premium, exposing the bidder to a potential winner's-curse situation.

However, the empirical evidence is not consistent with the under-valuation hypothesis. In examining the returns realised by shareholders of target and acquiring firms in unsuccessful acquisitions in US for the period 1963 - 1980, Bradley et al. (1983) found that there is no significant change in the shareholders wealth of the bidding firms in unsuccessful acquisitions. They also found that the gains obtained by target shareholders in an unsuccessful acquisition may only be retained if there was a probability that the target would be the object of subsequent, ultimately successful acquisitions. This evidence suggests that a control change is a necessary condition for target shareholders to experience permanent share price gains. Thus, Bradley et al. (1983) concluded that gains accrue to the target shareholders in their study relate to potential efficiency gains rather than the revealing of superior information regarding the target firm undervaluation.

The lack of information of the true value of the target is labelled by Grossman and Hart (1981) as an acquisitional bid, which represents a form of market mispricing that is bad to the shareholders and the society at large. Under this situation, the acquiring firm takes over not to improve the target firm's management but because it possesses special information not available to other investors. They note that acquisitional bids simply involve a redistribution of income from the uninformed shareholders to the informed bidder and thus '... shareholders are unable to capture the true benefits of their investment' (Grossman and Hart, 1981, p. 253) which they otherwise would if such information could be identified.

The next section looks at the managerial motive for making acquisitions.

3.4 Managerial Motives

The managerial theory of takeovers or the management wealth maximisation theory predicts that corporate acquisitions are executed by bidding firm managers to maximise their own utility instead of their shareholders wealth (Mueller, 1969). Upon achieving a certain “satisfactory” level of profits, managers will attempt to maximise their wealth through actions which may not correspond to their shareholders interests (Mueller, 1969, Penrose, 1959). Jensen (1986, 1992) argues that managers have incentives to cause their firms to grow, even if it means investing in negative investment projects, especially when the organisation generates substantial free cash flow. Free cash flow is ‘cash flow in excess of that required to fund all projects that have positive net values when discounted at the relevant cost of capital’ (Jensen, 1986, p.321). In the early stages of corporate development managers have ample external growth opportunities acceptance of which are in their own and the shareholders’ best interest. As investment opportunities decline, it will be in the shareholders’ interest to have profits paid out as dividends so that they can be invested elsewhere. However, managers intent on growth maximisation will tend to ignore this alternative and may use free cash flow to finance unprofitable ventures, such as value-reducing acquisitions, rather than pay it out to shareholders in either dividends or share repurchases. Jensen (1986) argues that cash distributions decrease resources under management control and potentially can expose managers to capital market monitoring. Managers’ desire to reduce their personal undiversified risk or increase the scope of their authority may lead them to make investments that are not value increasing for shareholders.

Similar to the argument made by Jensen (1986), Hay and Liu (1998) found that profit rates (gross of depreciation and interest payment but net of tax), as a proxy for cash flow, and valuation ratio (market valuation) are positively related to the

incidence of acquisitions⁴¹. The results indicate that a firm with a forecast rise in its cash flow is more likely to make an acquisition. In addition, debt/asset ratio is negatively related to acquisitions reflecting that debt interest payments absorb cash and leave less at the discretion of the management. Thus, the results support Jensen's (1986) contention that firm with excess cash which are not needed to pay debt interest or dividends are able to make acquisitions.

Free cash flow theory predicts that many acquirers will tend to perform exceptionally well prior to acquisition. In distinguishing between firms that have good investment opportunities and those that do not, Lang et al. (1991) develop a measure of performance using Tobin's q and their results provide support for the free cash flow hypothesis⁴². Firms having a low Tobin's q , which might stand for poor quality of the bidding firm's management, are likely to reduce the bidding firm shareholders return in a takeover, presumably because the share market expects the poor management to be extended to the acquired firm. Part or all of the target's gain may also come from a distribution of wealth from the bidder to the target, resulting in a lower return for the bidders. In their study of successful acquisitions in US for the period 1968-1986, Lang et al. (1991) find that shareholders of poorly managed bidders (low q) taking over well-managed targets lose significantly more than well-managed bidders (high q) taking over poor-managed targets. The losses made by poor-managed bidders suggest that badly managed firms are unlikely to have many opportunities to implement value-increasing changes in the well-managed firms' operations.

⁴¹ Hay and Liu (1998) focused on the determinants of acquisition behaviour of 110 UK manufacturing firms during the period 1971-1989.

⁴² As defined by Tobin and Brainard (1968) and Tobin (1969), the q statistic for a firm is calculated as the ratio of the market value of the outstanding financial claims on the firm to the current replacement cost of the firm's assets. The assets would be better employed elsewhere unless they are used by a firm so as to create at least as much market value as the cost of producing them. Firms with q 's greater than unity are judged as using scarce resources effectively, and those with q 's less than unity as using resources poorly.

In contrast to the findings by Lang et al. (1991), Philippatos and Baird III (1996) provide evidence that better-performing acquiring firms do not appear to have made better acquisitions. In examining 71 US acquisitions completed from 1973 through 1987, Philippatos and Baird (1996) hypothesised that if better-performing firms make better acquisitions, then the post acquisition performance of the combined firms should be positively correlated to the acquiring firms pre acquisition performance⁴³. They found that the change in the combined firms' excess value of sales (EVS) is negatively correlated to the acquiring firms' pre acquisition performance, indicating that better-performing firms made poorer acquisitions, and vice versa. The findings in their study suggest either that well-managed acquiring firms may undertake acquisitions to maximise management wealth or that they may be driven by hubris. Instead of reducing agency problems, acquisitions by better-performing acquiring firms may be a manifestation of the agency problem.

In a recent study, Harford (1999) find evidence that the behaviour of cash-rich firms is consistent with the predictions of the free cash flow hypothesis. Using data from US corporations for the period 1977 to 1994, Harford (1999) found that the likelihood of attempting an acquisition is increasing in the cash-richness of the bidder. Firms are identified as cash-rich if their cash reserves (ratio of cash and short-term investments to sales) deviate by more than 1.5 standard errors from the cash reserves predicted by the cash management model in their sample⁴⁴. The acquisitions made by the cash-rich bidders are value decreasing, as evidenced in the negative

⁴³ Post acquisition performance is defined in terms of the change in the combined firms' excess value. Excess value is the difference between the market value and the book value of the firm, and the change is measured annually from the pre acquisition period through the third year subsequent to acquisition. Pre acquisition performance is measured in terms of excess value and profitability and they are attributed as indices to the quality of managerial performance.

⁴⁴ The model used to establish baseline cash holdings includes market-to-book, cash-flow volatility (coefficient of variation for operating cash flow), future cash-flows net-of-investment outlays, and a recession indicator variable.

share price reaction at the announcement date and the subsequent decline in the post acquisition operating performance of the combined firm following the bid.

Managerial motives for acquisitions include maximising firm size and diversification and these factors are discussed in the next section.

3.4.1 Growth Maximisation

Management self-interests in a bidding firm are likely to include such factors as increasing their remuneration level, power, prestige, and advancement within the organisation and reducing the risk of losing their jobs. These goals may potentially be attained by maximising firm size via acquisitions (Marris, 1963, 1964, and Williamson, 1964). Marris (1964) and Williamson (1964) argue that profit maximisation will be sacrificed if growth is made the explicit objective of the firm's management due to the benefit it brings (power, large remuneration, prestige etc.). Shleifer and Vishny (1990) advocated that managers may undertake acquisitions of firms for the purpose of enabling them to extract higher compensation from their shareholders and increase their job security. Shleifer and Vishny (1990) showed how managers have incentive to invest the firms' resources in manager-specific investment, making themselves valuable to shareholders and costly to replace⁴⁵.

Donaldson (1984) implies that managers have incentives to expand their firms beyond the size that maximises shareholder wealth. In a detailed study of 12 large fortune 500 US firms, Donaldson (1984) concludes that managers of these firms were driven by the maximisation of corporate wealth rather than by maximisation of the

⁴⁵ Managers invest in businesses related to their own background and experience, even when such investments are not value-maximising for the firm.

value of the firm⁴⁶. In addition, managers are likely to maximise growth through acquisitions since managerial compensation is often based on the rate of firm growth in terms of sales and assets (Murphy, 1985). Baumol (1959) postulates that managers maximise revenues to a minimum profit requirement, and Marris (1963) claimed that managers' goal is to financially sustain the growth of assets. Williamson (1986, p.7) advocated a managerial utility function that featured an 'expense preference', that is, management have preference for certain classes of expenditure that result in increases in their own personal welfare, in particular, expansion of staff, expenditures for emoluments and funds available for discretionary investment. One example of such, retention of staff through promotion creates a strong organisational bias toward growth in order to supply the new position that such promotion-based reward systems require (Baker, 1986, and Donaldson, 1984). As suggested by Donaldson (1984), buying a growing firm creates attractive promotion opportunities for junior managers who need not have to compete for the limited top positions. Even if growth of this sort can retain required managerial talent, acquisitions can be value destroying if managers overpay for growing targets just to promote their staff.

Several studies with contradicting results have been carried out to test the growth maximisation hypothesis on conglomerate firms⁴⁷. According to Mueller (1969), acquisitions should only occur when there is a synergistic relationship based on market power, managerial/technological scale of economies or managerial synergy between acquiring and target firms⁴⁸. He stated that neither of these situations is easily accepted or adequately explained the rise in acquisitions between

⁴⁶ Corporate wealth is defined by Donaldson as 'the aggregate purchasing power available to management for strategic purposes during any given planning period... this wealth consists of the stocks and flows of cash and cash equivalents that management can use at its discretion to implement decisions involving the control of goods and services' (Donaldson, 1984, p.3).

⁴⁷ Mueller (1969 p.643) define conglomerates as 'mergers between firms in unrelated or indirectly related industries'.

⁴⁸ Managerial synergy is when the acquiring firm managers posses superior information regarding the potentials of the target firms than other investors.

unrelated firms if the acquired firm is allowed to operate autonomously, that is, the target firm is being operated by the same managers that controlled it prior to acquisition. Later, Mueller (1977) surveyed a large number of studies which relied mainly on the use of accounting data. He finds no net gains to acquiring firms and concludes that growth maximisation rather than shareholder wealth maximisation was the motive for conglomerate acquisitions.

Growth maximisation was also studied by Reid (1968). He analysed 6,174 mergers consummated by 478 Fortune 500 firms during the period 1951- 961. He collected data on measures reflecting the interest of managers (the percentage increase in sales, assets, and employees from year to year) and those reflecting the interest of shareholders (the relative change in share price, earnings to assets, and earnings to sales ratio from year to year). His analysis showed that managerial ratios were significantly higher for merger active firms and that shareholders ratios were significantly lower. The conglomerate firms were also consistently recording larger increases in sales and assets than in the market price of their ordinary shares. The merger active firms were, therefore, more growth-oriented and less favourable performance than the merger inactive firms.

Similar to the measurements employed by Reid (1968) in measuring growth rates, Weston and Mansinghka (1971) studied 500 firms from the Fortune 500 that were involved in 3 or more mergers during the period 1958-1968 and 1960-1968. The firms were divided into three groups, conglomerate, industrial, and non-industrial and non-manufacturing⁴⁹. In contrast to Reid's findings, the profitability of the conglomerate firms in their study was below average in the late 1950's and had

⁴⁹ Weston and Mansinghka (1971, p.921) used two criteria in selecting companies to be included as 'conglomerate': 1) the extent to which growth was achieved from external sources, and 2) the degree of diversification achieved by external mergers and acquisitions.

improved to average levels by 1968. Analysis of these firms showed that arithmetic mean growth in total assets, sales, net income, earnings per share, market price was higher for the conglomerate firms when they were compared to non-conglomerate control samples, demonstrating superior performance with respect to both managerial and shareholders interests. Similarly, Weston et al. (1972) found that conglomerate firms for the period 1960-1969 were successful in improving returns. They conclude that their findings 'support the hypothesis of an economic rationale for well-conceived and efficiently-managed conglomerate firms' (Weston, et al., 1972, p. 362). Other studies on conglomerates are discussed in the next section.

The size maximising hypothesis, as referred to by Malatesta (1983), predicts that if all bidders behave as size maximisers, acquisition prices will be bid to the point where acquisition attempts, on average, are negative net present value investment to the bidding firms. There would normally be overall economic losses whereby any positive gains obtained by the target firm's shareholders would be more than offset by a loss to bidding firm's shareholders. In studying the merging firms in the US for the period 1969-1974, Malatesta (1983) found that acquiring firms suffer significant negative cumulative abnormal dollar returns during the 5 years leading up to and including the approval announcement. He concludes that the evidence conflicts with the predictions of the investment and improved-management hypothesis, but consistent with the size-maximising hypothesis⁵⁰. This evidence is also consistent with Roll's (1986) hypothesis that acquiring firm managers pay too much in bidding for targets (known as 'winner's curse') because they overestimate their own ability to run them, possibly due to excessive pride or hubris⁵¹. Hubris explains why managers

⁵⁰ According to Malatesta (1983), under the investment hypothesis both bidding and target firms are assumed to maximise value. Under improved-management hypothesis, acquiring firms are assumed to be value maximising only if the target firms are assumed to be controlled by inefficient management.

⁵¹ Winner's curse is where the company, whose management has the highest expectations of the profit potential of the target, wins the bidding, but pays more than its profit potential justifies. Hubris is defined by Roll (1986) as the overbearing presumption that the bidders' valuations are right.

make bids even though past experience would suggest that bids represent positive valuation errors.

The size-maximising hypothesis is supported by Firth (1991) who found that senior management appears to gain, not only when shareholders gain from takeovers, but even if acquisitions result in negative abnormal returns to the acquiring firm. The objective of his study is to examine the impact of acquisitions on shareholders and senior managers' remuneration and wealth in UK for the period 1974-1980. By comparing the remuneration of both successful and unsuccessful acquiring firms, Firth (1991) found that for both groups remuneration increases substantially after the takeover, although the change in remuneration was small for the unsuccessful acquiring firm. More than two thirds of the acquiring firms were found in his study to suffer negative abnormal returns around the announcement date. Firth (1991, p.427) concludes that 'the acquisition process leads invariably to an increase in managerial remuneration, and this appears to be predicted on the increased size of the company', consistent with the maximisation of managerial utility.

Dickerson et al. (1997) studied the impact of acquisitions using a large panel of UK quoted companies over the period 1948-1977. They found that acquiring firms earn, on average, returns of 2.4% lower than non acquiring firms⁵². In addition, the mean annual growth rate for internal and acquisition growth is 8.20% and 1.04%, respectively. The results suggest that acquisitions are detrimental to shareholders and that internal growth (through investment) rather than growth by acquisition has a more favourable effect on company profitability. Dickerson et al. (1997) conclude that profit maximisation in UK has been sacrificed by greater growth through acquisitions.

⁵² Dickerson et al. (1997) use rate of return on assets to measure profitability.

3.4.2 Diversification

Another possibility to managerial motives for acquisitions is diversification. Several theoretical arguments suggest that diversification has both value-enhancing and value-reducing effects to shareholders wealth. Acquisitions to diversify firm operations into other product lines or businesses have been justified in the past based on their ability to stabilise the firm's cash flow (Amit and Livnat, 1988). During periods of an economy's booms and slumps, firms in different industries experience different levels of profitability and cash flows. The result of corporate acquisitions in bringing together firms in different industries could stabilise the volatility of the firm's income following the combination of statistically independent or negatively correlated income streams, thus leading to a reduction in risk.

If there are market imperfections and firm diversification is of value to the shareholders, the performance of conglomerate firms involved in diversified acquisition activity should reflect earnings stabilisation. As mentioned in the prior section, the study by Weston and Mansinghka (1971) demonstrated that the performance for the conglomerate firms were higher compared to non-conglomerate control samples, consistent with the successful achievement of defensive diversification by conglomerate firms. Firms were diversifying defensively to avoid sales and profit instability, adverse growth development, adverse competitive shifts, technological obsolescence and increased uncertainty associated with their industries.

However, Levy and Samat (1970, 1990) contested the diversification rationale in the presence of perfect capital market. They argued that in this environment, such risk reduction will not be beneficial to shareholders since they can obtain for themselves all of the benefits associated with diversification by diversifying their

personal portfolios efficiently. Levy and Samat (1990) document that the improved risk-return combination achieved by the acquisition could be achieved by investors without the acquisition. They prove that the optimal proportion of investment after the acquisition is the same as the proportions which were invested in the individual companies prior to acquisition. Under the assumptions of a perfect capital market, it is assumed that there are no transaction or bankruptcy costs, that the borrowing and lending rates which investors and firms face are identical, there are no differential tax rates, and that all investors have homogenous expectations. Thus, investors may not be able to invest the proportions they want in the individual businesses, but are restricted to invest directly in shares of the diversifying firm only. Only in an imperfect capital market is firm diversification of value to shareholders because it will allow them to invest indirectly in securities (via diversification of the firm) which may not otherwise be available to them.

Similarly, Amihud and Lev (1981) supported the view that risk reduction through conglomerate merger will not be beneficial to shareholders. They stated that conglomerate mergers are managerially motivated because risk reduction through diversification is plausible for managers who are striving to decrease their 'employment risk' (risk of losing their job, professional reputation). Using a sample of 309 US firms, classified as owner-controlled or manager-controlled, Amihud and Lev (1981) found that the manager-controlled firms participated in significantly more conglomerate acquisitions than owner-controlled firms during the time period analysed⁵³. As managers own more of the share of their own firms they will more likely to diversify due to their greater need for personal risk reduction. Thus, Amihud and Lev (1981) found that managers' risk reduction actions appear to be the primary

⁵³ In manager-controlled firms, the managers can exercise their own discretion and free to pursue their own preferences since the ownership of the firm is widely dispersed across shareholders. While in owner-controlled firms where the ownership is concentrated, shareholders are actively participating in the managerial process.

motive for the conglomerate types of acquisitions. By contrast, Lewellen et al. (1989) found no evidence that managers make acquisitions to reduce firm risk as a means to control managers' personal wealth risk. In examining 203 acquisitions during the period 1963 to 1984, Lewellen et al. (1989) found that acquisition related changes in firm risk, as reflected in changes in the variability of the acquiring firm's share returns, increased subsequent to acquisitions⁵⁴. They also found the risk reducing acquisitions that do occur in their sample were not detrimental on shareholder wealth.

Denis et al. (1997) examine the value of diversification on 933 US firms selected in 1984. They found that the value of the multiple-segment firms is significantly negative, and below those of equivalent single-segment firms⁵⁵. In contrast to the findings of Amihud and Lev (1981), Denis et al. (1997) observe that the level of diversification is negatively related to managerial share ownership. The finding is consistent with the predictions of the agency cost hypothesis, that, if diversification reduces shareholder wealth, there will be a negative relation between the level of diversification and managerial share ownership. However, beyond the 50 percent level of ownership, Denis et al.'s (1997) results are consistent with those of Amihud and Lev (1981) that as managerial ownership increases, the level of diversification will increase. The latter result is termed as 'diversification-control' hypothesis by Hubbard and Palia (1995). Under this hypothesis, managers with low level of share ownership obtain perquisite consumption (similar to those mentioned by Jensen and Meckling, 1976), and may indulge in non-value maximising activities. As the managerial ownership increases, the managers' interest become more aligned with the shareholder interests, resulting in higher returns to shareholders. At sufficiently higher levels of managerial ownership, managers earn the private benefits

⁵⁴ Acquisition-related changes in firm risk are measured by computing two ratios. The first is ratio of the estimated after- and before-acquisition total variance of share return. The second is the ratio of the estimated residual variances of share return after acquisition to the estimated residual variances before.

⁵⁵ Sixty percent of the firms in the study report more than one business segment.

of control and may then increase the level of diversification. In examining 172 acquisitions between 1985–1991, Hubbard and Palia (1995) find that acquiring firms with ownership levels greater than 5% performed diversifying acquisitions, supporting the diversification-control hypothesis.

Shleifer and Vishny (1990) advocate that when poor performance of the firm threatens a manager's job, he has an incentive to pursue unrelated diversification at which he might be better. Thus, diversification helps make the manager indispensable to the firm. As a result, managers may maintain a diversification strategy even if doing so reduces shareholder wealth. In a sample of 326 US acquisitions between 1975 and 1987, Morck et al. (1990) found that the acquiring firms in unrelated acquisitions (diversification) experience systematically lower and predominantly negative announcement period returns. By contrast, the returns to related acquisitions have risen, but not significantly, over the same period. In fact, Morck et al. (1990) demonstrated that firms with bad managers do much worse in making conglomerate acquisitions than firms with good managers⁵⁶.

Evidence by Lang and Stulz (1994), Berger and Ofek (1995), Servaes (1996), Denis et al. (1997) and Gregory (1997) document significant value losses associated with corporate diversification strategies. In complement to the findings by Bhagat, Shleifer and Vishny (1990) and Berger and Ofek (1995), Denis et al. (1997) also find that divestitures are common following acquisitions of diversified firms⁵⁷. They find that decreases in diversification are associated with pressures from corporate control events. That is, the value loss from diversification is positively related to the probability of a future takeover of the firm. Approximately 19 percent of the firms with

⁵⁶ Morck, Shleifer and Vishny (1990) identified bad managers based on two measures, one on past share price performance, and the other on income.

⁵⁷ Divestiture is the sale of a segment of a company (assets, a product line, or a subsidiary) to a third party for cash and/or securities.

decreases in diversification are the targets of an acquisition attempt in the year prior to the change in focus³⁸. Thus, the agency problem responsible for firms undertaking value-reducing diversification can also be reduced by the market for corporate control, as posited by Jensen and Ruback (1983).

Lang and Stulz (1994) document that diversified firms have lower market values compared to less diversified firms. Berger and Ofek (1995) provided evidence that the value loss for diversified firms during the period 1986-91 was due to over investment and cross-subsidisation that allow poor segments to drain resources from better performing segments. Studies by Lamont (1997) and Shin and Stulz (1998) have also shown strong support for cross-subsidisation of investment between different divisions within the same company. In examining how different parts of the same firm reacted to the 1986 oil price decline, Lamont (1997) found evidence that corporate segments are interdependent and that internal capital markets allocated capital within firms. The finding of over investment is consistent with the argument made on agency problem by Jensen (1986) and Montgomery (1994) that managers in a diversified firm with unused borrowing power and large free cash flow are more likely to invest in negative net present value projects.

However, Morck et al. (1990) found that diversification reduces acquiring firms' shareholders wealth in 1980s but not in 1970s. They indicated that one of the reasons for the positive returns in 1970s might be the result of imperfect capital markets. These internal capital market arguments predict that diversified companies make more positive net present value investments than their segments would make as separate firms. Ghemawat and Khanna (1998) also suggested a number of

³⁸ In contrast, only 6.6 percent of the firms with an increase in diversification and 8.5 percent of the firms with no change in diversification are acquisition targets.

potential benefits of operating different lines of business within one firm. Among them are greater operating efficiency by sharing common resources across businesses that are closely related to each other and potential benefits of internal capital market. Internal capital markets play a vital role in allocating capital when external markets are imperfect. Diversified entities create value by operating internal capital markets that circumvent some of the informational problems (agency costs) associated with securing external financing as noted by Alchian (1969) and Williamson (1975). As a result of greater and cheaper information from internal capital market, firms can reallocate resources across projects more efficiently.

Matsusaka (1993), Hubbard and Palia (1999) and Khanna and Palepu (1999) provided evidence that acquiring firms earned positive returns in diversifying acquisitions. Hubbard and Palia (1999) attribute the positive abnormal returns earned by 392 US diversifying acquisitions in 1960s to the benefits of internal capital market in the absence of well developed external capital markets. Hubbard and Palia (1999) argued that external capital markets were less developed in terms of company-specific information, such as financing and budgeting expertise, in the 1960s relative to the current period. As a result of internal capital market, diversified entities may be able to improve the financial processes of generating and allocating financial resources relative to the alternative of standalone businesses. The importance of internal capital markets in diversified firms in India was also suggested by Khanna and Palepu (1999)⁵⁹.

⁵⁹ However, Khanna and Palepu (1999) did not find evidence that the quadratic dependence of firm profitability on group diversification was due to reallocation of finance through internal capital markets.

3.5 Summary

There is no general or unifying theory on the motives for corporate acquisitions and that there may be many motives. However, the two broad theories that can be regarded as the main causes of corporate acquisitions are those based on managerial motives or shareholder wealth maximisation. Agency problems arise because managers and owners (i.e. shareholders) have potentially contradictory goals. The shareholder's wealth maximisation theory requires that corporate acquisitions lead to an increase in shareholders' value, that is, maximisation of the net present value of future cash flows. This will be reflected in the increased operating cash flow, from efficiency gains through operating at economies, adoption of more efficient production or organisational technology, increased utilisation of the bidder's management team, or an attempt by the bidder to eliminate the target's inefficient management. Financial motivations for acquisitions include the use of avoidance of bankruptcy costs, increased leverage, and decreasing cost of capital.

Acquisitions are hypothesised to act as a disciplinary mechanism on the management of poorly performing firms. Among studies that provide evidence supporting the hypothesis are Palepu (1986), Lang et al. (1991), Kennedy and Limmack (1996), and Mikkelsen and Partch (1997). Palepu (1986) identify that poor share performance prior to the bid increases the probability of targets being taken over. Lang et al. (1991), Servaes (1991) and Barber et al. (1995) found that the combined firm returns are higher when a firm with good management (higher returns) acquire target with bad management (lower returns). However, Holl and Pickering (1988), Taffler and Holl (1991) and Philippatos and Baird III (1996) find that acquiring firms are not financially stronger than the target firms they are bidding for, and that acquisitions do not bring about improved financial performance to the merged firms. Clark and Ofek (1994) also provide evidence that acquiring firms are not successful in

restructuring distressed targets. Similarly, accounting-based studies in UK by Singh (1975), Meeks (1977), and Cowling et al. (1980) show that target companies are characterised by small size rather than low profits, indicating the weakness in takeover mechanism in trying to discipline unprofitable firms. Kennedy and Limmack (1996) found a significant increase in CEO turnover after acquisition. By contrast, Matsusaka (1993) and Hubbard and Palia (1999) found that acquiring firms that had retained target management earned positive abnormal returns after acquisition, indicating that disciplinary mechanism is not the main reason for obtaining post acquisition high returns.

Conversely, managerial theories claim that managers pursue their own goals: growth, empire-building, power, prestige, and so on at the expense of their companies' shareholders. Another motive that managers pursue is to diversify the risk that attaches to their own human capital. Empirical studies by Donaldson (1984) and Shleifer and Vishny (1990) have shown that managers may undertake acquisitions of firms to extract higher compensation from their shareholders and increase their job security. Managers make themselves indispensable by acquiring assets that complement their own special skills. Alternatively, Amihud and Lev (1981) documented that if managers think they are already over invested in the company where their major asset, their human capital, that is their reputation is at risk, thus the only way to diversify this risk is to diversify the firm, often detrimental to shareholders. Unlike shareholder wealth maximisation theory that requires a takeover to lead to an increased in profitability for the combining firms, the more likely criteria according to managerial theory are an increase in size and related increases in managers' benefit. Contrary to studies by Weston and Mansinghka (1971), and Weston et al. (1972) who found that conglomerate firms demonstrated higher performance as compared to non-conglomerates, studies by Mueller (1977) and Reid (1968) found that growth maximisation rather than shareholder wealth maximisation was the motive for

conglomerate firms. Similarly, Malatesta (1983) and Firth (1991) found that acquiring firms suffer significant negative returns, consistent with the size-maximising hypothesis. Other studies by Berger and Ofek (1995), Servaes (1996), Denis et al. (1997), Dickerson et al. (1997) and Gregory (1997) report significant value losses associated with corporate diversification strategies. However, Morck et al. (1990), Matsusaka (1993), Hubbard and Palia (1999), Khanna and Palepu (1999) provide positive returns in diversifying acquisitions. They contributed the positive abnormal returns earned by diversifying acquisitions on 1960s and 1970s to internal capital market in the absence of well developed capital market.

An acquisition is said to be in the interest of shareholders if it leads to an increase in the wealth for the shareholders of the target firms while bidding shareholders do not lose. The next chapter examines the alternative approaches to obtaining empirical evidence on this proposition.

Chapter 4

Review of Empirical Analysis on Acquisitions

- Market-Based Evidence-

4.1 Chapter Description

The current chapter centres on a discussion of one of the methods for evaluating the impact of corporate acquisitions on shareholder wealth, namely market-based studies. The first section of this chapter focuses on market-based evidence with special attention drawn to the pre bid performance. This section considers potential disciplinary aspects of takeovers. The second section examines the post acquisition performance based on share market data to discover whether acquisitions lead to wealth creation for the shareholders. The source of shareholder wealth creation is in the enhancement of post acquisition performance.

4.2 Measuring Shareholders Wealth

As mentioned in Chapter 3, the fundamental objective of the business corporation is to increase the value of its shareholders' wealth. However, the problem faced by researchers is finding a method for evaluating the effect of corporate acquisition on shareholder wealth. There are two research approaches normally employed in addressing this question. One approach is to employ share price data to establish the distribution of gains and losses to shareholders. The other approach is to focus on the profitability of companies involved, using accounting and cash flow data. Both measures are expected to reflect post acquisition cash flows, thus it might be assumed that they would lead to consistent results on assessing the same sample of acquisitions. However, previous results on studies which have used both measures suggest otherwise. While a review of the literature based on the approach of

measuring changes in profitability using accounting data will be discussed in chapter 5, a review of literature on the approach using security returns is discussed in the following sections.

4.3 Market-Based Evidence

As mentioned in the previous chapter, if management pursues policies of shareholder wealth maximisation, an acquisition might lead to an increase in wealth for the shareholders of the bidding firm. However, a well-functioning competitive acquisition market should help to ensure that the market value of target firms will be bid up to the 'correct' levels, that is, to the point where market values and economic values coincide, at which point the acquiring firm obtains no excess rate of return (Mandelker, 1974). Therefore, if there does exist a perfectly competitive market for corporate control, and if the bidders in that market behave in an economically rational manner, it would be expected that, in general, takeover attempts will produce wealth gains for the shareholders of the target firms while the bidding firm shareholders will neither gain nor lose.

The common methodology employed to assess the wealth effect of acquisition activity is the event study approach that analyses the unexpected/or abnormal share price returns of relevant companies around event-specific time periods. In such an approach an attempt is made to estimate the difference between actual shareholder returns around the bid and the returns that would have been received in the absence of the bid. This difference, generally referred to as the abnormal return or prediction error, is taken as a measure of wealth creation, that is, the value-enhancing effect of the bid. Thus, its validity crucially relies upon two important assumptions: the first on stock market efficiency in evaluating the impact of the event, and second, the applicability of the selected benchmark from which to identify expected returns. The

capital market is assumed to be efficient in reflecting publicly available information in share prices (Fama, 1970). It is assumed that share prices reflect expected future cash flow streams, and that any revisions to these are expected to bring about a change in share prices, for example when an acquisition is announced. These revisions are assumed to be unbiasedly reflected in share prices. This means that, the market makes the 'best' estimate based on the information available around the time of the particular event, that is the takeover, to ensure that there should be no systematic under or overpricing of the benefits/costs of the combination. Thus, assuming an efficient market, examining share price changes of both the acquiring and the target firms around the time of the event will summarise the expected long term impact of the acquisition upon company performance. That is, a change in share prices as a result of acquisition should indicate the market's expectation of the economic impact of the acquisition on future cash flows.

The second assumption underlying market price-based studies is associated with the measurement of the 'abnormal' price change. This residual or abnormal return (r) for each firm (j) and for each time period (t) is the difference between its predicted 'normal' price return and its actual return (capital gains plus reinvested dividends), written as:

$$r_{jt} = R_{jt} - E(R_{jt})$$

where

r_{jt} = abnormal return

R_{jt} = actual return

$E(R_{jt})$ = expected return

$$\text{Actual Return} = \left[\frac{P_t + D_t - P_{t-1}}{P_{t-1}} \right] \times 100\%$$

where

P_t = is the security price in month t

D_t = dividends in month t

R_j is the actual return measured during the event period and $E(R_j)$ is the benchmark return expected in the absence of that event. Measuring R requires the calculation of share price changes and dividends paid during the event period. In order to take account of the influence of marketwide events on the returns of individual securities, the expected or 'normal' return may be predicted by a variety of models. The assumption is that these models provide unbiased predictor of this expected return. The difference between predicted and actual return will be due to specific events, both random events and the particular event under examination. Given sufficiently large sample sizes the impact of random events are assumed to be zero. The remaining unexplained abnormal performance could be attributed to the effect of a specific common event, that is, in this case, an acquisition bid.

The models normally used in measuring the expected returns are:

(i) ***Capital Asset Pricing Model***

The model, originally developed by Sharpe (1964), provides a measure of the risk of an individual security. It is usually written as:

$$R_i = R_f + \beta_i(R_m - R_f)$$

where

R_i = the expected or ex ante return on the risky asset

R_f = the rate of return on a risk-free asset

R_m = the expected return on the market portfolio

β_i = the systematic risk of the individual asset or firm

The CAPM argues that the intercept is the risk-free rate, or the rate of return on the minimum variance zero-beta portfolio, both of which may change over time.

(ii) **Market Model**

The 'market model' measures a relationship between an individual share's return and the return on the market. This technique, introduced by Fama, Fisher, Jensen and Roll (1969) is generated as follows:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$$

where

R_{it} = rate of return on firm i , period t

R_{mt} = rate of return on market index, period t

β_i = measures the sensitivity of firm i to the market,

α_i = is a constant

ε_{it} = residual return with expected mean of zero

R_{it} is the return during t (a day or a month) on company i 's share and R_{mt} is the share market index such as the UK's Financial Times All-Share Index, the American S & P Index or the Malaysian KLSE Share Index, proxying for the market. The model argues that the return on firm i (i.e. R_{it}) is linearly related to the returns on a market portfolio (i.e. R_{mt}), where α and β are assumed constant over time. The parameters α and β are estimated by running a regression of R_{it} on R_{mt} over an appropriate estimation period. The estimated parameters are used to calculate normal return and the abnormal return to security i for period t is:

$$AR_{it} = R_{it} - \alpha_i - \beta_i R_{mt}$$

AR will be positive if the acquisition event is expected to create additional value for the shareholders of i , otherwise it will be zero if the acquisition is neutral. Fama et al. (1969) actually used a logarithm transformation of the model in determining when new information (share splits) is anticipated by the share market and reflected on average in the prices of the shares:

$$\log_e R_{it} = \alpha_i + \beta_i \log_e R_{mt} + \varepsilon_{it}$$

The log of the market index relative ($\log_e R_{mt}$) in the above is the rate of return on a portfolio of all securities in the market, and the log of the security price relative ($\log_e R_{it}$) is the rate of return on an individual security. It is the most widely used method since the market model takes explicit account of both risk associated with the market and mean return.

(iii) ***Index Model (Market Adjusted Return)***

This model can be thought of as an approximation to the market model where $\alpha = 0$ and $\beta = 1$ for all firms. The predicted return for a firm for a time interval in the event period is just the return on the market index R_m for that time interval and does not adjust for risk, i.e.:

$$R_{it} = R_{mt}$$

(iv) ***Mean Adjusted Return Method***

In the mean adjusted return method, average returns are calculated over a period not affected by the event period. This period may be before the event period, after the event period, or both, but never includes the event period. The predicted return is simply the average return for the unaffected period for the firm:

$$R_{it} = R_i$$

(v) ***Other Models***

Other models may include adjustment for specific characteristics, for example an industry variable and size variable. For instance, Franks et al. (1977) have added

an industry variable to the right side of the market model used in their study in order for the results in their study of firms in the Breweries and Distilleries sector, in order to control for the specific industry effect.

$$\log_e R_{it} = \alpha_i + \beta_i \log_e R_{mt} + \gamma_i \log_e R_{it} + \varepsilon_{it}$$

Other studies that consider size effects as one of the variables include those of Franks et al. (1991), Agrawal et al. (1992), Kennedy and Limmack (1996) and Gregory (1997).

The lack of consensus on the most appropriate benchmark control makes it difficult to compare results across studies and also introduces an element of uncertainty about the validity of this approach. Potential areas of sample and control benchmark bias, include survivorship and the aggregation of non-normal returns distribution (Barber and Lyons, 1997 and Kothari and Warner, 1997).

One additional problem that is not easily resolved in measuring shareholders wealth is identifying the base date from which to measure the effect of an acquisition on shareholder returns, i.e. the event 'window'. The base date should be the latest share price recording prior to any discounting of the impact of takeover. Jensen and Ruback (1983) argue that one of the measurements relates to the identification of the timing of acquisition news. It would be relatively easy to measure the impact if all of the relevant information regarding an acquisition were to become public on the announcement date. The market could be assumed to adjust fully to the new information on that day, thus the announcement date can be used to define the event window. However, news of a potential acquisition is known to leak much earlier than the official announcement date. Thus, the expected wealth effects to the shareholders of target and bidding firms will be reflected by changes in the share prices of the respective firms around the announcement date only if it is assumed that investors do

not anticipate the event prior to the announcement period. Most studies have analysed abnormal returns from the time of the first public announcement of an acquisition but there are studies that have also used the completion date of an acquisition as the event date. For instance, Langetieg (1978) use the effective date of acquisition, that is, the date of final approval of the acquisition, as the event date, thus ignoring any prior share market response. Dodd and Ruback (1977), Schipper and Thompson (1983), Malatesta (1983), and et al. (1988) use the first public announcement of the acquisition as the event date, ignoring any leakage of information before that date. Dodd (1980) look at the period from the announcement date until the shareholders' vote, thus does not capture the entire market reaction. Asquith (1983) examines possible changes in value of the shareholders wealth from the press date (the date when the financial press first reports an acquisition bid) until the outcome date (the date the financial press reports the conclusion of an acquisition bid). Asquith argues that other studies examine partially anticipated events.

Similarly, Jayaraman et al. (1991) argue that if the event is partially anticipated, the abnormal returns around the outcome announcement period measure only the effect of the resolution of the uncertainty regarding the exact timing of the announcement, the amount offered, the identity of the acquiring firm, and the number of bidders involved in the offer. Thus, when an event is partially anticipated, hypothesis about the economic impact of the acquisition may not be tested reliably by examining the announcement date alone. There are also others who might argue that the success or failure of an acquisition can only be judged in the period after the transaction. Analysis of security returns over longer periods after bid completion suggests a lack of confidence in the efficiency of the market reaction around the time of the bid (Ruback, 1988). It also raises questions about the suitability of share market-based measures of performance. Empirical work on both the *pre* and *post* will be discussed in the following sections.

4.4 Pre Bid and Bid Period Performance

An overview of previous empirical work of pre bid and bid period acquisition performance on 'event' studies is summarised in Table 4.1 parts (a), (b) and (c).

Table 4.1 (a)

Pre bid and bid period performance from acquisitions reported 'event' studies in US

<i>Author, Years Covered and Country Examined</i>	<i>Model Used and Sample Size</i>	<i>Summary of Results On Successful Acquisitions</i>
Dodd and Ruback (1977) 1958 - 1978 US	Capital Asset Pricing Model (CAPM) uses monthly data 386 successful and unsuccessful tender offers	Acquiring firms experience significantly positive returns of 2.83% in the month of announcement. Acquired firms obtain significant positive returns of 20.6% in the same period
Langetieg (1978) 1929 - 62 US	Market Model & Industry Index uses monthly data 149 mergers	Acquiring firms experience insignificant losses of -1.61% over the time interval (-6, -1) months before the acquisition. Acquired firms experience significantly positive gains of 10.7% over the same period.
Dodd (1980) 1970 - 77 US	Market Model uses daily data 151 successful and unsuccessful mergers	Acquiring firms experience small, but significant negative abnormal returns of -1.09% at the date of announcement, and -7.22% from 10 days before the first announcement through 10 days after approval date. Acquired firms obtained abnormal returns of 13.41% at the date of announcement and 33.96% from 10 days before the first announcement through 10 days after approval date.

Author, Years Covered and Country Examined	Model Used and Sample Size	Summary of Results On Successful Acquisitions
Asquith (1983) 1962 - 76 US	Control Portfolios (similar to Market-Adjusted Returns) uses daily data 407 successful and 178 unsuccessful mergers	Acquiring firms experience no share price change while acquired firms obtained significantly positive returns of 15.5% from announcement date to outcome date.
Malatesta (1983) 1969 - 74 US	CAPM uses monthly data 256 Acquiring and 85 acquired successful mergers	Acquiring firms earn negative average dollar return of -27.65 million dollars while acquired firms earn positive dollar returns of 19.67 million dollars over the interval -4 to 0 measured from the first announcement date.
Eckbo (1983) 1963 - 78 US	Market Model uses daily data 102 acquiring and 57 acquired mergers	Acquiring firms experience insignificant gains of 1.58% twenty days before through ten days after the public announcement. Acquired firms obtain significant positive returns of 14.08% over the same period.
Asquith, Bruner and Mullins (1983) 1963 - 79 US	Control Portfolios (similar to market adjusted returns) uses daily data 156 mergers	Acquiring and acquired firms gain significantly 3.48% and 20.5%, respectively, twenty days before the announcement days leading to the announcement day.
Schipper and Thompson (1983) 1960 - 67 US	Market Model uses monthly data 55 acquisition programs	Acquiring firms experience positive abnormal returns of about 13% in the twelve months up to and including the acquisition program.
Dennis and McConnell (1986) 1962 - 80 US	Simple Market Index (or Market-Adjusted Returns) Use daily data 132 mergers	Acquiring and acquired firms obtain statistically significant gains around the date of acquisition announcement.

Author, Years Covered and Country Examined	Model Used and Sample Size	Summary of Results On Successful Acquisitions
Bradley, Desai and Kim (1988) 1963 - 84 US	Market Model Uses daily data 236 successful tender offers	Acquiring firms experience insignificant positive returns of 0.79% from five trading days before the announcement of the first offer made through five trading days after the announcement of the ultimately successful bid. Acquired firms obtain significantly positive return of 28.07% over the corresponding period
Magenheim and Mueller (1988) 1976 - 81 US	Market Model Uses monthly data 78 merger firms	Acquiring firms earn significant positive returns of 18.4% over the time interval of (-24, -4) months preceding the event.
Jarrell and Poulsen (1989) 1963 - 1986 US	Market Model Uses daily data 450 tender offers	Acquiring firms earn significant positive returns of 1.29% from 20 days before to 10 days after the bid. Acquired firms obtain significant positive returns of 28.99% over the same period.
Lahey and Conn (1990) 1960 - 1979 US	Market Model Mean Adjusted Model Uses monthly data 91 acquisitions	Acquiring firms earn significant negative returns of -4.5% (market model) and -3.11% (mean adjusted return) by the month of completion.
Hubbard and Palia (1995) 1985 - 1991 US	Market Model Uses daily data 354 mergers	Acquiring firms earn significant cumulative abnormal returns of -0.45% from 4 days before the announcement of the acquisition to 4 days after the announcement date [-4, +4].
Harford (1995) 1977-1993 US	Market Model Uses daily data 487 Acquiring firms	Acquiring firms earn significant cumulative abnormal returns of -0.6% for days -5 to +1 relative to the announcement date.

Author, Years Covered and Country Examined	Model Used and Sample Size	Summary of Results On Successful Acquisitions
Hubbard and Palia (1999) 1961 – 1970 US	Value-weighted Market Index Uses daily data 392 Acquiring firms	Acquiring firms in related acquisitions earn significant positive returns of 1.625 for days –5 before the announcement date to 5 days after the announcement date.

Table 4.1 (b)

Pre bid and bid period performance from acquisitions reported 'event' studies in UK

Author, Years Covered and Country Examined	Model Used and Sample Size	Summary of Results On Successful Acquisitions
Franks, Broyles and Hecht (1977) 1955 - 72 UK	Two factor Model with the addition of an industry index Uses monthly data 70 takeovers in Breweries and Distilleries sector	Acquired firms experience positive abnormal returns averaging 26% over the time interval of (-4, +1) months. Acquiring firms obtain small positive abnormal returns during the same period.
Firth (1979) 1972 - 74 UK	Market Model Using monthly data 224 successful bids	Acquiring firms experience significant negative returns of -1.4% (offering cash consideration) and gain of 2.8% (equity consideration) on the announcement of the takeover. Acquired firms experience positive gains of around 32.9% over the twelve month period up to and including the bid announcement month.
Firth (1980) 1969 - 75 UK	Market Model Using monthly data 486 Acquiring firms 563 Acquired firms	Acquiring firms experience significant negative abnormal returns of -0.30% during the interval (-12, -2) month, and -6.3% in month 0. Acquired firms experience significant abnormal gains of 21.0% over the period (-12, -2) month, and 28.1% in the month 0.

Author, Years Covered and Country Examined	Model Used and Sample Size	Summary of Results On Successful Acquisitions
Barnes (1984) June 1974 - February 1976 UK	Market Model Uses monthly data 39 takeovers	Acquiring firms earn insignificant loss of -0.73% in the month of announcement.
Dodds and Quek (1985) 1974 - 1976 UK	Market Model monthly data 70 takeovers	Acquiring firms earn insignificant negative returns of -0.02% in month of announcement.
Franks and Harris (1989) 1955 - 85 UK	Simple Market Index (or Market Adjusted Returns) Uses monthly data 1,800 takeovers	Acquiring firms obtain significant gains of 2.4% (value-weighted basis) and 7.9% (equal-weighted basis) over the six-month period (-4, +1). Acquired firms experience significant positive total abnormal returns of about 25.8% (value weighting) and 29.7% (equal weighting) over the same period.
Limmack (1991) 1977 - 86 UK	Market-Adjusted Return (or Index Model), Market Model, and Adjusted Beta Model Using daily and monthly share price data 448 Acquiring 462 Acquired	Acquiring firms experience insignificant abnormal losses of -0.20% over the period from bid month to bid outcome using Adjusted Beta Model. Acquired firms obtain an average return of over 30% whether measured on an equally weighted or a value weighted basis over the same period.
Kennedy and Limmack (1996) 1980 - 89 UK	Market Adjusted Index Uses monthly data 247 Acquiring 345 Acquired	Acquiring firms experience significant gains of 4.42% and 14.77% over the interval [-60, -49] and [-24, -13] prior to the bid month, respectively. Acquired firms experience significant negative returns of -2.80% and -6.93% over the same period prior to the bid month.

Author, Years Covered and Country Examined	Model Used and Sample Size	Summary of Results On Successful Acquisitions
Sudarsanam, Holl and Salami (1996) 1980 - 1990 UK	Market Model Uses daily data 429 completed acquisitions	Acquiring firms obtain insignificant gains of 0.55% over the interval (-20, -1) days, but suffer a significant loss of -1.26% on announcement day (day 0). Acquired firms experience significant gains of 9.98%, and 13.96% respectively over the same period.
Holl and Kyriazis (1997) 1979 – 1989 UK	Market Model Uses daily data 178 takeovers	Acquiring firms broke even over the period 2 months prior to the bid, significant loss of 1.7% for the bid month and for each of the following 2 months. Acquired firms earn 3.1% in the month prior to the bid and 21.6% during the bid month.
Baker and Limmack (1999) 1977 – 1989 UK	Market adjusted (Index) Model Size-adjusted returns Market Model Uses monthly data 601 acquisitions	Acquiring firms earn significant positive returns in the pre bid periods (-24 to -13 and -12 to -1) regardless of the control model used. However, the results vary slightly across models during the bid month with 1 model reporting significant positive returns, another showing significant negative returns and the remaining models reporting insignificant returns.

Table 4.1 (c)

Pre bid and bid period performance from acquisitions reported 'event' studies in Malaysia

Author, Years Covered and Country Examined	Model Used and Sample Size	Summary of Results On Successful Acquisitions
Mat Nor, Fauzias (1993) Jan 1977–Dec 1989 Malaysia	Market Model Uses daily data 293 quoted acquiring	Acquiring firms obtain a significant positive abnormal return of 10.39% over the interval [-180, 0] days, and significant negative returns of -7.71% during the period [+1, +200] days after the announcement date

Author, Years Covered and Country Examined	Model Used and Sample Size	Summary of Results On Successful Acquisitions
Mohammad, Hayati (1993) 1980 – 1990 Malaysia	Market Model Uses daily data 47 quoted acquiring 6 quoted targets	<p>Acquiring firms earn insignificant positive returns of 12.39% during the period [-60,-2] days prior to announcement. The cumulative abnormal return decline from day -6 to day +58 after the announcement date.</p> <p>Acquired firms earn insignificant positive returns of 9.11% over the interval [-60, -2] days before the announcement date and insignificant negative returns on day 0. The cumulative abnormal returns insignificantly decline from announcement date to day +60 after announcement date.</p>
Md Isa, Mansor (1994) 1984 – 1989 Malaysia	Market Model Uses daily data 119 quoted acquiring 38 quoted targets	<p>Acquiring firms experience significant gain of 6.31% during the period [-50, -1] days and significant loss of -3.82% over the period [+1, +50] after the announcement date.</p> <p>Target firms earn significant gains of 10.88% during the interval [-50, -1] days and insignificant gain of 0.17% over the period [+1, +50] days after the announcement date.</p>

In measuring the pre acquisition performance to shareholders, two specific periods are of particular importance: period prior to acquisitions (the pre bid period) and the bid period.

4.4.1 Pre Bid Period

Excess returns during the period prior to announcement has been measured over periods as far as five years before acquisition to identify whether bids are made by companies with good performance for companies with poor performance. Empirical work has suggested that acquiring firms may have positive share price

performance but the acquired firms may suffer poor returns in this period, indicating that acquisitions are undertaken by the more efficient companies. This evidence supports the view that the takeover mechanism (as discussed in the previous chapter) acts as a disciplinary mechanism on inefficiently performing companies and that acquiring companies undertake acquisitions after an extended period of superior performance. It is thus consistent with the hypothesis that takeovers involve a redeployment of capital to the more profitable firms. Examples of US studies which have supported this view include those by Langetieg (1978), Asquith (1983) and Schipper and Thompson (1983). Langetieg (1978) reports that target firms have significantly negative returns over the time interval (-72, -19) months while the returns to the acquiring firms are found to be significantly positive over the same period. The pre acquisition positive abnormal performance by the acquiring firm was suggested by Langetieg (1978) as a desire for firms to expand through acquisitions. However, Langetieg (1978) does not attribute the negative returns of target firms as an indication of an inefficient management in the acquired firm since a non-acquisition control firm also earns negative returns over the same time interval. Asquith (1983) shows that target firm's residuals decline on average while bidding firm's residuals increase on average prior to the announcement date for the period (-480, -20) days, consistent with the idea that acquisitions transfer resources from inefficient to efficient firms.

Malatesta (1983), on the other hand, does not support the hypothesis that takeovers act as a mechanism for efficient resource allocation. The cumulative average abnormal dollar return over the 61 months ending with the announcement is -111.17 million dollars for the acquiring firms and -9.42 million dollars for the target firms. He concludes that his results tend to support the size-maximising hypothesis since the acquiring firms earn negative returns several years prior to acquisition.

Concentrating on conglomerate acquirers engaging in a series of acquisitions during the late 1950s and 1960s, Schipper and Thompson (1983) find that firms announcing acquisition programs experience positive abnormal returns beginning about 30 months before the announcements of the program with the last 12 months the most significant. The cumulative average residual from month -24 through to the announcement of an acquisition program is over 20%, where 21 of the 30 firms represented in the event time analysis had positive returns during this period. Similar to the suggestions made by Langetieg (1978), the positive abnormal performance of the acquiring firms prior to announcements might have given a firm the desire to expand. In examining a sample of 78 US acquiring firms for the period 1976 to 1981, Magenheim and Mueller (1988) find significant positive gains being earned in the two years prior to the announcement month. Over the time interval of [-24, -4] months preceding the event, acquiring firms earn significant positive returns of 18.4% in excess of the expected returns based on their performance over the period [-60, -25] months. The result obtained is consistent with other studies which indicate that managers of acquiring firms may undertake acquisition when their own firm is doing relatively well.

In the UK, Kennedy and Limmack (1996) provide evidence that target companies earn significant negative returns in years two (-24, -13) and years five (-60, -49) prior to the bid. Acquiring firms obtained significant positive excess returns for the whole period commencing 60 months before the bid month, consistent with the hypothesis that companies undertake acquisitions during period of relatively good performance and that the takeover acts as a disciplinary mechanism on inefficiently performing targets. The latter result contrasts with those by Firth (1979,1980) and Franks et al. (1977) who find no significant abnormal security price behaviour associated with the acquiring firms prior to the bid announcement. Firth (1979) also shows that 58% of acquired firms earn slightly negative returns of -1.5% in the 36-

month period ending 12 months before the bid while Franks et al. (1977) report that targets earn negative returns of -10.0% relative to the industry index between months -40 and -15 from the announcement date. The results are consistent with the view that acquired firms had poor performance prior to acquisition. However, the latter results contrast with that of Firth (1980) who finds no evidence that acquired firms being those that have suffered significantly poor performance in the four years prior to the bid.

Franks and Harris (1989) investigate shareholder wealth effects of UK takeovers in the period 1955-1985. Although they did not report their pre bid results, Franks and Harris (1989) commented on the pre bid market model alpha values used in their study. Over the 60-month period beginning at $t = -71$ prior to the bid, the average bidder alpha is approximately 0.95 per month which indicates that bidding firms had good performance prior to acquisition. In examining the distribution of returns to shareholders of UK companies during the period 1977-1986, Limmack (1991) also found significant positive returns to bidders in the months prior to the formal announcement of the bid. The mean alpha values for all bidder companies in the sample was found to be 0.6. The positive pre bid abnormal return to bidders support the hypothesis that companies undertake acquisitions during period of good performance.

4.4.2 Bid Period

The bid period is examined to identify how the share market responds to an acquisition in progress. It also provides an insight into the share market's ability to react efficiently to changes in probability. As mentioned earlier, the expected wealth effects to the shareholders of target and acquiring firms will be reflected in the share prices of the respective firms at the announcement date if the outcome of the

acquisition bid is known at the time of the announcement. According to Asquith (1983) the change at the announcement date only contains an evaluation of the probability of the acquisition if the outcome is uncertain. As new information becomes available, subsequent changes in returns will occur between the announcement date and outcome date. The size and direction of these changes reflect how much uncertainty is present at the announcement date assess whether the share market's initial assessment of takeovers has been evaluated correctly. The following section will provide a review of the literature that investigates the behaviour of share prices around the announcement and outcome dates.

In examining the share market reaction to US tender offers, Dodd and Ruback (1977) indicate that in the month of announcement target firms earn large and significant returns of 20.58% while acquiring firms achieve gains of 2.83%. The results indicate that acquisitions are wealth enhancing to the shareholders, although it appears that the gains predominantly accrue to the targets and not the bidders. Dodd (1980) also reports that any gains from acquisitions accrue to shareholders of the target firms and not to those of the acquiring firms. He reports that over the period of 10 days before the first announcement through 10 days after approval by target firms, the average cumulative abnormal returns are 33.96% and -7.22% for target and acquiring firms respectively. In examining the effect of acquisition bid on share returns during the period 1962-76, Asquith (1983) found that during the period starting with first announcement date and continuing through the outcome date, acquiring firms experience negative abnormal returns while acquired firms obtained significantly positive returns of 15.5%⁶⁰. On the announcement date, target firms had earned significant excess return of 6.2% while acquiring firms showed no reaction. The

⁶⁰ Interim period used in Asquith's (1983) study is defined as the period from one day after the announcement day until two days before the outcome day.

results obtained by Asquith (1983) indicate that market reaction to an acquisition occur not only at the announcement date but throughout the period from the announcement date to the outcome date as new information is released. The positive excess returns that accrue to target firms at the announcement date are reinforced after that date. The results are similar to those reported by Dodd and Ruback (1977) and Dodd (1980), with most of the gains accruing to the targets, suggesting that the bidding market is competitive.

Concentrating on firms engaging in a series of acquisitions during the period 1950-60, Schipper and Thompson (1983) hypothesise that if acquisition program is expected, ex ante, to provide net shareholder benefits, the present value of individual acquisition events should be reflected, i.e. capitalised, as soon as the entire program is announced or anticipated. They find that acquiring firms had positive average abnormal returns of about 13% in the twelve months up to and including the event month 0, where month 0 is the announcement of an acquisition program. The result supports the hypothesis that acquisition attempts made by frequent acquirers is profitable and that investors partially anticipate these attempts. Malatesta and Thompson (1986) also provide evidence that acquisition attempts made by a sample of frequent acquirers are partially anticipated, and are profitable investment projects on average.

In measuring the wealth effect of successful acquisitions for 256 acquiring and 85 acquired companies during the period 1969-74, Malatesta (1983) reports that acquiring firms earn significant negative abnormal dollar return of approximately -27.65 million dollars and acquired firms earn positive returns of approximately 19.67 million dollars over the 5 months prior to and including the approval announcement [-4,0]. The results are consistent with the hypothesis that acquisition per se increases acquired firms shareholders wealth but it is a negative net present value project for

acquiring firms. In contrast, Dennis and McConnell (1986) report that from day -6 through day +6 of the announcement date acquiring and acquired firms obtain significant gains of 3.24% and 13.74%, respectively, indicating that acquisitions are on average value-enhancing activities for both groups of shareholders. The cumulative average return for the portfolio of all bids (single-bidder and multiple-bidder) in the study by Bradley et al. (1988) showed that acquiring firms and target firms obtaining insignificant abnormal returns of 0.79% and 28.07% (significant), respectively, during the event period (-5,+5) where event day 0 is the day of the announcement of the acquisition. The latter study also provides evidence that competition among acquiring firms increases the returns to targets and decreases the returns to bidders. Bradley et al. (1988) note that successful acquisitions on average increase the combined value of the target and acquiring firms by 7.4%. Jarrell and Poulsen (1989) show that shareholders of bidders and targets received an average premium of 1.29% and 28.99%, respectively, measured from 20 days before to 10 days after the bid announcement, consistent with value-maximisation by shareholders of target and bidders.

Lahey and Conn (1990) find negative returns to shareholders of 91 acquiring firms engaged in major US acquisitions during 1960-79 regardless of the models used to generate returns. In the month of announcement, returns to acquiring firms are -2.5% (market model) and -0.5% (mean adjusted model), neither being significantly different from zero. Further, the acquiring firms earn significant negative returns of -4.5% (market model) and -3.11% (mean adjusted model) by the month of consummation. Hubbard and Palia (1995) also document non-positive abnormal returns for bidders. Over the nine-day period [-4, +4] relative to the bid announcement, Hubbard and Palia (1995) found that acquiring firms earn significant negative return of -0.45%, indicating that acquisitions are detrimental to acquiring firm shareholders. Harford (1999) also found that abnormal share price reaction bid

announcements by bidders is negative. Using market model on data for US corporations for the period 1977 to 1994, Harford (1999) report significant negative return of -0.6% for days -5 to $+1$ relative to the announcement date.

In a later study by Hubbard and Palia (1999) based on a sample of 392 diversifying acquirers during the period 1961 to 1970, they found evidence that conglomerate acquisition in the 1960s are wealth increasing to shareholders. Four measures were used in determining the abnormal returns to the acquiring firms and two of the measures show statistically significant abnormal returns⁶¹. The acquiring firms earn significant positive returns of 8.06% (dollar return model) and 0.03% (investment return model) around the announcement date⁶².

The above bid results are fairly consistent for the shareholders of target firms who obtain large positive gains. The evidence on the returns to the acquiring firms is, however, mixed. For example Malatesta (1983) and Bradley et al. (1988) showed that acquiring firms obtain insignificant gains. Dodd and Ruback (1977), Dennis and McConnell (1986), Jarrell and Poulsen (1989) and Hubbard and Palia (1999) report significant gains while Dodd (1980), Asquith (1983), Hubbard and Palia (1995) and Harford (1999) show negative returns to acquiring firms. While there are numerous explanations for the differences in results to the acquiring firms, one possibility stems in part from the different benchmark controls that individual studies have used. For instance, Malatesta (1983) investigated the difference in abnormal returns that arise using different models. He used the market model, similar to Dodd and Ruback

⁶¹ The four measures of abnormal returns used in the study by Hubbard and Palia (1999) are the value-weighted market index, "percentage returns until date of last revision", "dollar return" and investment return". Cumulative abnormal returns using CRSP value-weighted market index are measured over the period $[-5, +5]$ after the announcement date while "percentage returns" is the cumulative abnormal returns from 5 days before announcement date to 5 days after the date of last revision.

⁶² The dollar abnormal return is computed 5 days before to 5 days after announcement date, while "investment return" is measured as the change in bidder's equity value from 5 days before to 5 days after the date of the last bid deflated by the dollar acquisition price.

(1977), and Dodd (1980), but differing from Asquith (1983) and Langetieg (1978). Malatesta interpreted the estimated intercept α as a component of normal returns, whereas Langetieg (1978) interpreted it as a component of abnormal returns. Langetieg (1978) employs an index of industry returns and an index of market returns as explanatory variables in the forecasting model for normal returns in his study. Asquith (1983) studied daily returns and measured a firm's excess return relative to the return on a control group's performance which had approximately the same β as the firm⁶³. Malatesta found that the discrepancy between his results and those of Asquith (1983) and Langetieg (1978), may derive from the difference in the measurement of abnormal returns, specifically from the estimated intercept α generated from the regressions model used. Halpern (1983, p.303) noted that 'the choice as to which model should be used to estimate abnormal returns is unresolved since it depends upon which return generating process is the appropriate description of reality'.

Asquith et al. (1983) suggested that another measurement difficulties may arise in the methodology adopted for calculating abnormal returns if the relative size of two merging firms is unrelated⁶⁴. If the investment in the target is small relative to the total value of the acquiring firm, the increase in value from the acquisition may not cause much change in the acquirer's share price. In their study, Asquith et al. (1983) reports that shareholders of acquiring firms benefit from acquisitions and suggest that the inconclusive findings of the earlier studies may be due to methodological

⁶³ All securities listed on the New York Stock Exchange and American are grouped into ten equal control portfolios ranked according to their betas. The observed return to the control portfolio which has approximately the same beta as the firms that have taken acquisition is then used as the estimate of the expected rate of return on asset.

⁶⁴ An example given by Asquith et al. (1983) is that assuming an acquiring firm with net present value equal to 10% of the target firm's equity value. If both the acquiring target firms are equal in size, the acquiring firm should earn 10% abnormal return from acquisition. However, only 0.5% abnormal return would be observed if the bidder is twenty times the target size. In fact, relative large bidders' gains may appear statistically insignificant in this case.

deficiencies. Similarly, Morck et al. (1990) suggested that the return measure should be independent of the equity value of the acquiring firm.

In addition to the above measurement bias a number of studies have reported different returns to bidders as a consequence of acquiring relatively large targets. Asquith et al. (1983) found that when the target firm's equity is larger than 10% of the bidding firm's equity, excess return to bidders is significantly positive 4.1%. However, when the target firm is smaller than 10%, the cumulative excess return is 1.7%. The result strengthens the view that the cumulative excess returns are significantly greater when the bidding firm is smaller in size than the target firm. Jarrell and Poulsen (1989) also provide evidence that gains to acquiring firm increase as target size increases relative to the size of the acquiring firm. During the period [-10,+20] of announcement, they find that the estimated return to bidders increases by 1.32% if the target firm is twice as large in size as the bidder.

Other factors that might contribute to the conflicting findings on wealth effects to acquiring firm shareholders include the method of bid financing, and whether there are competing bidders for a target. Similar to the results found by Asquith et al. (1983), the returns to the acquiring firms in Jarrell and Poulsen's (1989) study are also significantly lower when the takeovers are financed with new equity issues than for offers financed with cash. The acquiring firms in Bradley et al.'s (1988) study, before changes in the financial and regulatory environment of the Williams Amendment in 1968, show a significant positive returns of 3.5% during the period 5 days before announcement through 5 days after the announcement of successful bid⁶⁵. During the period following the introduction of the amendment (1968-1980),

⁶⁵ Before the introduction of the Williams Amendment Act, cash tender offers were free of government regulation. With the introduction of the amendment in 1968, cash tender offers were brought under the Security Commissions which require bidding firms to provide information about how the acquisition will be financed.

they found that acquiring firms suffered significant losses of -2.5%, using the same event window [-5,+5]. Similarly, Jarrell and Poulsen (1989) found that cumulative average returns of acquiring firms are 2.2% lower in the 1970s and 4.4% lower in the 1980s than in the 1960s, using the period of days [-10,+20] relative to the announcement date. Jarrell and Poulsen (1989) also provide evidence that competition between alternative bidders will result in smaller returns going to the bidder and a larger share of the gains kept by the target. In addition, studies by Schipper and Thompson (1983), Asquith et al. (1983), Malatesta and Thompson (1986) and Bradley et al. (1988) show that acquisitions made by a sample of frequent acquirers might also contribute to the conflicting findings on wealth effects to acquiring firm shareholders.

Different results may also be obtained from studies that deal with specific types of acquisitions, such as tender offers or mergers. Dodd and Ruback (1977), Bradley et al. (1988), and Jarrell and Poulsen (1989) are among those that study tender offers, while Asquith et al. (1983), Malatesta (1983), and Dennis and McConnell (1986) study mergers. The studies provide evidence that gains to acquiring firms during the bid period on average are lower in mergers than in tender offers. The above result is consistent with that of previous studies summarised by Jensen (1984) that on average acquiring firms earn 4% and 0% from tender offers and mergers, respectively. In addition, Morck et al. (1988) and Hubbard and Palia (1995) also find that the levels of managerial ownership affect the returns to the acquiring firms. They find that with increases in the managerial ownership stake, managers' interests are more compatible with those of the shareholders, resulting in the managers' consuming a lower level of perquisites and reporting larger returns to shareholders. However, the managers enjoy private benefits of control at sufficiently high levels of managerial ownership that they are unwilling to sell their stake in their financial market. Further, these benefits of control are increasing in the managerial

ownership stake that may lead managers to overpay in an acquisition, resulting in lower returns to shareholders.

The UK experience has been similar in that the target shareholders are the overwhelming winners, whereas the bidder shareholders either lose or achieve no significant gains during bid period. Franks et al. (1977) provide evidence on the wealth of shareholders in the UK Breweries and Distilleries sector for the period 1955-72. Acquired firms experience positive abnormal returns of 26% over the time interval of [-4, +1] months based on the announcement date. The result suggests that anticipation of acquisition begins at least 3 months prior to announcement. Over the same period acquiring firms earn small positive returns which is sustained at least for the first five months after the announcement date. In contrast, Firth (1980) found evidence that there was no gain-no loss with regard to acquisitions in UK, with the gains to the target firms being offset by the losses suffered by bidders. He reported that acquired firms experience significant abnormal gains of 21.0% over the period [-12,-2] month, and 28.1% in the month 0, where month 0 is the month of announcement. Acquiring firms experience significant negative returns of -0.30% during the interval [-12,-2] month, -6.3% in the month of announcement, and overall negative returns of -9.1% for the period [-4,+1].

Barnes (1984) examined a small sample of 39 UK acquiring firms between June 1974 and February 1976 and conclude that gains are not realised by the acquiring firms. He documents that acquiring firms earn insignificant share price gains initially followed by substantial decreases in the share prices where the returns had fallen to a minimum -11.25% by month 25 subsequent to the announcements. As a result of later information and the outcome of the acquisition, investors tend to revise their expectations, leading to a decline in share prices subsequent to the acquisition. In examining 70 public companies during the period 1974-76, Dodds and Quek

(1985) also found negative adjusted returns for acquiring firm following the announcement of the bid. They find that acquiring firms earn insignificant negative returns of -0.02% in the month of announcement (month 0). Positive returns were however observed from month four until month 25 after announcement, a result which is consistent with the findings of Franks et al. (1977) but in conflict with those of Firth (1980) and Barnes (1984). Dodd and Quek (1985) conclude that the result is inconsistent with the efficient market hypothesis in that the market is slow in adjusting to newly available information. 'The residuals did not seem to settle down to their market model relationship immediately after the announcement' (Dodd and Quek, 1985, p.291).

Franks and Harris (1989) report that, on average, acquisitions in UK have been value-creating for shareholders around the acquisition announcement date. They examine the effects of 1800 UK acquisitions on shareholder wealth in the period 1955 - 1985 using market model, market-adjusted returns and CAPM. They identify four key dates in their studies: the first approach date, the first bid date, an unconditional date, and the LSPD date⁶⁶. Defining month 0 as the earliest available of the first approach, first bid, unconditional, or LSPD dates, Franks and Harris identify that the value-weighted and equal-weighted target company's abnormal returns are 25.8% and 29.7%, respectively, over the six-month period [-4, +1]. Over the same period, acquiring firms earn 2.4% (value-weighted basis) and 7.9% (equal-weighted basis), both of which are significantly greater than zero. In month 0, acquiring firms earn small positive abnormal returns of about 1%, while target firms earn significant returns of 23.3%. Franks and Harris (1989) conclude that their results are insensitive

⁶⁶ The first approach date is the date the market is initially informed of merger talks. The first bid date is the date of the first formal bid. The unconditional date is when a sufficient proportion of shares has been pledged to the bidder to guarantee legal control. The LSPD date is the last date for which share returns are available (usually the delisting date).

to the choice of control return since the returns to acquiring firms are significantly positive for all models.

By contrast to the above, the results reported by Limmack (1991) suggest that acquisitions in the UK appear to be a zero net present value investment when returns are measured over the period surrounding the announcement and outcome dates. He examines the distribution of returns to shareholders of UK companies involved in acquisitions during the period 1977-1986 using three models: an OLS Market Model, Adjusted Beta Model, and an Index Model. As with the study by Franks and Harris (1989), Limmack (1991) argued that the abnormal returns measured around the bid period are insensitive to the choice of control models. During the bid period, acquiring firms obtain insignificant return of -0.20%, and target firms earn a significant positive return of 31.38% when measured on an equally weighted basis⁶⁷.

Sudarsanam et al. (1996) measure shareholders wealth changes in 429 acquisitions during the period 1980-90. Although they observe that target shareholders earn a significant returns of 29.18% whereas bidders earn significant negative returns of -4.04% over the interval [-20,+40] days relative to the announcement day, they conclude that on average acquisitions are value enhancing activity in UK with overall returns of approximately 2% over the period [-40, +40] days.

In determining the wealth effects of 178 UK successful takeover bids during the period 1979-89, Holl and Kyriazis (1997_a) found that the acquiring firms broke even over the period 2 months prior to the bid, earned significant losses of 1.7% during the bid month and also in each of the following 2 months. Similar to the results found by Sudarsanam et al., 1996 Holl and Kyriazis (1997_a) reported that targets earn

⁶⁷ Bid period is defined by Limmack (1991) as the end of the month prior to the bid announcement date to the end of the month in which the outcome was announced.

significant gains around the bid month. Targets earn significant positive returns of 2% over the period 2 months prior to the bid, 21.6% over the bid month and 3.1% over 2 months following the bid.

Baker and Limmack (1999) examined 601 UK acquisitions during the period 1977 –1989 using control models based on FT All Share Index, Equally weighted market index, Size-matched control portfolio, Market Model (single-factor risk-adjusted returns), Industry-matched control portfolio, Two factor Model and Size- and Industry-matched control. Regardless of the control models used, acquiring firms earn significant positive abnormal returns during the pre bid periods from –24 to –13 and from –12 to –1. The bid period (month 0) reports different abnormal returns depending on the control models use. During the bid month, acquiring firms earn significant positive returns of 1.09% (value-weighted FT All Share Index), significant negative returns of –0.12% (two factor model) and insignificant returns for the other models. The results indicate that positive returns are observed when the value-weighted index which makes no adjustment either for size or industry factors is used but acquiring firms earn negative returns or break-even when size or industry effects are adjusted in the models.

Thus, the question of whether acquisition in UK yields gains or losses to acquiring firms' shareholders remains a controversial issue. Examples of studies that found negative returns or no significant gains in the share prices of acquiring firms in the bid period include those of Firth (1980), Barnes (1984), Dodds and Quek (1985), Limmack (1991), Sudarsanam et al. (1996) and Holls and Kyriazis (1997). However, Franks and Harris (1989) found that acquisitions on average are value creating for shareholders around the bid month. Baker and Limmack (1999) demonstrate that different benchmarks can lead to different conclusions about the impact of acquisitions on shareholder wealth around the bid period. One of the problems in

calculating the overall returns to companies involved in takeover bids is to identify the bid period over which share prices are affected by the bid, either at the time of announcement or between the announcement and outcome date.

Empirical studies on share market reaction to Malaysian acquisitions have not been investigated as extensively as those in the US and the UK. However, similar to the results found in US and UK, the results in Malaysia indicate that shareholders of target firms obtain large positive gains while acquiring firms earn either small or insignificant gains around the announcement period (Mat Nor, 1993, Mohammad, 1993 and Md. Isa, 1994). These studies in Malaysia provide evidence that acquisitions are not harmful to the wealth of acquiring and target shareholders around the announcement date.

Mat Nor (1993) used market model to measure the abnormal performance of 293 acquiring firms in Malaysia during the period 1 January 1977 to 31 December 1989. Acquiring firms earn a significant 10.39% cumulative abnormal returns during the period -180 days to day 0 (announcement date) but they experience significant negative returns immediately after announcement date⁶⁸. However, Mat Nor (1993, p. 7) concludes that acquisitions in Malaysia are beneficial to acquiring firm shareholders since they earn 'higher cumulative average residuals than the period before' the acquisitions (cumulative return of 1.50% from -200 before to +200 days after announcement date). Mohammad (1993) use market model to examine 47 quoted bidders and 6 quoted targets during the period 1980-1990⁶⁹. The acquiring and target firms earn insignificant returns of 12.39% and 9.11%, respectively, during the period -60 days to -2 days prior to the announcement date. The acquiring firms

⁶⁸ The acquiring firms earn significant returns of 9.21% over the interval -200 to 0 days prior to announcement date.

⁶⁹ Initially, Mohammad (1993) had 90 quoted acquirers and 16 quoted targets in her sample. Due to lack of information on the capitalisation changes, 47 quoted acquirers and 6 quoted targets were included in the final sample.

earn insignificant returns after the announcement date, indicating that acquisitions in Malaysia have no impact on the wealth of acquiring firm shareholders. Another study by Md Isa (1994) provides evidence that targets earn higher returns than acquiring firms around announcement period. In examining the effect of acquisitions on 119 quoted bidders and 38 targets during the period January 1984 to May 1989, Md Isa (1994) reported that the total significant gains to bidders and targets are 2.3% and 11.23%, respectively, over the 101-day period around the announcement date (-50, +50). Similar to Mat Nor (1993), Md Isa (1994) claimed that corporate acquisitions in Malaysia are beneficial activities, particularly to target shareholders.

4.5 Long term Post Acquisition Performance

So far, the focus has been on whether acquisitions appear to be associated with wealth gains to the shareholders of the affected companies over the bid period. While the market's short-term response to an acquisition announcement ought to provide a reasonable reliable barometer of the likely consequences of the transaction, there is a possibility that, with hindsight, the market assessment will turn out to be incorrect. Scherer (1988) has argued that the sources of takeover gains may lie elsewhere, and not be driven by prospective changes in cash flows after takeover. For example, the sharp increase in share prices that typically occurs at the time at which an acquisition is announced may be due, in part or full, to speculative buying by arbitrageurs in hopes of making a quick profit on the rapid resale of the security. It could also be due to other factors such as an undervaluation due to investors overlooking the stock or an overvaluation by those who acquire the firm (Shiller, 1989, p.64). As such, the increase in share price of the firm may not reflect efficiency gains from acquisition but rather a market correction. Thus, a thorough empirical test requires not only that one demonstrate that shareholders enjoy short-term wealth gains at the time at which acquisition is announced, but also that, on average, the

hypothesised improvement in shareholders wealth is maintained after a reasonable amount of time has passed.

Magenheim and Mueller (1988) also raise the issue of whether all changes in shareholders wealth of the acquiring firm affected by acquisition are complete by the date of its announcement or its completion. They suggest that further information about the acquisition's future consequences might reach the market long after the market's first knowledge of the acquisition. Therefore, Magenheim and Mueller (1988) suggest that in assessing the consequences of acquisition for acquiring firms it would be appropriate to look at the longer-run perspective of the firms. Accordingly, the next focus is the literature review on the post acquisition performance of the combined companies using the market model. The post acquisition, long term performance data are available only for the acquirer since the target companies are normally delisted shortly after the acquisition. Table 4.2 parts (a) and (b) summarises results of studies of post acquisition performance for acquiring firms.

Generally, studies of share price post acquisition performance in the US and UK (as depicted in Table 4.2a and Table 4.2b) appear to produce consistent results which indicate that acquisitions are detrimental to shareholders of bidding firms. In summarising US studies prior to 1980, Jensen and Ruback (1983) indicate that post acquisition share-price performance of acquiring firms averages abnormal returns of -5.5% during the twelfth month after acquisition. Jensen and Ruback (1983, p.20) interpret these negative post acquisition returns as 'unsettling because they are inconsistent with market efficiency and suggest that changes in share prices during acquisitions overestimate the future efficiency gains from acquisitions'.

Table 4.2 (a)**Statistical results of post performance from acquisitions using 'event' studies in US**

(All results reported are significant unless stated otherwise)

Author, Years Covered and Country Examined	Model Used and Sample Size	Event Period	Abnormal Returns to Acquiring Firms
Langetieg (1978) 1929 - 62 US	Capital Asset Pricing Model (CAPM) Uses monthly data 149 mergers	Month of merger through 12 months after the effective date	-6.6 %
Asquith (1983) 1962 - 76 US	Control Portfolios (similar to Market-Adjusted Returns) Uses daily data 407 successful 178 unsuccessful mergers	Month of outcome through 8 months after the outcome date	-7.2%
Malatesta (1983) 1969 - 74 US	CAPM Uses monthly data 256 Acquiring and 85 acquired successful mergers	Month of announcement through 12 months after approval for entire sample	-2.9%
Magenheim and Mueller (1988) 1976 - 81 US	Market Model Uses monthly data 78 acquiring firms	Over the period (-3, 36) using pre-estimated parameters (-36, -4) Over the period (-3, 36) using the pre-estimated parameters (-60, -4)	- 15.67% - 42.21%
Lahey and Conn (1990) 1960 - 79 US	Mean Adjusted Return Market Model Uses monthly data 91 mergers	3 years after takeover: Mean Adjusted Return Model Market Model	-38.6% -10.2%

Author, Years Covered and Country Examined	Model Used and Sample Size	Event Period	Abnormal Returns to Acquiring Firms
Franks, Harris and Titman (1991) 1975 - 1984 US	Market Adjusted Index using the eight-portfolio benchmark and value weighted index. Uses monthly data 399 acquisitions	Over the 36-month period after the takeover: Value-weighted benchmark Equally-weighted benchmark Eight-portfolio benchmark Ten-factor benchmark	0.37% - 0.22% 0.05% (insignificant) -0.08% (insignificant)
Loderer and Martin (1992) 1966 - 86 US	Market Adjusted Index Uses daily data 1,298 acquisitions	3 years (750 days) after the acquisition date: 1960s 1970s 1980s 4 - 5 years after acquisition date	- 5% -0.02% no underperformance no underperformance
Agrawal, Jaffe, and Mandelker (1992) 1955 - 87 US	Market Adjusted Index Uses monthly data 937 mergers 227 tender offers	60 months (5 years) after takeover completion	-10.26%
Clark and Ofek (1994) 1981 - 1988 US	Beta-modified control portfolios Industry adjusted return Uses daily data 38 Acquisitions of distressed targets	From five days after the completion of the acquisition until 3 years following the acquisitions Beta-modified Control Portfolios Industry adjusted return	-26.5% -12.8% (insignificant)

Author, Years Covered and Country Examined	Model Used and Sample Size	Event Period	Abnormal Returns to Acquiring Firms
Loughran and Vijh (1997) 1970 – 1989 US	Buy and hold returns of acquirer and matching firms Uses yearly data 947	5 years following acquisitions share mergers cash tender offers	-25.0% 61.7%

Table 4.2 (b)

Statistical results of post performance from acquisitions using 'event' studies in UK

(All results reported are significant unless stated otherwise)

Author, Years Covered and Country Examined	Model Used and Sample Size	Event Period	Abnormal Returns to Acquiring Firms
Franks, Broyles and Hecht (1977) 1955 – 72 UK	Market Model Uses monthly data 70 takeovers	40 months prior to 40 months after announcement date	(combined cumulative average residuals for bidders and targets) 0.052
Firth (1979) 1972 – 74 UK	Market Model Using monthly data 224 successful bids	Month of announcement through 24 months after announcement date	- 5%
Firth (1980) 1969 – 75 UK	Market Model Uses monthly data 486 Acquiring firms 563 Acquired firms	Month of announcement through 36 months after announcement	- 4.8%

Author, Years Covered and Country Examined	Model Used and Sample Size	Event Period	Abnormal Returns to Acquiring Firms
Franks and Harris (1989) 1955-85 UK	Index Model, Market Model, and CAPM Uses monthly data 1800 takeovers	Month of outcome through 24 months after outcome: Market Model Index Model CAPM	-12.6% 4.8% 4.5%
Limmack (1991) 1977 - 86 UK	Index Model, Market Model, and Adjusted Betas Uses daily data 448 Acquiring 462 Acquired	Month of bid through 24 months after outcome: Adjusted Betas Market Model Index Model	- 4.67% - 14.96% - 7.43%
Kennedy and Limmack (1996) 1980 - 89 UK	Market Adjusted Index Uses monthly data 247 Acquiring 345 Acquired	Month of bid through two years following the bid: Market Adjusted Return Size Adjusted Return (with or without rebalancing)	Significant negative returns using all control models
Sudarsanam, Holl and Salami (1996) 1980 - 1990 UK	Market Model Uses daily data 429 completed acquisitions	Day of announcement through 40 days after announcement	- 3.56%
Gregory (1997) 1984 - 1992 UK	CAPM, Dimson-Marsh Model, Size Decile Model, Multi-Index Model, Hoare-Govett Multi-Index Model, and Fama and French Multi-Index Model Uses monthly data 452 takeovers	Month of announcement to 24 month of completion date: CAPM Dimson-Marsh Model Size Decile Model Multi-Index SML Multi-Index Hoare-Govett Multi-Index Fama and French	- 17.73% -12.52% -11.82% -14.29% -12.03% -18.0%

Author, Years Covered and Country Examined	Model Used and Sample Size	Event Period	Abnormal Returns to Acquiring Firms
Higson and Elliot (1998) 1975 – 1990 UK	Equally-weighted Market Index Uses monthly data 830 takeovers	Month of announcement to 3 years after completion date	0.83% (not significant)
Baker and Limmack (1999) 1977 – 1989 UK	Market adjusted returns (index) Size-adjusted Single-factor risk adjusted Uses monthly data 601 acquiring firms	Bid announcement month to 23 months following the bid FT All Share Index Equally Weighted Index Size-matched control portfolio Market Model Industry-Matched control portfolio Two factor model Size and Industry-matched control	1.02% (insignificant) -13.54% -4.78% -12.77% 15.96% -16.44% -5.79%

The later studies of Magenheim and Mueller (1988), Malatesta (1983), Asquith (1983), Franks et al. (1988), Lahey and Conn (1990), and Clark and Ofek (1994) find that US firms experience significantly negative abnormal returns over 1-3 years after acquisition. Merged firms in Agrawal et al.'s (1992) study experience negative performance 5 years after acquisition completion. By contrast, however, Franks et al. (1991), and Loderer and Martin (1992) show that post acquisition returns were not significantly negative. However, as discussed later, Agrawal et al. (1992) show that the results obtained by Franks et al. (1991) are sample specific. Loughran and Vijh (1997) provide evidence that the post acquisitions returns of acquiring firm are related to both the mode of acquisition and form of payment.

One possibility explaining the difference in results may be due to the time period used to estimate the market model coefficients. Magenhem and Mueller's (1988) study emphasise on the sensitivity to the choice of the pre-event period to calculate model parameters which are then used to measure post-event performance⁷⁰. From a sample of 78 acquiring firms in the study during the period 1976-81, they found that acquiring firms earn large positive gains prior to the event, following which returns begin to drop. The post acquisition performance is measured against two variants of the market model, with parameters separately identified over two pre-event periods, months (-60, -4), and (-36, -4). Both sets of parameter estimates produce results which show that acquiring firms exhibit a significant decline in post acquisition performance. Evaluating an acquisition's effects three years following the announcement, however, estimates based on the thirty three month pre-event period [-36,-4] shows that the acquiring firms are significantly worse off (-42.2%) as compared to (-15.65%) if one uses the longer estimation period of the 57 months [-60, -4]. Acquiring firms in Magenheim and Mueller's study experience returns during the pre-event period [-24, -4] that are 18.4% in excess of the expected returns using market model parameter estimates from the period month [-60,-25]. Thus, the choice of the pre-event period in which model parameters are estimated can have a significant effect on the reported magnitude of the change in performance following an acquisition. However, Magenheim and Mueller (1988) still conclude that acquiring firms earn positive abnormal returns prior to acquisition announcement, and that acquiring firms earn negative returns after the announcement, relative to this pre-event performance.

⁷⁰ Magenheim and Mueller (1988), provide evidence of how the estimate of abnormal returns to the acquiring firm are sensitive to the choice of time period over which the normal α and β are measured. The estimate mean α based on estimation period is: .0009 [-60, -25]; .0134 [-60, -4]; and .0181 [-36, -4). The period with the highest return [-36, -4) observes the highest estimate mean α . These differences in the estimate of mean α may lead to a large differences in the abnormal returns from the market model depending on the choice -of estimation period (p. 178)

The importance of the α estimates is further illustrated by the results of Franks et al.'s (1988) study using a comprehensive sample of US and UK bidders over a period of thirty years, 1955-1985⁷¹. In their US sample, negative post acquisition returns were identified for market model parameters using monthly pre bid returns (from six years to one year prior to the bid). When, however, the market model parameters were estimated using post acquisition returns data, zero post acquisition returns were observed. Franks et al. (1988) noted that the difference in the results stems from the reductions in the estimated α values from the pre acquisition (six through one years before the bid) to the post acquisition (three through five years after the bid) period. Similarly in their UK sample, the post acquisition performance in all-equity offers was -9.4% using the market model, but small positive returns of 4.2% were obtained using the capital asset pricing model. Franks et al. (1988) relate the contradicting results produced as evidence that post acquisition performance is sensitive to the benchmark used.

Lahey and Conn (1990) use the market model and mean adjusted return model in their study of 91 US mergers during the period 1960-79. Three years after consummation, acquiring firms earn significant negative abnormal returns measured on both of their returns generating models (-10.20% using market model and -38.57% using mean adjusted return model), suggesting that the negative returns are insensitive to the model used to evaluate the abnormal returns. Thus, the results support previous studies that find acquiring firms earning significant negative post acquisition performance.

Franks et al. (1991) examine the effect of post acquisition share price performance of acquiring firms in US in the period 1975-1984, using multi-factor

⁷¹ Malatesta (1983) also raises the question regarding the effects of the use of constrained estimation techniques.

benchmarks (the ten-factor and eight-portfolio benchmarks) that are designed to overcome what they describe as the mean-variance inefficiencies of the single-factor benchmark. They claim that the equally-weighted and value-weighted benchmarks do not remove size-related effects and these benchmarks are likely to generate negative performance measures for larger firms even if the actual performance of these firms is favourable⁷². The post acquisition abnormal performance over the 36-month period after acquisition show a significant positive returns of 0.37% using the value-weighted index and significant negative returns of -0.22% using equally-weighted index model. Using the eight-portfolio benchmarks and ten-factor benchmarks over the same period insignificant returns of 0.05% and -0.08%, respectively, were observed. Consistent with the remarks made by Jensen and Ruback (1983), the results found by Franks et al. (1991) suggest that prior findings of negative post acquisition for bidders are more likely due to the benchmark errors than to mispricing at the time of announcement.

Loderer and Martin (1992) use an industry performance index as a benchmark to evaluate post acquisition performance. Their results are consistent with those of Franks et al. (1991) in that acquiring firms do not appear to perform worse than their comparison benchmarks over the first five post acquisition years. On average, they report a negative returns during first three years post-bid but this underperformance is confined to less than 53% of the sample firms, and there are marginal gains during years four and five.

Agrawal et al. (1992), in their study on post acquisition performance of US acquiring firms for the period 1955-87, show that the Franks et al.'s (1991) findings are specific to the 1975-84 period, and not valid across different time periods.

⁷² Dimson and Marsh (1986) provide evidence that measured performance can be significantly affected by the firm size effect when examining long-run returns over several years.

Agrawal et al. (1992) reported significant post acquisition under-performance for acquisitions completed in 1950s, 1960s, and 1980s, although not for those in the 1970s. They further suggest that the sample used by Franks et al. (1991) consists of a high proportion of tender offers and that the latter are largely financed by cash⁷³. After adjusting for firm size effect and shifts in risk parameters around the time of acquisition, Agrawal et al. (1992) find that shareholders of acquiring firms experience a statistically significant loss of about 10% over five years after the acquisition date. They conclude 'that the efficient-market anomaly of negative post acquisition performance highlighted in Jensen and Ruback (1983) is not resolved' (Agrawal et al., 1992, p. 1618).

Clark and Ofek (1994) provide evidence that there is a positive relation between the market reaction in the acquisition announcement period and the post acquisition performance of the firm. Their results suggested, at the very least, the market could accurately estimate the direction of the effect of the acquisition on the bidder's value. In using a sample of 38 US acquisitions of distressed firms targeted for restructuring between 1981 and 1988, Clark and Ofek (1994) report that acquiring firms obtain significantly negative beta- and industry-adjusted returns after acquiring distressed firms, indicating that bidders are not successful in their restructuring attempts⁷⁴. The median cumulative beta-adjusted return is -11.0% in year 1, -14.6% in year 2 and -42.1% in year 3, all significantly different from zero. The median industry-adjusted return is not significant: 2.7% in year 1, -1.1% in year 2 and -12.8% in year 3. The industry-adjusted returns appear to be higher than beta-adjusted returns,

⁷³ The results of Franks et al. (1991) are therefore consistent with results of earlier studies (examples, Bradley, Desai and Kim; and Jarrell and Poulsen, 1989) that show bids financed by cash are likely to produce higher returns to acquirers than those financed by equity. Similarly, Loughran and Vjih (1997) found that acquiring firms that complete cash tender offers earn significant returns of 61.7% 5 years following acquisition, while those that complete share mergers earn significant negative returns of -25.0% over the same period.

⁷⁴ The daily beta excess return is the difference between a firm's return and the return on its beta decile portfolio. Industry adjustment is made by subtracting the median return of all firms with the same three-digit Standard Industrial Code (SIC) from the bidder's return.

indicating that much of the poor post acquisition is driven by industry factors. Although the acquiring firms' returns are not significantly different from zero around the announcement date [-5,+1], this is positively related to all post performance measures. Clark and Ofek (1994) also emphasise the fact that their performance results are not sensitive to the method of measurement. The result of this study is important as the sample selected include those firms for which the disciplinary motive is strong.

In sum, of the many event studies that examine post acquisition performance in US, only Loderer and Martin (1992) and Franks et al. (1991) find positive excess returns, and only when particular multi-factor benchmarks are used. In the latter case the results also appear to be sample specific. Other studies report negative post acquisition returns for the acquiring firms.

Studies of post acquisition returns to bidders in UK acquisitions also produce a similar result to that reported for the US. Although most studies appear to report negative long term returns, a number have reported either zero or positive wealth changes. Studies carried out by Limmack (1991), Kennedy and Limmack (1996), Sudarsanam et al. (1996), Gregory (1997), and Baker and Limmack (1999) report negative post acquisition returns for the acquiring firms. Franks et al. (1977) concluded that acquiring firms gain in the long run from acquisition, while Franks and Harris (1989) provides conflicting results depending on the benchmark control used⁷⁵. Conversely, Higson and Elliot (1998) provide evidence that there is no evidence of negative abnormal returns in an equal-weighted portfolio of UK acquirers, three years following acquisition over the period 1975-1990⁷⁶. Over the period 1981-1984,

⁷⁵ Franks and Harris (1989) showed significant negative post acquisition returns when the market model is used, but a significant positive post acquisition returns when the capital asset pricing model (CAPM) is used as a benchmark.

⁷⁶ Abnormal return is measured as the difference between the buying and holding the acquirer's shares at completion, against a benchmark that controls for firm size similar to that of the acquirer.

however, they find evidence of significant positive abnormal return during the two years after acquisition. Higson and Elliot (1998) conclude that post acquisition returns are sensitive to the observation period.

As mentioned in the previous section, Firth (1980) found evidence that acquiring firms earn significant negative residuals of -6.3% in the month of the offer (month 0). These losses were sustained three years later [+36 month], with a significantly negative cumulative return of 4.8%. Similarly, Franks and Harris (1989) report a negative bidder post acquisition performance of -12.6% over the twenty-four months after unconditional date using the market-adjusted model⁷⁷. However, when measured against CAPM, the post acquisition performance of bidders match or slightly outperform the market in general, with a positive returns of 4.5% during the same period. Thus, their study highlights the problem that different benchmarks can lead to different conclusions about the impact of acquisitions on shareholder wealth.

Limmack (1991) also found significantly negative excess returns to the acquiring firms of completed bids in the second year following the bid, -4.67% (using adjusted betas), -14.96% (using the market model) and -7.43% (using the index model). If one considers only the period surrounding the bid in Limmack's study, as discussed in Section 4.4.2 above, where target company gain substantially but acquiring company do not lose, then acquisitions are considered to be zero net present value investment. If the post outcome period is included in measuring the wealth of the shareholders, then on average acquiring companies experience substantial losses over a two-year period following the acquisition. Contrary to the results obtained when examining returns around the bid period only, acquisitions are negative, rather than zero, net present value investment. As noted above, the

⁷⁷ Unconditional date is when the bidder has enough shares to guarantee control of the target.

negative post acquisition results obtained by the acquiring firm is consistent whichever control model was applied, thus the use of different benchmark does not appear to be the cause of the negative results obtained in Limmack's study.

Kennedy and Limmack (1996) show that the returns to acquiring firms were not significantly different from zero in the twelve month period following the bid, although acquiring firms earn negative excess returns of -4.92% in the second year following the bid. If analysis of the wealth effect of acquisitions considers only the post acquisition period, it appears from their results that management actions are not conducted in the interest of shareholders. Similarly, Sudarsanam et al. (1996) found acquiring firms earned negative returns of -3.56% from day of announcement through 40 days after announcement.

In a more recent study, Gregory (1997) analysed 452 UK takeovers for the period 1984-1992, using six benchmarks: CAPM, Dimson-Marsh risk and size adjusted model, a simple size control model, two multi-index models which include size variables, and finally a variation of the Fama-French multi-index model. The results from all six models show that acquiring firms earn significant negative returns for the month of announcement, during the announcement period and for the 24 months following completion of takeover⁷⁸. The results substantiate the results of Limmack's (1991) study that the use of different benchmark is not the cause of the negative returns obtained by the acquiring firms. Similar with the results of equity studies mentioned earlier, Gregory's results confirm that method of payment influences outcome. He concludes however that acquisition activity in UK is 'not compatible with shareholder wealth maximising behaviour on the part of acquiring firms' management' (Gregory, 1997, p. 998).

⁷⁸ The announcement period is defined as from the month of announcement up to and including month of completion.

Baker and Limmack (1999) is another study in UK that have used alternative controls in the measurement of acquirer's return and yet report negative pattern of post outcome abnormal returns. In examining acquirer's return in 601 UK acquisitions over the period 1977–1989, Baker and Limmack (1999) use seven benchmarks, both on a value-weighted and on an equally-weighted basis, together with various combinations of risk adjustment, size adjustment and industry adjustment⁷⁹. Except for the market-value weighted benchmark (FT All Share Index), the other models exhibit significant negative abnormal returns ranging from –4.78% (based on the size-matched control model) to –16.44% (based on the two factor size and industry control model) over the period from bid month to 23 month after the bid month. However, the market value weighted model that makes no adjustment for size or other industry effects reports insignificant returns during the same period.

A related explanation for the methodological errors involves some form of selection bias that may take the form of survivorship bias. Lyon et al. (1999) documented that mis-specification to test for long-run abnormal returns may be due to new listing or survivor bias. The sampled firms are traced for a long post acquisition period but control portfolio may include firms that have survived for only part of the period in question due to newly listed firms that have only begin trading or firms that have failed subsequent to the acquisition month. Thus, the effect of the survivorship bias that may arise through the selection of a benchmark portfolio of firms is to compare the performance of a sample of surviving firms with a control portfolio of surviving and non-surviving firms. Alternatively, bias may also arise if the sample

⁷⁹ One problem that might have caused different results in prior studies (example, Franks and Harris, 1989, Limmack, 1991 and Sudarsanam et al., 1996) is that no adjustment was made for the firm size effect since the population of quoted firms may not be represented by either a value-weighted or the equal-weighted market index. Evidence in Dimson and Marsh (1986) suggest that an adjustment for firm size is important in studies measuring long run abnormal returns. The models used in the study by Baker and Limmack (1999) are FT All Share Index, Equally weighted market index, Size-matched control portfolio, Market Model (single-factor risk-adjusted returns), Industry-matched control portfolio, Two factor Model and Size- and Industry-matched control.

selected for analysis includes only those firms that survive a pre-determined post event. However, Baker and Limmack (1999) observe negative post acquisition returns even after controlling for potential survivorship and selection bias⁸⁰.

Another form of selection bias involves the prior period performance bias which implies that acquisition bids are generally made following a period of above average share price performance for the acquiring firm, as argued earlier by Franks and Harris (1989) and Limmack (1991). There is a tendency that the poor returns after acquisition is a result of mean reversion of prior performance and not directly related to the acquisition per se. Gregory (1997) provides evidence that alpha estimates in his study move from being significantly positive in the period prior to acquisition, to being significantly negative in post acquisition period⁸¹. However, Gregory (1997), Higson and Elliot (1998), and Baker and Limmack (1999) demonstrated that the pattern of post negative returns to the acquiring firms in UK was not a function of the performance of sample firms prior to the event.

4.6 Summary

The chapter focused on reviewing the measurement of shareholders wealth changes using share-market data. The results of market-based studies in UK, US and Malaysia indicate that on average shareholders of the target company earn positive abnormal returns, but that there is little evidence of significant gain to bidding firms around the bid period. One of the issues raised in the event studies is whether share market evaluate the long-run effects of each acquisition around the announcement period or in the period long after the transaction. The market ought to be unbiased in

⁸⁰ To test the impact of survivorship bias, the control group in Baker and Limmack's (1999) study includes only firms in the same industry and in the same decile which have similar survival characteristics as the acquiring firms.

⁸¹ Gregory (1997) controls prior performance bias by using post acquisition data to estimate the appropriate model parameters.

valuing the benefits of acquisitions but more often than not it appears to have been over-optimistic in this matter. Event studies which focused on announcement period share returns have found that acquisitions are expected to improve performance, yet examinations of post acquisition performance conclude that acquisitions reduce wealth.

The reported positive returns to targets and bidders around announcement period in most of the studies in US (Dennis and McConnell, 1986, Magenheim and Mueller, 1988, Jarrell and Poulsen, 1989 and Hubbard and Palia, 1999) are consistent with the hypothesis that acquisitions are positive net present value investment. However, Bradley et al. (1988) found that acquiring firms break-even while Malatesta (1983), Hubbard and Palia (1995) and Harford (1999) are among studies that show negative returns to acquiring firms around the bid period. Examples of event studies in UK that have found on average acquiring firms suffered either negative returns or no significant gains in their share prices around announcement period include those of Firth (1979, 1980), Limmack (1991), Sudarsanam et al. (1996) and Holl and Kyriazis (1997). However, Franks et al. (1977), and Franks and Harris (1989) found that acquisitions on average are value enhancing for the bidders around the bid period. Baker and Limmack (1999) found conflicting results during the bid period depending on the benchmark used. Studies undertaken by Mat Nor (1993), Md Isa (1994) and Mohammad (1994) in Malaysia have reported similar results in that target firm shareholders earn abnormal returns while acquiring firms do not gain as much around announcement period.

Evidence on the inconclusive return to acquiring firms may be influenced by measurement problems relating to time of acquisition news (example, announcement versus consummation), relative size of bidder and target firms, the form of payment,

as well as type of acquisition (tender offer or mergers in US), level of managerial share ownership in the firm, or even market inefficiency.

In examining post-event performance, however, only Franks et al. (1991), and Loderer and Martin (1992) are among the many event studies in US that find positive excess post acquisition returns. Others, for example, Magenheim and Mueller (1988), Lahey and Conn (1990), Agrawal et al. (1992) and Clark and Ofek (1994) find negative post acquisition performance for the merged firms. Agrawal et al. (1992) showed that the results obtained by Franks et al. (1991) are confined to the specific sample of acquisitions and the time period in which they are examined (1975-84). Agrawal et al. (1992) finds that acquisitions are followed by significant negative returns over a five-year period after the effective date⁸². Similarly, studies that have examined post outcome performance in UK including Limmack (1991), Kennedy and Limmack (1996), Sudarsanam et al. (1996), Gregory (1997) and Baker and Limmack (1999) find significant post acquisition negative returns to the merged firms. Franks et al. (1977) concluded that UK acquiring firms in the brewry industry gain in the long run from acquisition, while Franks and Harris (1989) provides conflicting results depending on the benchmark control used. Conversely, Higson and Elliot (1998) conclude that post acquisition returns are sensitive to the observation period when they found no evidence of negative abnormal returns three years following acquisition over the period 1975-1990 but significant positive abnormal over the period 1981-1984.

The findings of under performance after acquisition appears to contradict the implication of the efficient market hypothesis (Ruback, 1988). An efficient market demonstrates that the valuation effect on acquisition should occur on average during

⁸² The former study included a large sample of tender offers for which cash was the method of payment.

the announcement period and that after a reasonable amount of time have passed, average post acquisition performance should be zero. If the post outcome period is included in measuring the shareholders wealth, then on average acquisitions in US and UK reduce shareholders wealth.

One possible explanation for the negative post acquisition performance is that it represents a delayed market reaction to overpriced acquisitions. However if this is the case, then the market appears to be incapable of adjusting to this fact over time. Another possible interpretation of the phenomena is that the negative returns may be caused by methodological errors in addressing post acquisition returns to acquiring firms. These errors may stem in part from the choice of inappropriate models used in individual studies or due to some form of selection bias in the sample rather than being related to the acquisition per se. One problem with early studies (Franks and Harris, 1989, Limmack, 1991 and Sudarsanam et al., 1996) is that no adjustment was made for the firm size effect since the population of quoted firms may not be represented by either a value-weighted or the equal-weighted market index. Evidence in Dimson and Marsh (1986) suggest that an adjustment for firm size is important in studies measuring long run abnormal returns⁸³.

However, attempts to provide what are deemed to be more appropriate models by Franks et al. (1991), Agrawal et al. (1992) in US, Gregory (1997), Higson and Elliot (1998), and Baker and Limmack (1999) in UK have met with varying degrees of success as discussed in the previous section. Gregory (1997) and Baker and Limmack (1999), among studies in UK that have used alternative benchmarks and yet report negative pattern of post outcome abnormal returns.

⁸³ Dimson and Marsh (1986) used size decile control portfolios, where each company is assigned a decile membership based upon its market capitalisation at the beginning of the year, or the risk and size control model.

A related explanation for the methodological errors involves some form of selection bias that may take the form of survivorship bias or prior period performance bias (Baker and Limmack, 1999). However, Baker and Limmack (1999) provide evidence that the negative post acquisition returns in their study are not a function of survivorship bias. In addition, studies by Gregory (1997), Higson and Elliot (1998), and Baker and Limmack (1999) demonstrate that the pattern of post negative returns to the acquiring firms in UK is not a function of the performance of sample firms prior to the event.

What is clear from the above review is that market-based studies of takeover activity have not been able to answer the basic question as to whether takeovers lead to higher returns to shareholders as a result of improvements in corporate performance. The next chapter will review the empirical analysis in measuring shareholders wealth based on accounting and cash flow data.

Chapter 5
Review of Empirical Analysis on Acquisitions
- Accounting-Based Evidence -

5.1 Chapter Description

The method for examining the performance of corporate acquisition based on share market data was discussed at length in Chapter 4. The current chapter focuses on the method of evaluating the impact of corporate acquisition using accounting and cash flow data.

5.2 Accounting-Based Evidence

Prior to the advent of publicly available share price data bases and developments in capital model theory, analysis of takeovers generally relied on accounting measures of performance. Recent criticism of, and inconsistencies, in market-based studies have led to a reawakening of interest in accounting-based studies⁸⁴. The current section will provide a review of these studies.

Studies undertaken using accounting data have often been used to suggest whether 'efficiency gains' have been achieved as a result of an acquisition. As mentioned in Chapter 3, the takeover mechanism is seen as an important disciplinary device in ensuring efficient utilisation of the existing assets of the firm: either the least

⁸⁴ Roll (1986) and Black (1989) shown ways in which the assumption of an efficient capital market can be weakened. They have incorporated systematically irrational bidders into process and empire-building explanations. Roll and Black argued that managers overpay for targets because they are overly optimistic and because their interests diverge from those of their shareholders. The hubris hypothesis (overpayment) implies an inefficiency in the market for corporate control since some market participants (bidders) are irrational and make systematic mistakes.

'efficient' firms are taken over, or the possibility exists that the firms involved in acquisitions become as a result more profitable in the use of their combined assets.

As argued by Utton (1974, p. 15):

'If the success and failure of a firm in using the assets at its disposal, i.e. its level of efficiency, is reflected in its profitability, then changes in the composition and size of its assets as a result of acquisition should also show up in its profit performance. Hence any economies arising from acquisition would, on this argument, be demonstrated indirectly by the improved profitability of the merged firm'.

However, it has been argued that the accounting-based measure used are not unambiguous indicators of economic performance due to, among others: differences in accounting policies or practices, merger versus acquisition accounting, and treatment of inter-group profits, that will cause a downward bias in measuring the post acquisition profitability (Appleyard, 1980). Moreover, the downward bias may also be due to the fact that the accounting based measures do not take into account or reflect differences in risk among different strategies (Appleyard, 1980 and Weston et al., 1990).

In order to assess any change in profitability as a result of a takeover it is normal to compare the reported post acquisition profits to the weighted average of the merging firms' pre bid profits. To allow for changes in profits brought about by factors independent of the acquisition, a comparison may be made to the performance of a sample of non-merging firms, or the performance of the companies' own industries. An important factor to be taken into consideration is that accounting figures should be adjusted for any change in accounting policies, to avoid bias. One way in which the acquiring firms may decide to change the accounting policies of the acquired firms after acquisition, is possibly to introduce different systems of depreciation and

reevaluation (Singh and Whittington, 1968). The question of the effect of accounting policies arises due to the discretion available to accountants within any accepted framework of income measurement. For instance, accountants have discretion over the choice of depreciation provisions for fixed assets, the choice of valuing stock, the treatment of providing bad debts and future liabilities, the charge of research and development expenditures, each of which has an unequal impact on net assets. Thus, methodologies, which ignore such facts, may be biased.

Further, Griffiths (1986) implied that published accounts may not be a true and fair reflection of the company's financial position due to the creative accounting techniques applied by these companies on their accounts. Managers may carry out creative accounting techniques either to maximise the value of the firm or opportunistically to make the manager better off. Previous studies have shown that increase compensation (Healy, 1985 and Sloan, 1993) or reduce likelihood of management turnover (Murphy and Zimmerman, 1993) create incentives for opportunistic managers to pursue income-increasing accounting methods to inflate profits⁸⁵. However, some empirical studies provide evidence that some actions identified as opportunism can be interpreted as occurring for efficiency reasons (Sweeney, 1994, and Christie and Zimmerman, 1994)⁸⁶.

Meeks (1971), Meeks and Meeks (1981) and Hughes (1993) in UK, and Ravenscraft and Scherer (1987) in US argued that certain profitability measures in measuring post acquisition efficiency have the potential for leading to biased inferences. For example, when 'the rate of return on equity' or 'the rate of return on total net assets' are used as performance measures, a problem may arise over the

⁸⁵ Sweeney (1994) found troubled firms that are close to default on their debt obligations have incentives to take income-increasing actions in the five years before default (to avoid the costs of a breach) than do managers of firms that do not default.

⁸⁶ Opportunism 'occurs when a manager's decision increases the manager's wealth, but does not create a net increase in aggregate wealth' (Christie and Zimmerman, 1994, p. 541).

accounting conventions used (whether the acquisition accounting or merger accounting method)⁸⁷. For example, the valuation of the acquired firm's assets in the post acquisition consolidated accounts may reflect the final price paid for the acquisition rather than the book value of the assets acquired. Generally, the purchase method gives rise to goodwill and the freezing of pre acquisition reserves. The bid price which is normally higher than the pre acquisition book value will increase the net assets base if goodwill is not written off immediately, resulting in higher depreciation, lower profits and lower ratio of net profits to net assets. Therefore, acquisition accounting produces a lower post acquisition profit compared to merger accounting and in relation to the weighted average of the pre bid profitability of the firms involved. The firm's profit rates may consequently reflect different accounting policies rather than different level of efficiency. However, Singh (1971) suggested that the extent of bias of such changes in asset valuation on returns is small. Given the high premium recorded for acquisitions in recent years the level of the bias of changes in accounting policies may be larger than Singh (1971) believed. In the study carried out by Meeks (1977) the net asset base of the combined company is adjusted by subtracting the increase in goodwill.

Another difficulty in measuring post acquisition efficiency when using the rate of return on total assets arises in the year of acquisition (Meeks and Meeks, 1981 and Hughes, 1993). Meeks and Meeks (1981) calculated the rate of return on total assets in the year of acquisition as:

$$r_{my} = \frac{P_{qy} + P_{vy}}{\frac{1}{2} (A_{q(y-1)} + A_{v(y-1)} + A_{qy} + A_{vy})}$$

⁸⁷ Meeks and Meeks (1981) set out a number of biases and distortions that affect particular profitability measures (e.g. profit-sales ratio and rate of return on equity). However, they recommended the rate of return on assets as a qualified indicator for averaging post acquisition efficiency.

where:

r_{my} = rate of return on total asset for the combined firms (m) in the year of the acquisition (y)

P_{qy} = bidders' profit after depreciation, before tax and long term interest in the year of acquisition (y)

P_{vy} = targets' profit after depreciation, before tax and long term interest in the year of acquisition (y)

A = net assets

The 12 months profit for the target and bidder is divided by the average net asset for the combined firms together. Since the target was not part of the amalgamation at the beginning of the year, only the target firm's profit (P_{vy}) for whatever proportion of the year the target has been taken over should be incorporated in the numerator and only the target's year-end assets are included in the denominator. Thus, reported profit may be biased either upwards or downwards relative to a measure for the acquisition year which incorporated all the earnings and both opening and closing assets.

Another problem cited by Meeks and Meeks (1981) is when comparing the profit margin on sales of the combined firms with a weighted average of the target's and bidder's profit margin on sales before acquisition. The post bid sales margin may be biased downwards in the event of vertical acquisition since some sales are internalised and profits on them will be recorded pre bid but not post bid. These sales are those which had been made to the takeover partners as an independent company before takeover but are now internalised (inter-company sales). Thus, a reduction in profit margin on sales cannot be inferred as deterioration in efficiency since the inter-company profits have been excluded in the numerator.

Despite the considerable drawbacks, however, accounting data has often been used in US and UK in examining the pre and the long term profitability of acquisitions. Empirical work on both the pre and post acquisitions using accounting data is discussed in the following sections.

5.3 Pre Acquisition Performance

Accounting data can be used for comparing the pre acquisition characteristics of the various groups of merging and non-merging firms: acquiring and non-acquiring, acquiring and acquired, acquired and non-acquired. Financial characteristics of the participants in corporate acquisitions are normally measured prior to acquisition to determine which financial variables appeared to be the most affected by the takeover. One approach is to compare financial characteristics of the various groups on a univariate basis. A second approach is to develop a multivariate model that attempts to classify companies into various groups based on a number of financial characteristics. Accounting data may also be used to develop a predictive model by which the likelihood of takeover could be assessed for any given firm, on the basis of its pre bid financial characteristics. Distinguishable features which set apart the acquired firms from those which are not acquired can be determined, for example size, liquidity, profitability, and gearing.

For a sample of 77 companies making a single horizontal acquisition in UK during the period 1954-60, Singh (1971) studied the pre acquisition characteristics of acquired firms and compared them with those of the surviving firms, using accounting ratios, rate of return on capital (usually total or net assets) as measurement variables. Using both univariate and multivariate statistical analysis, Singh (1971) found that acquired firms tended to have low profitability, low growth and low valuation ratios

when compared with non-acquired firms⁸⁸. Singh (1971) also analysed the characteristics of the acquiring firms and compared them with those of the acquired firms, and non-acquiring firms⁸⁹. He found evidence that the acquiring firms are significantly larger, more dynamic, higher rate of growth but less liquidity than either the acquired or the non-acquiring firms⁹⁰. Singh (1971) also note that the acquiring firms were significantly more profitable than the acquired firms but with similar profitability to non-acquiring firms. Growth was identified as the most important distinguishing feature between the acquiring and non-acquiring firms whereas profitability was found to be the most important discriminator between the acquired and non-acquired firms. Thus, the result indicate that the acquiring firms possess the characteristics of a 'growth-minded' firm where the takeover process may actually encourage managers in large corporation to concentrate even more on size rather than profitability⁹¹. In his later study in assessing the efficiency of the takeover mechanism for the period 1967-70, Singh (1975) reported that the unprofitable firms taken over exist only for small size firms rather than the large ones. The takeover process was therefore seen to provide a measure of discipline for unprofitable small firms but not for unprofitable large firms. Singh argued that firms can reduce their probability of being taken over by increasing their relative size without increasing their rate of profit. In fact, the takeover mechanism may actually encourage large relatively unprofitable firms to increase their size by acquiring other companies.

A similar study was carried out by Meeks (1977) to examine the pre acquisition characteristics of 233 acquiring and acquired firms during the period 1964-

⁸⁸ Singh (1971) defined valuation ratio as the ratio of the stock market value of a firm's equity to the book value of its net assets.

⁸⁹ Singh (1971) investigated the profitability of 77 horizontal acquisitions, splitting them into five industry groups and then measured the average profitability (accounting ratios) for each industry and for all industries.

⁹⁰ The acquiring firms have all the attributes of a 'growth-minded' firms - higher retention ratio, higher gearing ratio and less liquidity.

⁹¹ A growth-minded firm 'retains a greater proportion of profits, is more highly geared and less liquid than the average non-acquiring or the average acquired firm' (Singh, 1971, p.166).

1972. In common with the findings of Singh (1971), Meeks (1977) found that the acquiring firms are significantly bigger than the acquired firms and that the profitability of the acquiring firms are higher than their industry average for each of the three years prior to the acquisition. However, the acquired firms are said to be an 'average performer in terms of profitability' as compared to their industry average over the same period. Results reported by Meeks (1977) suggest that the takeover mechanism has been an imperfect disciplinarian in ensuring efficient utilisation of the existing assets of the firm since it 'does not appear to have singled out the unprofitable as victims; and small size rather than low profitability appears to have been the characteristic' of the acquired firms.

Comparison of pre acquisition characteristics of acquiring, acquired and control group companies was also undertaken by Cosh et al. (1980) for takeovers made in the period 1967-69. A summary of their results are shown in Table 5.1 Similar to the results obtained by Meeks (1977) and Singh (1971), acquiring firms are on average larger in size, have higher leverage ratios and faster growth rate than acquired firms and the control group when measured on a univariate basis⁹². Somewhat different from the result of Singh (1971), they report that there is little difference in the average profitability of acquiring and acquired firms. They interpret their findings as evidence that there may be more than one motive for acquisitions but that takeovers may not be an effective mechanism for resource allocation.

⁹² Control group companies are those that neither acquired nor acquiring any other companies.

Table 5.1**Summary of comparative characteristics of acquiring, acquired, and control group companies in the period immediately prior to takeover**

Variable	Results
Size	AG > AD ≥ Others
Profitability	Others > AD; Others ≥ AG; AG ≥ AD
Profits Variability	AD > Others; AD ≥ AG
Growth	AG > AD; AG > Others ≥ AD
Leverage	AG > AD > Others

Notes:

> - connotes statistically significant and quantitatively relatively important difference between the group

≥ - indicates statistically insignificant or quantitatively small difference

AG - the acquiring companies

AD - the acquired companies

Others - the control group companies, which neither were acquired nor acquiring any other companies

Source: Cosh, Hughes and Singh (1980, p. 248)

In determining why some takeover bids give rise to acquisition while others do not, Holl and Pickering (1988) analyse a total of 282 UK firms over the period 1965-76. The variables used to describe the financial characteristics of each firm are size (based on net assets), growth of net assets, rate of return on net assets and rate of return on equity assets, dividend return on equity assets, retention ratio, gearing ratio and liquidity ratio. One of the main findings was that acquired target companies tended to be smaller in size, have lower growth rates and be less profitable than their acquirers and also in comparison with target companies not taken over. Their result is consistent with the hypothesis that firms which do not perform well on either managerial or shareholder criteria will be taken over. However, successful bidders were identified as those which have faster growth, greater liquidity, higher gearing but do not have superior profitability to unsuccessful bidders. Thus, the result indicates that the influence of managerial variables (fast growth) and financial variables are the key to a successful takeover bid rather than shareholder profitability. Similarly, Taffler and Holl (1991) found little evidence that the capital market is able to exercise control

over allocation of capital resources. In exploring the financial performance of 55 cases of abandoned acquisitions in UK during the period 1977-81, they find that the bidders do not appear to be more profitable than their targets either in successful or abandoned bids. Neither did the targets in abandoned bids exhibit superior pre bid profitability performance to targets in completed bids.

In US, the published evidence is also mixed, although it lends little support to a theory of the takeover mechanism being an important disciplinary device in acquiring the least 'efficient'. For instance, Mueller (1980) in a study on 287 acquired companies (including 28 horizontal acquisitions) over the period 1962-72, found that the acquired companies had slightly higher pre acquisition returns on assets than non-merging control groups, and nearly a percentage point higher than the average return in their home industries. Similar to the findings by Singh (1971, 1975) in UK, Mueller (1980) reports that acquiring firms have greater growth rates and leverage ratios than non-acquiring firms, indicating that acquiring firms are more aggressive and growth oriented than non-acquiring firms. The acquiring firms however achieved no difference in profitability on assets but much lower profit-to-sales ratio than that of the acquired companies in the year before acquisition. Acquiring firms were also larger in size, had greater growth rates and higher leverage ratios than the acquired firms and non-acquiring firms. Thus, Mueller (1980, p.297) concludes that a possible motive for acquisition is 'to reduce the riskiness of the acquiring companies' debt-equity position and/or to allow for an expansion of debt outstanding'.

Several studies have developed takeover target prediction models using publicly available financial information in identifying the characteristics of firms subject to takeover bids. Examples are Palepu (1986), Mork et al. (1988) and Barber et al. (1995) in US and Powell (1997) in UK. Knowledge of these characteristics may be useful in casting some light upon the motives underlying takeover and may provide a

basis for an investment strategy whereby firms with high estimated probabilities of takeovers are invested in.

In examining a sample of 163 targets and 256 non-targets in US during the period 1971-1979, Palepu (1986) report that only average excess return, growth-resource variables and size variables give significant results⁹³. The results indicate that poorer share market performance and smaller size are likely to increase a firm's probability of becoming a target. Further, firms with mismatch between growth and resources, that is, low-growth, resource-rich firms (high liquidity and low leverage) and high-growth, resource-poor firms (low liquidity and high leverage) are more likely acquisition candidate. Palepu also provide evidence that the prediction models are not superior to that of the stock market in predicting acquisition targets as claimed by earlier studies⁹⁴.

Morck et al. (1988) who examined 40 hostile and 42 friendly acquisitions between 1981 to 1985 provide evidence that the characteristics of hostile and friendly targets differ significantly⁹⁵. Target firms that are smaller, older, slower growth rates, lower Tobin's Q, more debt, and less investment than the average firms face a higher likelihood of a hostile takeover⁹⁶. Targets of a friendly takeover are smaller, younger, and have comparable Tobin's Q and growth rates to the average firm, indicating

⁹³ Among the variables used in Palepu's (1986) study are average excess return, return on equity, annual rate of change in the firm's net sales, growth-resource variables, industry variables, size variables, market-to-book ratio and price-earnings ratio. Average excess return and return on equity are used as proxy for management inefficiency. Growth-resource variable is used to determine if firms with a mismatch between their growth and the financial resources are likely targets. Market-to-book variables is to determine if firms whose market values are low compared to their book values are likely acquisition targets. Size variables and price-earnings variables are to determine if the likelihood of acquisition decreases with the size of the firm and increases with low price earning ratios, respectively.

⁹⁴ Earlier studies (example Belkoui, 1978 and Dietrich and Sorensen, 1984) claimed that acquisition targets can be accurately predicted by models using public data six to twelve months prior to takeover announcements.

⁹⁵ An acquisition is classified as hostile if a target firm tried to reject the initial interest of acquiring firm in an acquisition. All other firms not considered hostile are categorised as friendly.

⁹⁶ Morck et al. (1988) measured Tobin's Q as the ratio of the market value of the firm to the replacement of its tangible assets. Tobin's Q is used as a proxy for growth opportunities, quality of management and monopoly power.

characteristics of synergistic takeovers. In addition, targets of a friendly takeover have higher boardshare ownership than hostile targets and other firms not taken over. Barber et al. (1995) similarly found that the characteristics of friendly and hostile acquisitions differ when they examined 71 acquisitions (31 conglomerates and 40 non-conglomerates) during the period 1 January 1963 and 31 December 1968. The conglomerate and non-conglomerate targets in hostile acquisitions had similar characteristics when both types of acquisitions had significant low Q ratios (-1.93 and -1.16, respectively), consistent with the hypothesis that disciplining inefficient management is the motivating force for hostile takeovers⁹⁷. The friendly acquisitions on the other hand, earn significant high returns on equity but Q ratios that are not significantly different from non-targets. In addition, the targets of friendly acquisitions have low P/E ratio, indicating that the bidders reason for acquiring these targets is to increase their earnings per share, and not for disciplinary motives.

In developing a model of takeover likelihood in UK, Powell (1997) examines 411 targets and 532 non-target firms for the period 1984 to 1991. Powell (1997) confirms the findings of earlier studies that the characteristics of acquired firms differ from those of non-acquired firms. Similar to the findings by Morck et al. (1988) and Barber et al. (1995), Powell (1997) also provides evidence that the characteristics of hostile and friendly targets differ significantly. Based on binomial models (treating hostile and friendly targets as a single group), he reports that liquidity, size and free cash flow were important determinants of takeover likelihood during the period 1984-91. Similar to the argument made by Jensen (1986), firms that have accumulated large free cash flow which are not returned to investors are the most likely targets. Prior performance as measured by either return on capital employed or market-to-book ratios show insignificant results. Based on the multinomial model (separating

⁹⁷ Q ratios in the study by Barber et al. (1995) is defined as the sum of market value of equity, the book value of debt and the liquidating value of preferred stock divided by the book value of total assets.

hostile and friendly takeovers into separate groups), Powell (1997) document that the larger the firm's size, the lower the firm's liquidity, the lower the firm's profitability and the higher the firm's market-to-book ratios, the higher the likelihood of a hostile takeover of a firm for the period 1984-91⁹⁸. On the other hand, the likelihood of a friendly takeover is higher when the firm is smaller and leverage higher. The results indicate that inefficient management and target undervaluation hypothesis are more likely to be prevalent in hostile takeovers⁹⁹.

Hay and Liu (1998) provide evidence that acquiring firms with high profit rate, generating increasing cash flow and enjoying rising valuation ratios are more likely to make acquisitions. In examining the behaviour of 110 UK manufacturing firms during the period 1981 to 1989, Hay and Liu (1998) found positive coefficient on profit rate (gross post tax operating rates excluding depreciation and interest payments) and negative coefficients on debt/asset ratio, of 0.499 and -1.04, respectively¹⁰⁰. The results indicate that a firm with high forecast of cash flow and low debt/asset ratio are more likely to make acquisitions, consistent with Jensen's (1986) cash flow theory that excess cash flows in the hands of management which are not needed to pay debt interest or dividend to shareholders are used to make acquisitions. A positive coefficient on the valuation ratio (market value) also indicates that investors are confident in the acquiring firms' management and likely to be favourable to the acquired firms' shareholders when the bid is made¹⁰¹.

⁹⁸ The accounting rate of return (ROCE) and the market value of a firm to the replacement cost of its assets (market-to-book ratios) are used to proxy managerial performance. It is hypothesised that firms with low profitability and low market-to-book ratios are likely targets.

⁹⁹ Powell (1997) postulates that the use of the multinomial framework is superior to a binomial framework in modelling takeover likelihood.

¹⁰⁰ Hay and Liu (1998) used profit rate as proxy for cash flow and debt/asset ratio as cash flow at the discretion of management after debt interest payment is paid for.

¹⁰¹ Valuation ratio is based on the ratio of market value to replacement value of assets, and market share.

In examining the relation between managerial turnover and performance, Mikkelson and Partch (1997) compare the performance of 200 US companies during an active takeover market (1984-1988) and a less active takeover market (1989-1993). They find that there are significantly higher frequencies of turnover among the lowest quartile of performers (measured by operating income scaled by assets) in the more active takeover period¹⁰². The rate of complete turnover of top management among the lowest quartile of performers is 33%, more than double the turnover rate among the highest quartile of performers (16%) in the active takeover years¹⁰³. In the less active takeover period, the rate of complete turnover is 17% in the lowest quartile of performers and there is no significant association between the rate of senior management turnover and firm performance. Mikkelson and Partch (1997) conclude that a high level of takeover activity facilitates the replacement of managers of poorly performing firms and that corporate managers face less pressure to maximise value when the takeover activity diminishes.

5.4 Post Acquisition Performance

A number of studies have examined the post acquisition performance of the combined firm to identify whether or not corporate acquisitions provide long-run economic benefits. An assessment of the company performance is possible either by comparing the post acquisition profits of the target and bidding companies over a pre acquisition period with consolidated profits over a post acquisition period, or by comparison between merged and non-merging companies over the same period, in order to eliminate economic factors which would affect general profitability. A review

¹⁰² Operating income is pre-tax operating income before deducting interest and depreciation. Assets are total book value of assets.

¹⁰³ Complete turnover is defined as a change in the set of individuals who hold the top three offices of chief executive officer, president and chair of the board. To achieve complete turnover in their study, no individual should be holding any of the top three offices from the beginning to the end of the 5 years.

of previous empirical work of post acquisition performance that uses accounting data is summarised in Table 5.2 (a) and (b). Similar to the results on event studies in the previous chapter, the outcome of the studies that use accounting data is ambiguous. Studies in the US, including those by Lorie and Halpern (1970) and Lev and Mendelker (1972) have found that merger active firms perform significantly better than less merger active or non-merging firms. Studies by Healy et al. (1992) and Jarrell (1995) have reported a significant increase in post acquisition performance of the merged firms. Ghosh (1998) also reported an improvement in post acquisition performance of merged firms, depending on the benchmark used. Ravenscraft and Scherer (1987), Phillippatos and Baird (1996), Denis et al. (1997) and Harford (1999) however, provide evidence that the merging firms are less profitable than their non-merging firms. Some studies in UK indicate that on average post acquisition accounting profitability of the acquiring companies are 'disappointing' (Singh, 1971, Utton, 1974, Meeks, 1977 and Dickerson et al., 1997) whilst studies by Cosh et al. (1980), Holl and Pickering (1988) and Manson et al. (1994) show that acquiring firm profitability either increased, or remained the same following acquisition.

Table 5.2 (a)

Summary of post acquisition performance using 'Accounting' studies in US

<i>Author, Sample Period and Country Examined</i>	<i>Sample Size and Main Variables</i>	<i>Controls Used</i>	<i>Summary of Results on Merged Firms</i>
Lorie and Halpern (1970) 1955 – 1967 US	115 Takeovers Rates of return	Non-merging firms in same Industry	Average rates of return for conglomerate mergers higher 1 and 2 years after merger than average return for large companies
Lev and Mandelker (1972) 1947 – 1968 US	69 Takeovers Net income to total assets	Non-merging firms in same Industry	Net income to total assets significantly higher for merging firms.

Author, Sample Period and Country Examined	Sample Size and Main Variables	Controls Used	Summary of Results on Merged Firms
Mueller (1980) 1962 - 72 US	287 Takeovers Pretax profit on net assets Pretax profit on sales Pretax profit on equity	Non-merging firms in same Industry	Pre-tax profit rates of the merging firm are lower than industry averages for all three measures.
Ravenscraft and Scherer (1987b) 1975 - 1977 US	471 Takeovers Operating income over assets	Non-merging firms in a specific line of business	Acquiring companies earn lower profitability as compared to control groups over the three years 1975 - 1977
Healy, Palepu and Ruback (1992) 1979 - mid-1984 US	50 Takeovers Operating cash flows over market value of assets	Industry adjusted pre and post takeover performance	Merged firms have higher post bid operating cash flow on assets than their industries. Median industry adjusted operating returns for the merged firms are 3.0% in year 1, 5.3% in year 2, 3.2% in year 3, and 3.0% in year 4, all significantly different from zero.
Clark and Ofek (1994) 1981 - 1988 US	38 acquisitions of distressed firms targeted for restructuring The ratio of operating cash flow to revenues	Industry adjusted	Median industry adjusted for the combined firms are -0.1% in year 1, -1.5% in year 2, and -0.4% in year 3 relative to the year of acquisition completion

Author, Sample Period and Country Examined	Sample Size and Main Variables	Controls Used	Summary of Results on Merged Firms
Jarrell (1995) 1973 - 1985 US	130 completed takeovers 46 cancelled takeovers ratio of net income to sales	Firm-specific analyst forecasts	Merged firms earn a significant post performance of -5.2% in year +1, an insignificant -7.1% in year +2. Over the longer term (average of 4 - 6 years) merged firms experience a significant improvement in post performance of 10.9% than it would have been without the merger.
Philippatos and Baird III (1996) 1973 - 1987 US	71 mergers and tender offers Ratio of market value to book value of total assets	Relative to industry averages	Combined firms earn lower post acquisition performance relative to their industry
Anand and Singh (1997) 1986 - 1992 US	289 acquisitions in declining industries Operating cash flows over market value of assets	Industry adjusted pre and post takeover performance	Consolidation-oriented acquisitions earning higher operating cash flow than diversification-oriented acquisitions in declining industries.
Healy, Palepu and Ruback (1997) 1979 - mid-1984 US	50 Takeovers Operating cash flows over market value of assets	Industry adjusted pre and post takeover performance	Merged firms earn insignificant industry adjusted cash flow returns. Friendly acquisitions involving payment by shares in overlapping business earn significant returns. Hostile acquisitions involving cash payment in unrelated business earn insignificant returns.

Author, Sample Period and Country Examined	Sample Size and Main Variables	Controls Used	Summary of Results on Merged Firms
Ghosh (1998) 1981 – 1992 US	232 takeovers Operating cash flow over market value of assets	Industry adjusted pre and post takeover performance Annual size and Industry adjusted pre and post takeover performance	Median industry adjusted cash flow significantly increase from pre acquisition of 3.00 to 3.10 in post acquisition period Median size and industry adjusted cash flow decreases from 1.48% three years prior to acquisition to 0.62% three years post acquisition
Harford (1999) 1950 – 1994 US	19 Industry groupings cash flow over market value of assets	Industry adjusted pre and post takeover performance Cash and Industry adjusted pre and post takeover performance	Merged firms earn insignificant negative abnormal post acquisition performance of -0.7% Merged firms earn significant negative abnormal post acquisition performance of -0.9%

Table 5.2 (b)

Summary of post acquisition performance using 'Accounting' studies in UK

Author, Sample Period and Country Examined	Sample Size and Main Variables	Controls Used	Summary of Results on Merged Firms
Singh (1971) 1954 – 1960 UK	77 Takeovers pre-tax profitability on net assets	Against non-merging firms in same Industry	66.2% of firms experienced lower adjusted profitability in the year of acquisition, 66% and 57.1% suffered declines in profitability one year and two years, respectively, after acquisition.
Utton (1974) 1954 – 1965 UK	39 Takeovers pre-tax profitability on net assets	Against non-merging firms in same Industry	58% of the takeover intensive firms experience below median profitability both one and two years after takeover.

Author, Sample Period and Country Examined	Sample Size and Main Variables	Controls Used	Summary of Results on Merged Firms
Meeks (1977) 1964 - 1972 UK	233 Takeovers rate of return on assets	Against non-merging firms in same Industry	Firms experience relative decline in profitability from -5.3% in the year after acquisition to a further decline of -7.3% seven years after acquisition.
Cosh, Hughes and Singh (1980) 1967 - 1969 UK	290 Takeovers Net income on net assets Post tax income on equity assets	Against non-merging firms in same Industry or Industry averages	Significant relative improvements in post acquisition profitability found for all takeovers for two measures of profitability.
Holl and Pickering (1988) 1965 - 1976 UK	282 takeovers Rate of returns on net assets	Matching abandoned and actual acquisitions	Successful acquiring companies perform less profitability and have lower financial performance than unsuccessful companies.
Manson, Stark and Thomas (1994) 1985 - 1987 UK	38 Takeovers operating cash flow on market value of assets	Industry adjusted pre and post performance	On average operating gains are significantly positive at the 5% level and the gains are expected to persist for five years.
Dickerson, Gibson and Tsakalotos (1997) 1948 - 1977 UK	613 acquirers making 1443 acquisitions Rate of return on assets	Against non-acquiring firms	Company growth through acquisition will increase its profitability by 0.2% Company growth through internal investment will increase its profitability by 6.9%

5.4.1 US Studies

Earlier studies by Weston and Mesinghka (1971) found that arithmetic mean growth in total assets, sales, net income, earnings per share, market price was higher for the conglomerate firms when they were compared to non-conglomerate control samples, demonstrating superior performance with respect to both managerial and shareholders interests. Weston et al. (1972) also found that conglomerate firms for the period 1960-1969 were successful in improving returns. However, Mueller (1980) reported that the pre-tax profit rates (either on assets, sales or equity) of the combined firms relative to their industries were found to be lower after acquisition than before for all three-profit measures, indicating a deterioration in the operating performance of the combined firms. Mueller (1980) also found declines in the rates of return on the acquiring companies' shares over the period of acquisition and three subsequent years, which further strengthen the conclusion that acquisitions are not beneficial to the acquiring firms.

In a more recent study of the effects of US mergers of the 1950s, 1960s, and early 1970s, Ravenscraft and Scherer (1987b) used 'line of business' in monitoring the performance of the acquired company after acquisition. Although their sample encompasses acquisitions in manufacturing firms from 1950 to 1977, post acquisition performance is examined only in the years 1974 to 1977, for which the line of business data is available. Ravenscraft and Scherer (1987b) found that target firms were statistically more profitable, 8.18% higher than the industry average over all three years prior to acquisition. They measured profitability as the ratio of annual operating income to total end-of-period assets¹⁰⁴. By contrast, the acquiring firms who had acquired profitable target firms did not fare very well after acquisition. Over the

¹⁰⁴ Operating income is computed before income taxes, extraordinary charges or credits, and interest charges (or income).

three years 1975-77, the acquiring firms post acquisition profits was barely above that of the control group, and even in the best year 1977, it was much lower than the average target unit's pre acquisition level. Their results provide evidence that merging firms are usually less profitable than their non-merging counterparts and produces evidence which contradicts the theory of takeovers as an efficiency-increasing mechanism.

In a further study, Philippatos and Baird III (1996) test the hypothesis that if firms with high performance make value increasing acquisitions, then the post acquisition performance should be positively related to the acquiring firm's pre acquisition performance¹⁰⁵. They also hypothesise that if more value can be created from taking over poorly-performing companies, then the post acquisition performance of the combined firms should be negatively correlated to the target's pre acquisition performance. The results of an empirical investigation of 71 acquisitions completed from 1973 through 1987 do not however support these hypotheses. They found that the change in the combined firms' excess value of sales (EVS) is negatively correlated with the acquiring firm's pre acquisition relative EVS and not correlated with the acquired firm's pre acquisition performance. Except for the first post acquisition year, Philippatos and Baird (1996) also found that the mean and median in the combined firms' change in value (ΔV) are insignificantly positive. In fact, post acquisition performance falls relative to changes in industry EVS, consistent with earlier findings by Mueller (1980) and Ravenscraft and Scherer (1987_b) that firms

¹⁰⁵ Post acquisition performance is defined in terms of the change in the combined firms' excess value. Excess value is the difference between the market value and the book value of the firm, and the change is measured annually from the pre acquisition period through the third year subsequent to acquisition. Excess value represents the capitalised value of the expected stream of future excess profit or loss arising when price differs from average cost.

$$\text{EVS} = (\text{Market Value} - \text{Book Value}) / \text{Net Sales}$$

Market value of common equity is defined as the average of the annual high and low stock prices multiplied by the number of common shares outstanding.

Pre acquisition profitability is measured in terms of return on total capital as follows:

$$\text{ROC} = (\text{Cash flow} - \text{tax}) / \text{Total Capital}$$

involved in acquisitions on average do not exhibit improvement in their post acquisition performance. Philippatos and Baird III (1996, p.51) conclude that acquisitions by well performing acquirers that does not show any improvements in their post acquisition performance may be driven by hubris, and acquisitions by poorly-performing firms may be viewed as 'a means of mitigating the factors that relegate them to undesirable competitive positions'.

5.4.2 UK Studies

As mentioned earlier in Section 5.3, Singh (1971) found that acquiring firms had better performance records than target firms prior to the bid. In analysing the profitability of the acquiring firms after takeover Singh (1971) found that in a majority of cases the profitability of the acquiring firms decline in the year of takeover through 2 years after takeover. The results indicate that it is very unlikely that the takeover process leads to a more profitable utilisation of the existing assets of the firms. However, one of the limitations of Singh's study is that no tests of statistical significance were reported, thus leaving the possibility that the results achieved are due to chance. In a similar study, Utton (1974) compared the profitability of 39 companies which were classified as intensive acquirers with that of a group of companies that grew through internal expansion, using the reported pre-tax profit as a percentage of net assets as a measure of profitability. The results obtained show that over the periods 1961-65 and 1966-70, the average profitability of the takeover intensive sample was lower than that of the internal-growth group. The average profitability of the takeover intensive firms fell from 13.6% to 11.5% and the control group from 15.4% to 14.2%. Similarly there was no indication that the takeover intensive firms have performed significantly better than the industry average firms. However, Utton (1974) had used an unadjusted pre-tax profit performance so there might be a downward accounting bias in his results. In addition, as argued by Hughes

(1993), the industrial composition of the two groups of companies in Utton's study is not the same so there might be bias with acquisitions occurring more frequently in declining industries.

Other UK studies (Meeks, 1977, Cosh et al., 1980 and Cosh et al., 1989) make attempts to deal with the problem of aggregation bias by comparing post acquisition profit of the combined firms with their weighted average pre acquisition profitability, either relative to their industry average or to size- and industry-matched non takeover firms. These studies also adjust for accounting changes. Meeks (1977) uses a comprehensive sample of 233 acquiring UK quoted companies (1964 to 1972). He compared profitability in the year of the takeover and the following seven years, with that of the weighted-average profitability of the firms in the three years prior to the takeover. He makes adjustments for accounting bias due to the revaluation of the merged firm and for external influences by measuring a firm's profit relative to its industry. Similar to the findings of Singh (1971) and Utton (1974) above, Meeks (1977) found that on average profitability showed a significant decline for the five years following the acquisition from the pre acquisition level, suggesting that acquisitions have a negative effect on profitability. Cosh et al. (1980) also found that the net income on net assets of the combined firms decline on average by a significant 0.25% three years after acquisition compared with five years before acquisition. Nevertheless, there was a larger significant decline in the profitability of the matched control group during the same period. Thus, the latter results provide evidence that the growth and profitability performance of the combined companies did not suffer a relative decline after acquisition, contrary to the results reported by Utton (1974) and Meeks (1977). However, the results in Cosh et al.'s (1980) study may also indicate that acquisitions occur in falling-profit industries.

In a study which compared the performance of companies involved in successful and failed bids, Holl and Pickering (1988) showed that the target and bidding companies that did not merge have better profitability than those that did merge for 3 years following acquisition. The results of univariate analysis show that the target and bidding companies in failed acquisitions obtain a significantly higher return on capital employed (4.3%) and return on equity (2.7%) than the target and bidding companies in successful acquisitions. Holl and Pickering (1988) also find that target companies in failed acquisition have significant higher growth rate, higher return on capital employed, higher return on equity and retention ratio over the 3 years following the acquisition bid compared to 3 years before the bid. The results indicate that acquisition does not seem to have a favourable effect on relative performance of the merged firms but suggest that the threat of takeover may have been a spur to efficiency improvement on the part of a target company not taken over.

In a more recent study, Dickerson et al. (1997) provide evidence that growth by acquisition rather than growth through internal investment has a detrimental impact on company profitability. In analysing the impact of acquisition on profitability of 2,941 UK quoted companies during the period 1948-77, Dickerson et al. (1997) found that the mean rate of return on assets (pre-tax profit as a proportion of average net assets) of acquirers was significantly negative and 2.4% below that of non-acquirers¹⁰⁶. They also found that on average profitability increased by almost 6.9% in the long run through internal growth relative to only 0.2% by acquisition growth. Thus, their results are consistent with previous studies above which suggest that acquisition has a negative long term effect on company performance as measured by profitability.

¹⁰⁶ The acquisition has a negative effect on the rate of return even after controlling for firm and time specific effects.

5.4.3 Cash Flow Analysis

Unlike previous studies, Healy et al. (1992) used operating cash flow as a profit measure¹⁰⁷. They undertook an analysis of the post acquisition cash flows and overall performance of the 50 largest acquisitions in the US between 1979 and 1984. Performance is defined as the pre tax operating cash flow returns on the market value of total assets¹⁰⁸. This measure is selected in order to avoid diluting the results with the impact of financing of the acquisition (stock versus cash) or the method of accounting for the transaction (pooling versus purchasing). Healy et al. (1992) report that the combined firms earn significantly positive median industry adjusted operating returns of 3% in the year after acquisition, 5.3% two years after, 3.2% three years after and 3% after four years, higher than their industries' returns. Only year 5 shows insignificant returns of 2.5% higher than the industry. The percentage of companies with positive industry adjusted returns in each of the 5 post acquisition years is above 50%. The annual median return in the five post acquisition years is reported as 2.8%, which is about 16% larger than their industries' returns, and 73% of the industry adjusted cash flow returns were positive¹⁰⁹. They also reported that the improvement in post acquisition cash flow returns is not the result of cutting back on capital expenditures and research and development expenditures¹¹⁰.

¹⁰⁷ Besides focusing on acquisitions, studies that use operating cash flow measure on management buyouts include Kaplan (1989) and Smith (1990). Kaplan (1989) presents evidence that management buyouts for the period between 1980 and 1986 experience post-buyout operating improvements and value increases. The larger median net cash flow in the first three post-buyout years than in the last pre-buyout year is due to both a large increase in operating income and a decrease in capital expenditure. They also find that the changes in operating income and net cash flow are correlated (although not uniformly) with the market-adjusted returns.

¹⁰⁸ Healy et al. (1992) defined operating cash flow as sales, minus cost of goods sold and selling and administrative expenses, plus depreciation and goodwill expenses. Market value of assets comprise of market value of equity plus book value of net debt.

¹⁰⁹ Healy et al. calculate the percentage increase relative to the industry as $2.8/(20.5 - 2.8)$.

¹¹⁰ Capital outlays and research and development expenditures are determined as a percentage of the market value of assets at the beginning of the year, respectively.

In a later study, Healy et al. (1997) found that acquisitions are break-even investments on average, given actual premiums paid to targets. Using the same sample of 50 acquiring firms, Healy et al. (1997) report that the median industry adjusted operating returns are insignificant in years 1, 3, 4 and 5 after acquisition. The overall median annual post acquisition returns for the 5 years was insignificantly different from their industry returns, indicating that the acquirers did not generate any additional returns beyond those needed to recover the premium paid. Breaking up the sample into friendly (12) and hostile (14) takeovers, Healy et al. (1997) found that friendly acquisitions earn significant positive industry adjusted post acquisition cash flow returns of 3.2% while hostile takeovers earn insignificantly negative (-1.2%) returns¹¹¹. The results suggest that hostile acquirers had to pay higher premiums than friendly acquirers, thus, earn lower returns.

In a similar study to that by Healy et al. (1992), Manson et al. (1994) investigated 38 UK takeovers between 1985 to 1987. The 5-year median operating cash flow of the acquirer is compared to the median cash flow that could be expected of the target and acquiring firms¹¹². Their findings also indicate that merged firms have significant improvements in operating cash flow. Similar to the results in the study by Healy et al. (1992, 1997), Manson et al. (1994) also found a strong positive relation between post acquisition increase in cash flow and total abnormal returns to the two firms during the bid. The results indicate that the stock market correctly anticipates and capitalises the expected improvements in cash flow from acquisition. Manson et al. (1994, p.17) conclude that previous studies in UK that have used accounting data to estimate operating gains from takeovers 'have been subject to systematic

¹¹¹ Healy et al. (1997) defined friendly or strategic takeovers as those transactions involving share payment for firms in overlapping businesses while hostile or financial takeovers as involving cash payments in unrelated businesses.

¹¹² In contrast to that used by Healy et al. (1992), operating cash flow is defined by Manson et al. (1994) as pre-depreciation profit adjusted for changes in working capital (i.e., changes in stocks, trade debtors and non-tax prepayments less changes in creditors and non-tax, non-interest accruals).

measurement problems that have biased the results of the test performed away from finding evidence of operating gains'.

Similarly, Clark and Ofek (1994) uses operating cash flow in analysing post acquisition performance to examine the effectiveness of acquisition in the restructuring of distressed firms. A sample of 38 US acquisitions of distressed firms targeted for restructuring between 1981 and 1988 were examined. Unlike Healy et al. (1992) and Manson et al. (1994) who employ the ratio of operating cash flow to market value of assets, Clark and Ofek (1994) use operating cash flow to revenues¹¹³. Unlike the results for acquisitions of healthy firms studied by Healy et al. (1992), performance of acquiring firms that acquired distressed targets show negative returns in the post acquisition period. Median industry adjusted operating returns are insignificant -0.1% in the year after acquisition, significant -1.5% two years after, insignificant -0.4% three years after. The percentage of total firms with cash flow higher than their industry decreases from 58 percent to 29 percent between year -1 and year +2 relative to the acquisition year, suggesting that bidders are unable to successfully restructure distressed targets. In identifying the factors that determine the success or failure of the restructuring, Clark and Ofek (1994) found that bidder overpayment and higher levels of post acquisition leverage for the combined firm help explain the poor post restructuring performance. They also provide evidence that bidders are more likely to earn positive post acquisition returns from restructuring financially distressed targets than targets that are operationally distressed. As mentioned in Chapter 4, the post acquisition performance using share data also show that the combined firms experience poor share returns following acquisition. All five-

¹¹³ Operating cash flow is defined as earnings before interest, taxes, and depreciation (EBITD)

performance measures in the study show that acquiring firms' shareholders lose, indicating that the results are not sensitive to the choice of performance measures¹¹⁴.

Anand and Singh (1997) also uses ex post acquisition operating performance measures in examining the differences in performance outcomes between diversification-oriented acquisition (no overlapping business units) and consolidation-oriented acquisitions (overlapping business units) in US declining industries for the period 1986-1992¹¹⁵. Similar to the method employed by Healy et al. (1992), Anand and Singh (1997) also used pretax operating cash flows normalised by the market value of assets in measuring the realised effectiveness of acquisitions¹¹⁶. Book values of debt are used to calculate the market value of assets. In constructing the pre and post acquisition, up to 5 years of data were used (-5 to -1, and +1 to +5) where year 0 being the year of acquisition. Results on the normalised operating cash flow show that consolidation-oriented acquisitions perform better (significant 14.11%) than diversification-oriented acquisitions (insignificant 8.91%) in declining industries. The results are consistent with those of Healy et al. (1992) who also document that operating performance with common business units on average improve following acquisitions.

Ghosh (1998) is another study in US that use similar methodology employed by Healy et al. (1992, 1997). In examining post acquisition performance of 232 acquiring and target firms during the period 1981 to 1992, Ghosh (1998) found an improvement in the combined firms post acquisition operating cash flow returns

¹¹⁴ The variables used to capture post acquisition performance of combined firms are beta-adjusted and industry adjusted share returns, and changes in cash flow. Other measures include annualised return to bidder on investment in target, and qualitative variable where success=1, marginal=0, and failure=-1.

¹¹⁵ Diversification-oriented acquisitions involve diversifying the operations of the existing firms into new markets while consolidation-oriented acquisitions involve consolidating the operations of the existing firm within their industry, that is, through horizontal acquisitions.

¹¹⁶ Operating cash flows are defined as sales minus cost of goods sold and selling and administrative expenses, plus depreciation and goodwill expenses.

relative to the industry median¹¹⁷. However, when industry and size matched firms are used as a benchmark, there is no evidence of cash flow returns improvement for the combined firms following acquisitions¹¹⁸. The 3-years annual median size and industry adjusted returns in the pre acquisition and post acquisition period is a significant 1.48% and insignificant 0.62%, respectively, as evidence of no improvement in the combined firms cash flow returns following acquisitions.

Besides examining how market reacts to acquisition announcement by cash-rich US acquiring firms during the period 1977–1993, Harford (1999) also uses post acquisition operating performance to examine the outcome of the bid in the long run. The measure of operating performance used in his study is cash flow return on assets, similar to the measurement used by Healy et al. (1992). However, cash flow in his study is defined as operating cash flow to exclude income from short-term investments¹¹⁹. The market value of total assets net of cash and short-term investments is used in the denominator, similar to that used by Healy et al. (1992). The adjusted performance of a cash-rich firm is obtained by subtracting the median performance of other cash-rich firms in its industry. Harford (1999) posits that the matching procedure used in his study, similar to Healy et al. (1992), allows for a direct comparison between performance of cash-rich firms that are involved in acquisitions and cash-rich firms that are not. The result of the regression of the adjusted post acquisition performance on adjusted pre acquisition performance shows that the adjusted post acquisition performance on all firms is negative. He further found that the cash-rich firms had significant negative post acquisition performance, consistent

¹¹⁷ Similar to Healy et al. (1992, 1997) and Anand and Singh (1994), cash flow returns are measured as sales minus cost of goods sold, selling and administrative expenses plus depreciation and goodwill, divided by market value of assets.

¹¹⁸ Control firms are matched on acquiring and target firms' industry and size one year prior to acquisition. The same matched firms are used as a benchmark for post acquisition years.

¹¹⁹ Similar to the definition used by Dechow (1994), operating cash flow by Harford (1999) is calculated as operating income before depreciation minus interest minus taxes minus changes in non-cash working capital.

with the free cash flow hypothesis that acquisitions by cash-rich firms are value decreasing.

The failure to use an appropriate benchmark in estimating post acquisition performance in previous studies using accounting data is further emphasised by Jarrell (1995). According to Jarrell, those studies supporting the theory that acquisitions improve long term accounting performance are limited to cases where such performance is measured relative to the firm's industry. That is, merged firms have lower profitability, but show significant improvement relative to their industries (examples include Cosh et al., 1980 and Healy et al., 1992 and 1997). In her study on 130 mergers in US for the period 1973 - 85, Jarrell (1995) used an alternative method for measuring the benchmark that proxy for the performance of acquiring and target firms in the absence of the acquisition. Unlike Healy et al. (1992, 1997), Clark and Ofek (1994) and Manson et al. (1994), who employ post acquisition industry performance benchmark, Jarrell (1995) incorporated as the benchmark firm-specific analyst forecasts of post-event performance but with the forecasts made during the pre bid period¹²⁰. The ratio of net income to sales is used as the performance variable in the study with the results indicating that takeovers improve the long term profitability of the combined firms. The performance of the merged firm is negative for the two-year period immediately following acquisition. Over the post acquisition period of 4 to 6 years, however, the combined firms experience a 10.9% improvement in performance over the predicted performance in the absence of takeover. The results were in contrast to those found for control portfolios of non-takeover firms and cancelled takeovers. The median difference between the unexpected performance of takeover firms and the unexpected performance for the control firms is negative in the

¹²⁰ These forecast of performance represent expert evaluations of the likely impact of the factors unique to the firm and unrestricted forecasts of expected long term performance, including those that may implicitly make the firm more or less likely to merge.

first 2 years and significantly positive of 15.8% over the post takeover years 4 to 6¹²¹. Jarrell (1995, p.21) inferred that the results are consistent with merging firms having absorbed the initial costs of the takeover, then realising improvements in the long term performance as the firm's 'assets or operations have been efficiently redeployed'.

5.5 Summary

The first section of the chapter examines evidence relating to the comparative financial characteristics of target and bidding firms. Examples of studies that find acquiring firms are on average larger in size, have higher leverage ratios and faster growth rate than acquired firms include those of Singh (1971), Meeks (1977), Cosh et al. (1980), Holl and Pickering (1988) and Taffler and Holl (1991) in UK and Mueller (1980) in US. Acquired companies, on average, have lower short-term profitability growth records and are smaller, less dynamic, and are less highly valued than companies on average but they are not always less profitable. Meeks (1977), Cosh et al. (1980) and Taffler and Holl (1991) in UK, and Mueller (1980) in US found that acquiring firms are not always more profitable as compared either to companies in general or to target firms. The results indicate that takeovers may not be an effective mechanism for resource allocation. Singh (1971, 1975) and Holl and Pickering (1988) found that acquired companies have low profitability either compared against non-acquired firms or against the acquiring firms. This result is consistent with the hypothesis that firms which do not performed well will be taken over. Morck et al. (1988) and Mikkelson and Patch (1997) in US also provide evidence that takeover activity facilitates the replacement of managers of poorly performing firms. Further, Palepu (1986), Morck et al. (1988), Barber et al. (1995) and Powell (1997) argue that the smaller the size of the firm the greater the probability of becoming a target. Other

¹²¹ The result for year 3 was not provided in the study.

important determinants of takeover likelihood include firms with growth-resource imbalance, liquidity and large free cash flow. Morck et al. (1988), Barber et al. (1995) and Powell (1997) also indicate that firms with low profitability and low market-to-book ratios are more likely to be targets in hostile takeovers.

Most accounting-based studies both for the UK and the USA tend to lend support to the view that acquisitions do not result in improved performance and that acquisitions are non-value maximising to shareholders. Examples are Mueller (1980), Ravenscraft and Scherer (1987_b), Clark and Ofek (1994), Philappatos and Baird III (1996), and Denis et al. (1997) in US, whilst those in UK are Singh (1971), Utton (1974), Meeks (1977), Holl and Pickering (1988) and Dickerson et al. (1997). However, Lorie and Halpern (1970) and Lev and Mendelker (1972) in US found that merging firms perform significantly better than non-merging firms. Recent studies like Healy et al. (1992, 1997), Jarrell (1995), Anand and Singh (1997) in US; and Manson et al. (1994) in UK using accounting and cash flow data in measuring operating performance provide evidence that acquisitions create value and accordingly are economically efficient in the long run. Ghosh (1998) who also use cash flow data found that combined firms improve their post acquisition cash flow returns, depending on the benchmark used.

Similar to the comments made about market-based studies, a pattern of negative post acquisition performance in accounting based studies may be due to methodological errors arising through the introduction of some element of bias into either the chosen sample or/and the control model selected for analysis. Appleyard (1980) argued that the differences in accounting policies and treatment of inter-group profits of the acquiring and target firms in the chosen sample would cause bias in measuring the post acquisition profitability. Another factor that has an impact on measures of post acquisition performance is that related to changes in accounting

methods used (whether the purchase or pooling of interests method). There is a possible downward bias to profitability from the way in which the acquiring firm records goodwill and revaluation of assets arising from the purchase method. Studies by Healy et al. (1992, 1997), Anand and Singh (1997), Ghosh (1998) in US; and Manson et al. (1994) in UK used cash flow rather than net profit measures to mitigate the impact of the financing of the acquisition and the method of accounting for the transactions.

As mentioned in Chapter 4, the results of market-based studies in the UK and the USA indicate that on average target shareholders are the overwhelming winners, but there is less evidence for significant gains to bidding firms around the announcement period. Using the ex post analysis, most share price studies in UK and US have also produced contradictory results and have not conclusively determined whether takeovers produce economic gains. The post acquisition performance of the combined firms using accounting and cash flow data as a measure of profitability, as discussed in this chapter, has also provide mixed results as to whether or not corporate acquisitions provide economic benefit to the shareholders in the long run. The apparently conflicting results produced either by market-based studies or profitability studies highlight a fundamentally unresolved question of what is the long term effect of acquisitions on firm performance. All the above studies face a general criticism concerning the relevant benchmark of performance. When faced with this problem the researcher has a number of available options, either to search for and test alternative control models similar to that of Franks et al. (1991), Agrawal et al. (1992), Gregory (1997) and Baker and Limmack (1999) when using market-based studies, or to use an alternative research design for example by measuring operating performance using accounting and cash flow data (Healy et al., 1992 and 1997, Manson et al., 1994, Jarrell, 1995, Anand and Singh, 1997, and Ghosh, 1998). In the current study the latter approach is adopted and cash flow analysis is used in

measuring the performance of companies involved in takeover activity. An explanation of the methodology applied in this study is discussed in the following chapter.

Chapter 6

Research Methodology and Hypothesis (I)

Operating Cash Flow Returns

6.1 Chapter Description

As mentioned in the introduction to this thesis, the main objective of the current study is to examine the post acquisition performance of Malaysian companies involved in acquisitions during the period 1988–1992 based on cash flow analysis. In addition, the study also attempts to identify the determinants of the changes in operating cash flow improvement, if any.

In order to address the research objectives, the following specific tests will be carried out:

- a) Comparison of the level of pre acquisition performance of bidders, targets and their respective controls,
- b) To test if there is any improvement in post acquisition cash flow performance of Malaysian acquiring firms five (5) years after acquisition as compared to their pre acquisition performance and that of the control firms
- c) Examination of the potential sources of operating cash flow change, and
- d) Tests of the effect of bid characteristics of the companies involved in acquisition on post acquisition performance.

Pre-tax operating cash flow returns on assets are employed in the current study to estimate changes in asset productivity and the potential for realising

economic benefits from acquisitions in Malaysia. The study constructs a pre acquisition measure of performance of the combined firms by consolidating performance data of the target and bidding firms from 4 years before the acquisition. Comparing a measure of the 5 years post acquisition performance with this pre acquisition performance provides a measure of the change in performance. The 5-years post acquisition period is used in the study to provide sufficient time for any changes in performance to be reflected in the firm's cash flow.

Previous studies that employed cash flow analysis (Manson et al., 1994 in UK, Healy et al., 1992, 1997 and Ghosh, 1998 in US) tend to use samples consisting of a small set of observations from takeover in fairly active markets¹²². The current study will investigate a sample representing a larger proportion of the population of takeovers in a less developed securities market, that of Malaysia during 1988-1992. Operating performance of 97 quoted acquiring and 117 target companies (consisting of 113 private, 3 public listed and 1 non-public listed targets) involved in acquisitions during the above period are investigated to determine whether there is any evidence that the Malaysian acquisitions produce operating gains after acquisitions (data and sample selection is discussed in Chapter 8).

This chapter expands on this broad outline by explaining the variables use in calculating the operating cash flow performance and the potential sources of cash flow returns together with the detailed methodology used to achieve the above objectives. Detailed methodology on the analysis of bid characteristics of the companies involved in acquisition on post acquisition performance is discussed in Chapter 7. Included in these two chapters is a section which explicitly state the

¹²² Manson et al. (1994) investigates 38 acquisitions in UK between 1985 to 1987 while Healy et al. (1992, 1997) investigates 50 largest acquisitions in US between 1979 and 1984.

hypothesis following from the theory and provide reference to the earlier sections in which the arguments in support of the hypotheses are made.

6.2 Measure of Operating Performance

The first step in identifying the adopted methodology is to define a measure of operating performance. Jensen (1984) argued that the large shareholders wealth changes in an acquisition are derived from improved management performance and increased efficiency brought about by the acquisition. One of the ways in measuring the realised effectiveness of acquisitions is to estimate the changes in asset productivity following the acquisition. As asserted by Healy et al. (1997) takeover announcement security returns represent investor's expectation of acquisition benefits whereas post acquisition cash flow performance measures represent actual economic benefits generated by acquisitions. In addition, Rayburn (1986) and Bowen, Burgstahler, and Daley (1987) in US provide evidence that cash flows can incrementally explain abnormal stock returns. Bowen et al. (1987, p. 746) found 'that cash information is consistent with the information impounded in security prices and also has incremental explanatory power beyond that contained in accrual flows alone'. Thus, the primary measure of performance used in this study is the operating cash flow of the companies involved. The incremental operating cash flow returns attributable to acquisition is also used as evidence of an increase in management efficiency, rather than a prior undervaluation of the company.

Earlier accounting-based studies in the UK (Singh, 1971, Meeks, 1977, Cosh et al. 1980, Holl and Pickering, 1988, and Dickerson et al., 1997) and the US (Lev and Mandelker, 1972 and Mueller, 1980) focused on changes in net income to total assets as a performance measure. As explained in the previous chapter, studies that have used operating income to total assets to measure operating performance (for

example, Ravenscraft and Scherer, 1987 in the US) suffer from some drawbacks¹²³. In addition, studies that have used alternative measures, including net income to sales (for example, Jarrell, 1995 in the US) have a disadvantage of not measuring directly the productivity of assets.

Another reason for using the cash flow measure of operating performance in this study is to avoid the potential earnings manipulation problem associated with accrual accounting measures for evaluating the effectiveness of takeover. DeAngelo, DeAngelo and Skinner (1994) define accruals as net income less funds from operations plus the changes in accounts receivables, inventories, and other current assets less the changes in accounts payable, taxes payable, and other current liabilities. Murphy and Zimmerman (1993) regarded accounting accruals, defined as the difference between accounting profits and cash flows, as the portion of profits over which manager can exercise the most discretion. As cited in Dechow (1994, p.5), 'many financial analyst regard operating cash flow as a better gauge of corporate financial performance than net income, since it is less subject to distortion from differing accounting practices'¹²⁴. A decrease in post event performance in an accrual-based performance measure might erroneously lead a researcher to believe that the erosion is due to the event when in fact, the firms are reporting lower income as result of overstated profits due to accruals in the pre-event. Barber and Lyon (1996, p.398) claim that '...cash-based performance measure allows the researcher

¹²³ Differences in accounting policies and changes in accounting methods used (purchase or pooling interests method) might cause an upward or downward bias in measuring the post acquisition profitability.

¹²⁴ Dechow (1994) argued that over short measurement intervals, earnings is a superior summary measure of firm performance to realised cash flow (net cash receipts) in firms with large changes in operating (working capital), investment and financing activities. She stated that earnings suffer timing and matching problems over short time interval but to a lesser extent than realised cash flows. Realised cash flows have more severe timing and matching problems in a volatile environment that cause them to be a 'noisy' measure of performance. Accruals are said to overcome the timing and matching problems in cash flow.

to ascertain whether an erosion in performance is the result of an erosion in operating performance or the reversal of pre-event accruals.'

Thus, the annual return on operating assets, defined as the ratio of annual cash flows from operations to operating assets, is the main measure used in the current study. This choice is consistent with that adopted in other similar studies including those of Manson et al. (1994) in UK and Healy et al. (1992, 1997) in US. Clark and Ofek (1994) and Anand and Singh (1997) in US also tend to employ operating cash flow as a measure of operating performance of corporations after acquisitions¹²⁵. In order to compare firms differing in size, operating cash flow is normalised by operating assets. Thus, similar to the methodology employed by Healy et al. (1992, 1997), and Ghosh (1998) in US and Manson et al. (1994) in UK, pre-tax operating cash flows normalised by operating assets are used in this study. The post acquisition performance of the firm is calculated based on the operating cash flow return on operating assets (OCFROA), defined as:

$$\begin{aligned} \text{OCFROA} &= \frac{\text{Operating cash flow}}{\text{Operating Assets}} \\ &= \frac{\text{Operating cash flow}}{\text{Equity} + \text{Debt} - \text{Cash and short-term investments}} \end{aligned}$$

The annual return on operating assets is defined as the ratio of annual cash flows from operations to operating assets. This measure enables one to estimate changes in asset productivity as evidence of management efficiency and the realised economic benefits from acquisitions (after adjusting for changes in economic conditions).

¹²⁵ Kaplan (1989) and Smith (1990) have examined operating performance following management buyout using cash flow data. Cornett and Tehranian (1992) also use operating cash flows returns to examine the post acquisition performance of bank acquisitions.

The variables use in calculating the operating returns are:

6.2.1 Operating Cash Flow

Cash flow from operating activities measure the amount of cash generated or used by the firm as a result of its production and sales of goods and services. A permanent increase in operating cash flow should lead to an increase in value. The cash flow measures in this study is similar to that used by Bowen, Burgstahler and Daley (1986) in the US and Lee (1984), Manson et al. (1994) and Ali and Pope (1995) in the UK. Cash flow is measured as profits from operations (before depreciation and amortisation) minus the change in accounts receivable, inventories and other current assets, plus the change in accounts payable, taxes payable and other current liabilities, tabled as in Table 6.1.

As seen in Table 6.1, cash flow measures in the current study allows adjustment for depreciation, goodwill, and interest expenses, which can vary after acquisition due to changes in accounting treatment. The book value of plant and equipment, inventory and goodwill is normally written up on completion of an acquisition to reflect the purchase price paid for the target firm's assets when acquisition method is used. The write-ups lead to a subsequent increase in reported depreciation, cost of goods sold, and goodwill expenses, thus reduced the reported profit. The measure of cash flows used in the current study is, however, unaffected by such write-ups.

Interest income and interest expense are excluded in computing the net profit from operating activities because these two items are not strictly related to a firm's operations. Interest expense is a function of financial leverage which is derived from financial assets rather than operating assets. The use of debt financing which incur

interest charges lowers post acquisition net income relative to share financing because net income is computed after deducting interest expense (the cost of debt), but before allowing for the cost of equity. The focus of the current study is to examine changes in *operating* performance, thus operating cash flow is a more appropriate measure since it is not directly affected by the financing decisions of the firm.

Table 6.1
Operating Cash Flow

<p><i>Operating profit before tax and extraordinary items</i></p> <p><i>Adjustments for non-current operating accruals and non-operating items:</i></p> <p>depreciation</p> <p>goodwill</p> <p>interest expenses (interest received)</p> <p>dividend paid (received)</p> <p>loss (gain) on disposal of assets and investments</p> <p>loss (gain) in affiliated companies</p> <p><i>Operating cash flow before working capital investments</i></p> <p><i>Cash flow effects of investments in working capital:</i></p> <p>(Increase)/Decrease in debtors</p> <p>(Increase)/Decrease in inventories</p> <p>(Increase)/Decrease in other current assets, excluding cash and cash equivalents</p> <p>Increase/(Decrease) in creditors</p> <p>Increase/(Decrease) in other current liabilities, excluding debt</p> <p>Operating Cash Flow</p>
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The cash flows measures in this study differs slightly from that used by Healy et al. (1992, 1997), Ghosh (1998) and Harford (1999) who define operating cash

flows as sales minus cost of goods sold and selling and administrative expenses, plus depreciation and goodwill expenses. The major difference between the definition by Healy et al. (1992, 1997), Ghosh (1998) and Harford (1999) and the one used in the current study is that operating cash flow in the current study excludes changes in accruals and non-operating gains. In fact, Ghosh (1998) suggests that the results in his study might be biased since the working capital accruals that are potentially subject to manipulation by managers is not accounted for in his operating cash flow calculation¹²⁶.

Earnings is the aggregate of cash flows and accruals (that is, earnings = cash flows + accruals). The types of accruals embedded in net income are current accruals and non-current accruals. Current accruals such as those arising from credit sales and unpaid expenses result in changes in a firm's current assets (inventory, debtors and prepaid expenses) and current liabilities (creditors and accrued liabilities). The non-current accruals include depreciation and deferred taxes. Information on current accruals can be obtained by examining changes in the firm's current assets (other than cash and cash equivalents) and current liabilities (other than notes payable and the current portion of long-term debt since these accounts represent financing flows, not operating flows). Adjustments were also be made to exclude non-operating items included in net income such as profits or losses on disposal of assets. The reason for excluding profits or losses on disposal of assets is partly due to the difference in the acquisition accounting method. Since the pooling method carries forward historical costs, no recognition is given to the true value of the assets acquired. The reported income will include fictitious gain if the acquiring company is to sell the acquired assets whose carrying cost is well below fair or market value. In addition, however,

¹²⁶ To test the robustness of the results, operating cash flow similar to the definition given by Healy et al. (1992) and Ghosh (1998) is also used in this study to measure the operating cash flow returns.

the current study is focusing on changes in “normal” operating performance which ought, by definition, to exclude such gains and losses.

6.2.2 Assets

In the current study, the book value of assets, defined as book value of shareholders fund and total debt less cash and marketable securities, is used to normalise the operating cash flow. It may be argued that it is more appropriate to use the market value of assets similar to the one used by Healy et al. (1992, 1997) and Ghosh (1998), but the market value is not available for the non listed targets in this study. According to Healy et al. (1992, 1997) and Manson et al. (1994), market value of assets is used because it represents market's assessment of the value of the firm's current and future investment opportunities. It can be considered an assessment of the value of the firm's competitive strategy and its deployment of human resources. However, market value would suffer from reflecting future expected benefits, including those relating to the event under investigation, because it is sensitive to changes in market expectations of firm performance. Since the present value of cash flow equals the market value of shares, changes in cash flow in one period may lead to changes in expectations about future cash flow (Lang et al., 1991)¹²⁷. For example, the market may reduce market value of the firm by 10 percent when a firm's permanent cash flow declines by 10 percent, thus giving no effect to the measure of returns on operating profit to market value of assets¹²⁸. In contrast, the ratio of operating cash flow to the *book* value of assets will show an increase with improvements in cash flow.

¹²⁷ To avoid the problems incurred in using market value of assets, Lang, Stulz and Wakling (1991) use book value of assets to normalise their cash flow measures.

¹²⁸ To mitigate the problem, Healy et al. (1992) exclude the change in share values of the acquiring and target firms at the acquisition announcement from the asset base in the post acquisition years.

To be consistent with the numerator that excludes interest income and interest expense, the denominator in this study should include the assets claimed by shareholders and interest-bearing debt less cash and short-term investments. Goodwill arising from acquisition is excluded from the calculation of the book value of assets¹²⁹. However, it is not possible to exclude any revaluation of target assets upon acquisition. Hence, the test to be conducted is likely to be biased against the finding of improvement in performance.

6.3 Expected Performance Model

In assessing whether a sample of firms experienced any unusual changes in post acquisition operating cash flow returns, a model of expected performance needs to be identified to provide a benchmark in assessing how the target and bidder firms would have performed without the acquisition. A typical approach in the existing literature is either to use the pre bid performance of the bidder, or the post acquisition performance of the combined firm's industry as the performance benchmark. Barber and Lyon (1996) and Jarrell (1995) claimed that studies using the pre bid performance matching only are unsatisfactory because this 'fails to control for intervening macroeconomic developments, and introduces potentially significant measurement error' (Jarrell, 1995, p. 3). Further, companies that were performing well prior to an acquisition might not be able to improve their performance as much as the low performers simply because their base rate of performance was higher. In addition, company performance may be a function of firm size and will therefore change for this reason alone following the acquisition.

¹²⁹ Goodwill is excluded from the denominator to maintain the same level of performance prior and after acquisition since the objective of the study is to test whether efficiency in utilising the asset has improved post acquisition and not to test whether the payment for the target is reasonable.

The pre bid performance-matching model is based on the hypothesis that the combined firms in the post acquisition period would perform exactly as the independent firms in the pre acquisition period if no acquisition occurs. The pre bid benchmark model takes the form of:

$$E(P_{post}^C) = P_{pre}^B + P_{pre}^T$$

where

$E(P_{post}^C)$ = Expected post performance of combined firms

P_{pre}^B = Pre acquisition performance of bidder

P_{pre}^T = Pre acquisition performance of target

If performance is measured as return on assets, the pre acquisition returns for the combined firms are weighted averages of target and bidder returns with the weights being the relative asset values of the two firms. Measures of post acquisition returns use data for the combined firms.

On the other hand, the post acquisition industry performance benchmark model is based on the hypothesis that, if acquisition has no effect, the combined firms would perform as the non-combined firms in the industry.

$$E(P_{post}^C) = P_{post}^I$$

where

$E(P_{post}^C)$ = Expected post performance of combined firms

P_{post}^I = Performance industry control portfolio

Barber and Lyon (1996) noted that it is important to control for abnormal firm characteristics prior to the event when studying operating performance. A model that use post acquisition industry performance benchmark without any pre-event characteristics of firms ignores 'the history of the firm relative to the benchmark' (Barber and Lyon, 1996, p. 366). They demonstrate that tests can give incorrect

inferences if the sample of firms being studied had abnormal performance prior to the event and is compared to a control sample of firms experiencing normal performance. For example, if sample firms have experienced unusual growth in return on assets due to an investment of unusually profitable projects, it is reasonable to expect the sample firms to experience a persistence (continued) high growth of return on assets¹³⁰. These firms, in the absence of an acquisition, would appear to have above-average operating performance if their performance is measured against the industry control portfolio. The drawback of using the post acquisition industry performance benchmark was also raised by Jarrell (1995, p.4) who claimed that 'the post-takeover industry benchmark thus erroneously attributes to the event differences in performance that result not from the takeover, but from factors unique to the merging firm(s) in that industry. This results from a type of endogeneity problem, where the same factors that motivate the decision to merge also affect future performance'¹³¹.

Thus, the current study adopts a combination of the pre acquisition and post acquisition models mentioned above similar to that used by Healy *et al.* (1992), Manson *et al.* (1994), Ghosh (1998) and Harford (1999) in studying the effect of takeovers on long-term performance¹³². Healy *et al.* (1992), Manson *et al.* (1994) and Harford (1999) use the performance of industry median firms as the control firm¹³³. However, the industry-matching model used by these studies is not adopted in the current study.

¹³⁰ Geroski (1988) find strong evidence that the performance (profits net of tax divided by book assets) of specific firms persistently stand out from that of fellow industry members for five years on average. In other words, success is more often firm specific than industry specific.

¹³¹ Jarrell (1995) incorporated as the benchmark firm specific analyst forecasts of post-event performance but with the forecasts made during the pre-event period. Jarrell claims that specific analyst forecast is a more appropriate benchmark because these forecast of performance represent expert evaluations of the likely impact of the factors unique to the firm, including those that may implicitly make the firm more or less likely to merge.

¹³² Clark and Ofek (1994) and Anand and Singh (1997) in US, and Dickerson *et al.* (1997) in UK are among studies that also employ post acquisition industry performance benchmark similar to that used by Healy *et al.* (1992).

¹³³ The matching procedure used by Healy *et al.* (1992), Manson *et al.* (1994) and Harford (1999) adjusts the performance of the combined firm by subtracting the median performance of other firms in its industry.

In determining a benchmark against which to measure actual performance, Barber and Lyon (1996) and Ghosh (1998) also suggest that control firms selected on the basis of industry and size are likely to serve as a better benchmarks than median firms from the same industry. Ghosh (1998) argued that on average larger firms are more profitable than smaller firms. Using industry medians as a benchmark might bias the results if acquiring and target firms are bigger than industry median firms. Jarrell (1995) and Ghosh (1998) are among previous studies that match sample firms to control firms with similar size¹³⁴. The combined firm's performance might be worse than the industry if control firms are systematically larger than acquiring and target firms due to increasing returns on scale or decreasing costs. Meeks (1977) and Ravenscraft and Scherer (1987) have acknowledged that acquisition of equally size units would have a larger impact on the combined firm's performance than if one party is much larger than the other. Therefore, the control selected in this study is that of non-acquiring and non-target companies in the same industrial classification as those of the respective companies set matched by year and size on one by one basis¹³⁵. Size is measured by the book value of equity plus reserves plus long-term and short-term debt, less cash and marketable securities one year prior to acquisition¹³⁶. The matching procedure used here allows for a direct comparison between the performance of firms that are engaged in acquisitions and firms that do not.

¹³⁴ Jarrell (1995) measured size as the market value of the firm's debt plus equity as reported by the value Line Investment Report during the quarter before the acquisition bid.

¹³⁵ The non-target companies in this study were matched only by the same industrial classification and same time period due to the difficulty of obtaining the size of non-target companies from the company files at Malaysian Registrar of Companies (ROC). Data and sample selection is described in detail in Chapter 8.

¹³⁶ The classification of company size is based on book assets rather than sales or market capitalisation because sales may be affected by the state of the economy or company's performance at a particular point in time while market capitalisation may fluctuate as a result of changes in the market sector as well as macroeconomic conditions.

6.4 Abnormal Control Adjusted Cash Flow Returns

The details of the adopted methodology are as follows:

6.4.1 Prepare Pre Acquisition Consolidated Measure of Performance

The financial data for the year in which the acquisition occurred, year 0, is omitted to control for any one-time costs incurred during the acquisition. A pre acquisition consolidated measure of operating performance for each of the four years prior to takeover (-4 to -1) is prepared by dividing the sum of the operating cash flows for the bidder and target by the asset values of the bidder and target at the beginning of the appropriate financial year. Since closing book values are in part a function of the profit or loss that is being measured in the numerator, the opening book values which are not affected by the performance in the year are used in the current study, similar to Healy et al. (1992).

Adjustment for the differences in size for bidder and target is achieved by multiplying the measures of performance by the weighted average of the relative asset sizes of the two firms. Asset size of target and bidder in this study is measured by the book value of equity plus reserves plus long-term and short-term debt, less cash and marketable securities at the beginning of each year.

A pre acquisition consolidated measure of operating performance for each of the four years prior to takeover (-4 to -1) is calculated as follows:

(Equation 1)

For $t = -4, \dots, -1$

$$P_{pre\ t} = \left[\frac{OCF_{(B)}}{Asset_{(B)}} \cdot \frac{Asset_B}{Asset_{(B+T)}} \right] + \left[\frac{OCF_{(T)}}{Asset_{(T)}} \cdot \frac{Asset_T}{Asset_{(B+T)}} \right]$$

Or

$$P_{pre\ t} = \frac{OCF_{t}^B + OCF_{t}^T}{Asset_{t}^B + Asset_{t}^T}$$

where

$P_{pre\ t}$ is operating performance in the pre acquisition period,

B and T indicate the bidder and target respectively,

OCF is operating cash flow,

Asset is the book value of the respective companies (equity plus reserves plus debt less cash and short-term investments) measured at the beginning of the year and

t is the financial year ($t = -4, \dots, -1$).

6.4.2 Calculate the Post Acquisition Measure of Operating Performance

The post acquisition operating cash flow is calculated for each bidder for each of the financial years +1 to +5. A 5-year post acquisition performance is used in the current study due to the view that value increasing improvements in efficiency might materialise after several years of post acquisition period (Healy et al., 1992, 1997, Manson et al., 1994, Jarrell, 1995, Ghosh, 1999).

Operating cash flow returns are the actual cash flows reported by the combined firm in years +1 to +5 which are then deflated by the book value of assets

(equity plus reserves plus debt, less cash and short-term investments) at the beginning of each year.

(Equation 2)

For $t = +1, \dots, +5$

$$P_{\text{post } i,t} = \frac{\text{OCF}_k^B}{\text{Asset}_k^B}$$

6.4.3 Measures of Operating Performance for Control Firms

To control for the possibility that the sample firm is likely to be influenced by events other than those investigated (for instance general economic factors affecting all firms), it is necessary to set up a control of comparable firms for each of the sample firms. The pro-forma control firm (hereafter control firm) was selected from the same industry and asset size and measured chronological times corresponding to those of the sample firm. The main objective of matching the time period was to make some allowance for the overall market effect and for possible industry effects on the firm's performance (that is, differences over time in general economic, political and regulatory influences). As mentioned earlier, it is also important to match control firm base on size as argued by Ghosh (1998). Since members of the two groups have similar characteristics (as a result of the paired selection), it is hoped that observed measurement differences between the groups can be attributed with reasonable confidence to the effect of the acquisition.

A control firm operating cash flow returns need to be calculated for each target and bidder four years prior (-4 to -1) and five years after (+1 to +5) in order to provide appropriate benchmark performance measures for the pre and post acquisition performance. Before the acquisition, control firm values for the sample firms are

constructed by weighting the control firm by the relative asset values of the two sample firms at the beginning of each year. As mentioned earlier, the asset value of the firm is the book value of equity plus reserves and net debt (long-term debt, plus short-term debt, less cash and marketable securities) at the beginning of the year. Since the asset values for the target and bidder firms are no longer obtained separately in the post acquisition years, the cash flow performance of target controls and bidder controls are thus weighted by the relative asset value of the two firms one year before acquisition, that is, year -1.

(Equation 3)

For $t = -4, \dots, -1$

$$P_{pre\ i,t}^c = \left[\frac{OCF_{c(B)}}{Asset_{c(B)}} \cdot \frac{Asset_B}{Asset_{(B+T)}} \right] + \left[\frac{OCF_{c(T)}}{Asset_{c(T)}} \cdot \frac{Asset_T}{Asset_{(B+T)}} \right]$$

$$\underline{Or} \quad \frac{Asset^T_{i,t} \cdot P^{c(T)}_{i,t} + Asset^B_{i,t} \cdot P^{c(B)}_{i,t}}{Asset^T_{i,t} + Asset^B_{i,t}}$$

(Equation 4)

For $t = +1, \dots, +5$

$$P_{post\ i,t}^c = \left[\frac{OCF_{c(B)}}{Asset_{c(B)}} \cdot \frac{Asset_{Bt-1}}{Asset_{(B+T)t-1}} \right] + \left[\frac{OCF_{c(T)}}{Asset_{c(T)}} \cdot \frac{Asset_{Tt-1}}{Asset_{(B+T)t-1}} \right]$$

$$\underline{Or} \quad \frac{Asset^T_{i,t-1} \cdot P^{c(T)}_{i,t} + Asset^B_{i,t-1} \cdot P^{c(B)}_{i,t}}{Asset^T_{i,t-1} + Asset^B_{i,t-1}}$$

where

OCF is operating cash flow

P^c is control firm performance measures

$P^{c(T)}$ and $P^{c(B)}$ are performance measures for target control and bidder control, and

$Asset_{i,t-1}^T$ and $Asset_{i,t-1}^B$ represent book values of assets (equity plus reserves plus book value of debt, less cash and short-term investments) for target and bidder at year $t-1$, respectively.

6.4.4 Construct Control Adjusted Cash Flow Returns

The control adjusted operating cash flow returns (AP^c) is obtained by subtracting the pre and post acquisition control firm measures of operating performance from the combined firms measures of operating performance for the respective takeover i for year t .

(Equation 5)

For $t = -4, \dots, -1$

$$AP_{i,t \text{ pre}}^c = P_{\text{pre } i,t} - P_{\text{pre } i,t}^c$$

(Equation 6)

For $t = 1, \dots, 5$

$$AP_{i,t \text{ post}}^c = P_{\text{post } i,t} - P_{\text{post } i,t}^c$$

where

$AP_{i,t}^c$ = control adjusted operating cash flow return for company i

$P_{i,t}$ = operating cash flow return for the combined firm i

$P_{i,t}^c$ = operating cash flow return for the control firm i

The model compares each firm's performance relative to the control company pre acquisition period ($P_{\text{pre},i} - P_{\text{pre},i}^c$) to the performance of the combined firm relative to the control company in the post acquisition period ($P_{\text{post},i} - P_{\text{post},i}^c$). Some of the differences between post acquisition and pre acquisition performance may be due to economy wide and industry factors. Thus, matched firms are used to control for

economy wide and industry factors. The control adjusted performance is used to capture (unobserved) company specific performance factors.

6.4.5 Calculate the Change in Control Adjusted Performance

The mean and median of the annual control adjusted measures ($AP^c_{i,t}$) are obtained over the four years prior to acquisition. Similarly, the mean and median are calculated for the annual control adjusted measures of operating performance over the five years after acquisition. The change in performance is the difference between the annual control adjusted performance from 4 years prior (annual $AP^c_{i,t \text{ pre}}$) and 5 years (annual $AP^c_{i,t \text{ post}}$) post acquisition. In addition, the change in abnormal control adjusted cash flow return is estimated using the following regression:

(Equation 7)

$$AP^c_{\text{post}i} = \alpha + \beta AP^c_{\text{pre}i} + \varepsilon_i$$

where

$AP^c_{\text{post}i}$ = the average (or median) annual control adjusted cash flow returns for company i for the post acquisition years

$AP^c_{\text{pre}i}$ = the pre acquisition average (or median) annual control adjusted cash flow returns for the same company.

α = is the measure of the abnormal control adjusted cash flow return (changes in performance caused by acquisition)

β = the slope coefficient captures any correlation in cash flow returns between pre and post acquisition years, that is, the performance that would have developed independently of the acquisition.

As implied by Ghosh (1998), the advantage of using a regression analysis is that it avoids making an assumption that the combined firms will continue their pre event period of under or over performance relative to their respective control firms over post acquisition period.

Any abnormal performance improvements between the pre and post acquisition period due to acquisitions will be captured by α . This regression is based on the null hypothesis that, if there is no effect of the acquisition, the post acquisition performance for the combined firm is exactly the same as the pre acquisition performance relative to the control firms. In these circumstances, alpha will equal zero.

6.5 Hypotheses

The following sections contain explanations of the hypotheses to be tested.

6.5.1 Pre Acquisition Operating Cash Flow Performance

As evident from the literature review, acquisitions may be viewed as a disciplinary mechanism on the management of poorly performing firms. Target companies taken over are viewed to be less profitable than target controls not taken over, consistent with the hypothesis that firms that do not perform well will be taken over. Poor performance may be due to the firm's managers deliberately pursuing goals that increase their personal power as explained previously, or to the firm's managers making poor investments and operating decisions. The origins of the inefficient management hypothesis stem from early work of Manne (1965) who viewed acquisition as a useful mechanism for encouraging managers to pursue wealth maximisation strategies. As noted by Alchian (1950) and Singh (1971) the

takeover threat, that is competition in the capital market, may force managers to pursue profit maximisation in order to survive, whether or not they prefer other goals. Kennedy and Limmack (1996) found that poor prior share price performance is a characteristic of UK targets, consistent with the role of takeovers in the UK as part of disciplinary mechanism on inefficient companies. In using the accounting rate return (ROCE) as a proxy to target firm managerial performance, Powell (1997) found that poor prior performance are likely to increase a firm's probability of becoming a target¹³⁷. In US, Palepu (1986) found that the poorer the share price performance prior to the bid, the higher the probability of targets being taken over. Servaes (1991) documented that more value can be created from acquiring poorly performing companies. Lang et al. (1989, 1991), Morck et al. (1990), and Mikkelsen and Partch (1997) also found evidence supporting the hypothesis that poorly performing firms in US are taken over.

Based on these arguments, the first hypothesis can be developed. Thus, it is hypothesised that target firms have poor operating cash flow performance prior to takeover as compared to the control firms.

Hypothesis 1 – Pre Acquisition Performance of Targets Vs

Target Controls

H₀: Pre operating cash flow performance of target firms is no different to that of target controls.

H_a: Pre operating cash flow performance of target firms is significantly lower than that of target controls

¹³⁷ Powell (1997) found that the characteristics of the firms taken over via a friendly bid differ from those of the firms taken over via a hostile bid. Size, liquidity and leverage affect the probability of a friendly takeover, whereas size, liquidity, profitability and free cash flow are important determinants of a hostile takeover.

Lang, et al. (1989) provide evidence that shareholders of well-managed bidders (high q) gain significantly more than shareholders of poor-managed bidders (low q). Their findings support Jensen's (1986) view that poorly performing firms with excess cash flow may waste them in unprofitable investments. In examining the relationship between bidders' past performance and their returns from acquisition, Morck et al. (1990) found that firms with good managers (identified by good firm performance relative to its industry) do much better in making acquisitions than firms with bad managers. Other empirical evidence that have indicate good performance for acquirers prior to acquisition include those by Magenheim and Mueller (1988), Bradley and Jarrell (1988), Limmack (1991) and Sudarsanam et al. (1996).

Thus, if one expects better performing firms to make good investments, it is hypothesised that pre operating cash flow performance of acquiring firms is higher than that of the control firm.

Hypothesis 2 – Pre Acquisition Performance of Bidders Vs

Bidder Controls

- H_0 : Pre operating cash flow performance of bidding firms is no different to that of bidder controls.
- H_a : Pre operating cash flow performance of bidding firms is significantly higher than that of bidder controls

In addition, if the takeover market attempts to reallocate resources to a most efficient use, theory predicts that bidders are likely to be more profitable than their targets. Takeovers serve as an incentive device for management to perform in the shareholders' interests. Otherwise, control of an acquired firm's assets will be transferred from a relatively inefficient management to the superior managers of the

acquiring firm. Jensen and Meckling (1976) and Jensen (1988) support Manne's (1965) concept of market for corporate control which suggest that more capable and competent executive teams tend to replace one that is less capable and competent. In using Tobin's q as a measure of managerial performance, Lang et al. (1989), and Servaes (1991) provide findings that better performing firms make better acquisitions and that more value can be created by taking over poorly performing companies¹³⁸. They find that acquiring firms gain the most when low q targets are taken over by high q bidders. Their findings are interpreted as evidence that bidders gain the most in takeovers of poorly managed targets by well-managed bidders, consistent with the view that some acquisitions create wealth by making better use of target resources. In investigating the determinants of, and relationship between, wealth creation and bid resistance for a sample of 178 successful takeovers in the UK, Holl and Kyriazis (1997) also provide evidence that lower-valued target companies are taken over by high-valued acquiring firms¹³⁹.

Thus, it is hypothesised that acquiring firms have higher pre operating cash flow performance than that of target firms.

Hypothesis 3 – Pre Acquisition Performance of Bidders Vs Targets

H₀: Pre operating cash flow performance of bidding firms is no different to that of targets.

H_a: Pre operating cash flow performance of bidding firms is significantly higher than that of target companies.

¹³⁸ Lang et al. (1989) and Servaes (1991) define Tobin's q as the ratio of the market value of the firm's assets to their replacement cost.

¹³⁹ Holl and Kyriazis (1997) use Tobin's q ratio (market value of the company at the end of the fourth month prior to the bid divided by the book value of equity) as a measure of managerial and financial performance of the target and acquiring firms.

6.5.2 Post Acquisition Operating Cash Flow Performance of Merged Firms

The main aim of the study is to assess the change in operating performance of Malaysian companies following corporate acquisitions. Healy et al. (1992) indicated that operating cash flows are a valid measure of operating synergies (i.e. it reflects the true economic impact of the acquisition). The examination of the immediate market reactions to a takeover bid (as reflected in the share price returns of the bidders and targets around the announcement date) helps to assess the changes in the expectations of market participants due to the announcement of the takeover bid. The measurement of subsequent changes in the firms' cash flow, on the other hand, provides a means by which the actual effects of the bid can be determined. As evident from the literature review in Chapter 5, accounting based studies using cash flow data both for the UK (Manson *et al.*, 1994) and the US (Healy *et al.*, 1992, Anand and Singh, 1997, and Ghosh, 1998) tend to lend support to the view that acquisitions improve operating performance and thus create wealth to the shareholders. This result does not, however, appear to be consistent with that observed using share price data (example Agrawal *et al.*, 1992 and Clark and Ofek, 1994) and accounting data (example Ravenscraft and Scherer, 1987b, and Denis *et al.*, 1997 in US and Dickerson *et al.*, 1997 in UK).

The market for corporate control is theorised to promote competition between management teams to exercise control over the allocation of capital resources to their most efficient use. The combined firms are expected to have some benefits transferred to them through the combination of the acquired firms' technologies, products and markets with the bidding firm's existing set. This expectation is in line with the argument set in Chapter 3 regarding the increase in shareholders' value, that is maximisation of the net present value of future cash flows, from corporate acquisition. Better utilisation of the target firm's existing revenues would result in

higher cash flows to the combined firms, in comparison with the pre acquisition cash flows. Recent studies on cash flow performance for corporate acquisitions (Manson et al., 1994, Healy et al., 1992, 1997, Anand and Singh, 1997, and Ghosh, 1998) found that merged firms have significant improvements in post acquisition operating cash flow returns relative to their industries as evidence that takeovers are efficiency-increasing mechanism. However, if the changes in the structure of the acquisition were a result of managers maximising their own utility instead of shareholders wealth, no gains of any sort would be observed ex post.

It is therefore hypothesised that post acquisition operating cash flow performance of the combined firms will improve as a result of acquisition:

Hypothesis 4 - Post Acquisition Operating Cash Flow Performance

H_0 : There is no significant improvement in operating cash flow performance of the combined firms in the first 5 years after acquisition relative to the years prior to the acquisition.

H_a : There is significant improvement in operating cash flow performance of the combined firms in the first 5 years after acquisition relative to the pre acquisition years.

6.5.3 Sources of Operating Cash Flow Returns

This section focuses on some important components that may offer explanation for the changes in the operating returns after acquisition. The specific sources analysed in this study are: efficiency indicators such as return on sales and asset turnover, capital expenditure rate, asset sale rate, and cash payment for

expenses¹⁴⁰. Thus, several hypotheses can be developed based on the specific sources analysed.

6.5.3.1 Efficiency Indicators

In order to identify the sources of the post cash flow performance, the operating cash flow return on asset (OCFROA) can be decomposed into operating return on sales and asset turnover as follows:

$$\begin{aligned}
 \text{OCFROA} &= \frac{\text{Operating cash flow}}{\text{Operating Assets at the beginning of the year}} \\
 &= \text{Operating Return on Sales} \times \text{Asset Turnover} \\
 &= \frac{\text{Operating Cash Flow}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Operating Assets}}
 \end{aligned}$$

$$\text{Operating return on sales} = \frac{\text{Operating Cash Flow}}{\text{Sales}}$$

Changes in the operating margin ratio or the operating return on sales (operating cash flow divided by sales) is one measure of how well the firm is using its resources to improve the firm performance. It measures how much pre-tax operating cash flow the company earns for each dollar of sales it makes.

$$\text{Asset turnover} = \frac{\text{Sales}}{\text{Book value of operating assets at the beginning of the year}}$$

¹⁴⁰ It would also have been useful if the current study could have examined whether the improvements in operating efficiency had been the cause of reduction in labour costs. However, the analysis could not be carried out due to lack of data in the financial statements of the Malaysian companies.

The ratio of sales to operating assets (equity plus debt less cash and marketable securities), or the asset turnover ratio, is the second driver of a company's operating cash flow return on assets. It indicates the sales dollar the company is able to generate for each dollar invested in assets. This ratio is used to evaluate the effectiveness of a firm's investment management, that is, how efficiently the available resources are used to produce sales. Since firms invest considerable resources in their assets, using them productively is critical to a firm's overall performance.

The methodology used in measuring the operating return on sales and asset turnover is similar to that employed in the previous section on abnormal control adjusted cash flow return (equation 1-7). A measure of pre acquisition performance of the combined firms is constructed by consolidating performance data of the target and bidding firms 4 years before the acquisition. Comparing 5 years post acquisition performance with this pre acquisition performance provides a measure of the change in performance. The pre acquisition consolidated measure of performance used is the weighted averages of target and bidder measures, with the weights being the relative sizes of the two firms. As before, the size of Malaysian companies in the current study is based on book value (equity plus reserves plus book value of debt, less cash and marketable securities) at the beginning of each year. Post acquisition performance measures for the combined firms use data for the combined firm. Since the asset values for the target and bidder firms are no longer obtained separately in the post acquisition years, the post acquisition operating return on sales of target controls and bidder controls are thus weighted by the relative asset value of the two firms one year before acquisition (year -1). The section that follows illustrates the calculation of pre and post acquisition performance measure of operating return on sales for the combined firm and control firm.

Pre acquisition performance measure on operating return on sales

a) Target and bidder firms

For $t = -4, \dots, -1$

$$Ps_{pre\ i,t} = \left[\frac{OCF_{(B)}}{Sales_{(B)}} \cdot \frac{Asset_B}{Asset_{(B+T)}} \right] + \left[\frac{OCF_{(T)}}{Sales_{(T)}} \cdot \frac{Asset_T}{Asset_{(B+T)}} \right]$$

where

$Ps_{pre\ i,t}$ is the combined group operating return on sales in the pre acquisition period,

OCF is operating cash flow,

$Sales_{(B)}$ and $Sales_{(T)}$ represent sales for bidders and targets respectively.

$Asset^{(T)}$ and $Asset^{(B)}$ represent book values of assets (equity plus reserves plus book value of debt, less cash and marketable securities) at the beginning of the year for target and bidder, respectively.

b) Target controls and bidder controls

For $t = -4, \dots, -1$

$$Ps^c_{pre\ i,t} = \left[\frac{OCF_{c(B)}}{Sales_{c(B)}} \cdot \frac{Asset_B}{Asset_{(B+T)}} \right] + \left[\frac{OCF_{c(T)}}{Sales_{c(T)}} \cdot \frac{Asset_T}{Asset_{(B+T)}} \right]$$

where

$Ps^c_{pre\ i,t}$ is the control firm return on sales in the pre acquisition period,

$OCF_{c(B)}$ and $OCF_{c(T)}$ is the operating cash flow for bidder controls and target controls, respectively,

$Asset^{(T)}$ and $Asset^{(B)}$ represent book values of operating assets (equity plus reserves plus debt, less cash and marketable securities) for target and bidder, respectively.

$Sales_{c(B)}$ and $Sales_{c(T)}$ represent sales for bidder controls and target controls respectively.

Post acquisition performance measure on operating return on sales

a) Target and bidder firms

For $t = +1, \dots, +5$

$$Ps_{\text{post } l, t} = \frac{OCF_{(B) l, t}}{Sales_{(B) l, t}}$$

where

$Ps_{\text{post } l, t}$ is the post acquisition operating return on sales for the combined firm

OCF is operating cash flow,

$Sales_{(B)}$ represent sales for the combined firm in the post acquisition period

b) Target controls and bidder controls

For $t = +1, \dots, +5$

$$Ps^c_{\text{post } l, t} = \left[\frac{OCF_{c(B)}}{Sales_{c(B)}} \cdot \frac{Asset_{B, t-1}}{Asset_{(B+T), t-1}} \right] + \left[\frac{OCF_{c(T)}}{Sales_{c(T)}} \cdot \frac{Asset_{T, t-1}}{Asset_{(B+T), t-1}} \right]$$

where

$Ps^c_{\text{post } l, t}$ is the control firm return on sales in the post acquisition period,

$OCF_{c(B)}$ and $OCF_{c(T)}$ is operating cash flow for bidder controls and target controls, respectively,

$Asset^T_{l, t-1}$ and $Asset^B_{l, t-1}$ represent book values of operating assets (equity plus reserves plus book value of debt, less cash and short-term investments) for targets and bidders at year $t-1$, respectively.

$Sales_{c(B)}$ and $Sales_{c(T)}$ represent sales for bidder controls and target controls respectively in the post acquisition period.

The control adjusted return on sales (APs^c) is obtained by subtracting the pre and post acquisition control firm measures of performance from the combined firms measures of performance for the respective takeover i for year t (similar to equation 5 and 6 in Section 6.4.4). The change in the operating performance is taken as the difference between the annual control adjusted performance from 4 years prior and 5 years post acquisition. In addition, a second test for the change in abnormal control adjusted ratio is estimated by regressing the median post acquisition control adjusted return on sales on the pre acquisition control adjusted return.

Thus, it is hypothesised that an efficiency-motivated management will use its resources to the highest level to increase its cash flow in the post acquisition period.

Hypothesis 5 - Operating Return on Sales

- H₀: There is no significant change in operating return on sales of the combined firms in the first 5 years after acquisition.
- H_a: There is significant increase in operating return on sales of the combined firms in the first 5 years after acquisition.

The asset turnover (sales divided by operating assets) is another measure of how efficiently the management is using its resources to improve the performance of the firm. It is hypothesised that better utilisation of the target firm's existing assets would result in higher cash flows to the combined firms, in comparison with the pre acquisition cash flows, and vice versa.

Hypothesis 6 - Asset Turnover

H₀: There is no significant change in asset turnover of the combined firms in the first 5 years after acquisition.

H_a: There is significant increase in asset turnover of the combined firms in the first 5 years after acquisition.

6.5.3.2 Growth Rate in Capital Expenditure

Post acquisition performance improvement may be related to improvement in post acquisition investment performance. Cowling et al. (1980) noted a number of acquisitions where the improvement in the post acquisition profitability was associated with the restructuring programmes of capital expenditure. The company's long-term performance might also be affected due to a reduction in capital expenditure. This may lead to a temporary increase in operating performance measures. The company might sacrifice its market share through insufficient capacity or by causing the company to fall behind its competitors in the adoption of new technology. Similar to Healy et al. (1992), the following ratio is used in the current study to identify whether the firm has cut back on its long-term investment by examining the capital expenditure rate and asset sale rate.

$$\text{Capital Expenditure Rate} = \frac{\text{Capital expenditure during the year}}{\text{Book value of assets at the beginning of the year}}$$

The capital expenditure rate is measured by dividing the capital expenditure by the book value of assets (equity plus reserves plus debt) at the beginning of each

year¹⁴¹. An improvement in the post acquisition years for the capital expenditure rate will indicate that the firm has not sacrificed its long-term investments for the sake of its short-term improvement.

$$\text{Asset Sale Rate (cash value)} = \frac{\text{Cash receipts from asset sales}}{\text{Book value of assets at the beginning of the year}}$$

Similar to Healy et al. (1992), the asset sale rate is also employed to reflect changes in the combined firms' investment policies, as an addition to the measures of asset turnover calculated in Section 6.5.3.1. The ratio is to determine if the improvements in asset turnover after acquisition is due to the sale of assets with low turnover or otherwise. It measures the amount of cash receipts from asset sales generated by a dollar invested in the assets. An improvement in the cash proceeds from disposal of assets might indicate that the combined firms are selling poorly performing assets after the acquisition. The cash proceeds from asset sales may help to alleviate bidder's cash shortage after acquisition. In comparing the leveraged recapitalisation of Kroger Co. with the leveraged buyout of Safeway Stores, Dennis (1994) found that there was a large difference in the magnitude of asset sales in both companies due to different organisational structure. Kroger's asset sales of US\$3.51 million was unable to mitigate the firm's cash shortage while Safeway's US\$2.3 billion asset sales is equivalent to the projected cash shortfall after the highly leveraged transactions.

The methodology used in obtaining the investment policy measures is similar to that described in the previous section on operating return on sales and asset

¹⁴¹ Similar to Healy et al. (1992), cash is not deducted in the denominator when calculating the book value of assets because unlike the ratio of OCF return, the capital expenditure rate is not measuring profitability.

turnover. Pre acquisition capital expenditure and asset sale rate of the combined firms are constructed by consolidating the capital expenditure and asset sale data of the target and bidding firms over the 4 years before the acquisition. Comparing the 5 years post acquisition capital expenditure and asset sale rate with these pre acquisition measures provide a measure of the change in the investment rate. The pre acquisition consolidated measure of each of the investment rate is the weighted averages of target and bidder values, with the weights being the relative sizes of the two firms. Post acquisition investment rate use data for the combined firms while those of the control firms are weighted by the relative asset value of the bidder and target one year before acquisition. The section that follows illustrates the calculation of pre and post acquisition measure on capital expenditure (either capital expenditure rate or asset sale rate) for the combined firm and control firm.

Pre acquisition performance measure on capital expenditure

a) Target and bidder firms

For $t = -4, \dots, -1$

$$P_{CE\ pre\ i,t} = \left[\frac{CExp_{(B)}}{BV_{(B)}} \cdot \frac{Asset_B}{Asset_{(B+T)}} \right] + \left[\frac{CExp_{(T)}}{BV_{(T)}} \cdot \frac{Asset_T}{Asset_{(B+T)}} \right]$$

where

$P_{CE\ pre\ i,t}$ is the combined firm capital expenditure (either capital expenditure rate or asset sale rate) in the pre acquisition period,

$CExp_{(B)}$ rate and $CExp_{(T)}$ rate are either capital expenditure or cash receipts from asset sales divided by the book value of assets (equity plus reserves plus debt) at the beginning of each year for bidders and targets, respectively

Asset^(T) and Asset^(B) represent book values of operating assets (equity plus reserves plus book value of debt, less cash and short-term investments) at the beginning of each year for target and bidder, respectively.

b) Target controls and bidder controls

For $t = -4, \dots, -1$

$$P_{CE}^{c, \text{pre } l, t} = \left[\frac{CExp_{c(B)} \cdot Asset_B}{BV_{c(B)} \cdot Asset_{(B+T)}} \right] + \left[\frac{CExp_{c(T)} \cdot Asset_T}{BV_{c(T)} \cdot Asset_{(B+T)}} \right]$$

where

$P_{CE}^{c, \text{pre } l, t}$ is the control firm capital expenditure (either capital expenditure rate or asset sale rate) in the pre acquisition period,

$Cexp_{c(B)}$ rate and $Cexp_{c(T)}$ rate are either capital expenditure or cash receipts from asset sales divided by the book value of assets (equity plus reserves plus debt) at the beginning of each year for bidder controls and target controls, respectively

Asset^(T) and Asset^(B) represent book values of operating assets (equity plus reserves plus book value of debt, less cash and short-term investments) at the beginning of each year for target and bidder, respectively.

Post acquisition performance measure on capital expenditure

a) Target and bidder firms

For $t = +1, \dots, +5$

$$P_{CE}^{\text{post } l, t} = \frac{CExp_{(B)l,t}}{BV_{(B)l,t}}$$

where

$P_{CE\ post\ i,t}$ is the post acquisition capital expenditure (either capital expenditure rate or asset sale rate) for the combined firm

$BV_{(B)t}$ represents book values of assets for the combined firm

b) Target controls and bidder controls

For $t = +1, \dots, +5$

$$P_{CE^c\ post\ i,t} = \left[\frac{CExp_{c(B)}}{BV_{c(B)}} \cdot \frac{Asset_{Bt-1}}{Asset_{(B+T)t-1}} \right] + \left[\frac{CExp_{c(T)}}{BV_{c(T)}} \cdot \frac{Asset_{Tt-1}}{Asset_{(B+T)t-1}} \right]$$

where

$P_{CE^c\ post\ i,t}$ is the control firm capital expenditure (either capital expenditure rate or asset sale rate) in the post acquisition period,

$CExp_{c(B)}$ rate and $CExp_{c(T)}$ rate are capital expenditure (either capital expenditure rate or asset sale rate) divided by the book value of assets at the beginning of each year for bidder control and target control, respectively,

$Asset_{Tt-1}$ and $Asset_{Bt-1}$ represent book values of operating assets (equity plus reserves plus book value of debt, less cash and short-term investments) for target and bidder at year $t-1$, respectively.

Similarly, the control adjusted capital expenditure (either capital expenditure or asset sale rate) is obtained by subtracting the pre and post acquisition control firm rate from the combined firms rate for the respective takeover i for year t (similar to equation 5 and 6 in Section 6.4.4). The change in the capital expenditure is taken as the difference between the annual control adjusted rate from 4 years prior and 5 years post acquisition. In addition, a second test for the change in abnormal control adjusted rate is estimated by regressing the median post acquisition control adjusted rate on the median pre acquisition control adjusted rate (equation 7).

Thus, it is hypothesised that there is an increased in capital expenditure rate of the combined firms 5 years after acquisition, indicating that the firm has not sacrificed its long-term investments for the sake of its short-term improvement.

Hypothesis 7 - Capital Expenditure Rate

H₀: There is no significant change in capital expenditure rate of the combined firms in the first 5 years after acquisition.

H_a: There is significant improvement in capital expenditure rate of the combined firms in the first 5 years after acquisition.

It is hypothesised that there is an increased in cash receipts from asset sale of the combined firms 5 years after acquisition, indicating that the firm has sold poorly performing assets after the acquisition. The increase in cash proceeds is also due to better management's decision in disposing assets to improve cash flow after acquisition.

Hypothesis 8 - Asset Sale Rate (Cash Value)

H₀: There is no significant change in the asset sale rate (cash value) of the combined firms in the first 5 years after acquisition.

H_a: There is significant improvement in asset sale rate (cash value) of the combined firms in the first 5 years after acquisition.

6.5.3.3 Cash Payment for Expenses

In addition to cash flow performance, Ghosh (1998) also analyse cash payments for operating expenses and cash payments to suppliers to determine if the

improvement in the post acquisition performance had been due to cost reductions. Ghosh (1998) reported that the post cash flow improvement in his study was a result from higher sales and not from reductions in operating expenses. Similar to Ghosh (1998), another component analysed in this study is cash payment for expenses. Due to the limited access to data on purchases in this study, cash payments to suppliers were not analysed. Similar to Ghosh (1998), cash payment for operating expenses in this study is defined as operating cash flow (OCF) minus cash receipts from sales (sales minus changes in debtors). The ratio of cash payment for operating expenses is measured by dividing the cash payments for operating expenses by the opening book value of assets (equity plus reserves plus debt) at the beginning of each year.

$$\text{Cash payments for expenses} = \frac{\text{OCF} - (\text{Sales} - \text{Changes in Debtors})}{\text{Book value of assets at the beginning of the year}}$$

It is hypothesised that there is a decrease in cash payment expenses of the combined firms 5 years after acquisition, indicating that the firm has engaged in cost-cutting strategies to improve economic efficiency in the post acquisition period.

Hypothesis 9 – Cash payment for expenses

- H₀: There is no significant change in cash payment for operating expenses for the combined firms in the first 5 years after acquisition.
- H_a: There is significant decrease in cash payment for operating expenses for the combined firms in the first 5 years after acquisition.

The methodology used in obtaining the ratio on cash payment for operating expenses is similar to that described in the previous section on other ratios. A pre acquisition ratio of the combined firms is constructed by consolidating cash payment

for operating expenses data of the target and bidding firms over the 4 years before the acquisition. Comparing the 5 years post acquisition ratio with this pre acquisition ratio provides a measure of the change in the cash payment operating expenses ratio. The pre acquisition consolidated measure of cash payment for operating expenses ratio is the weighted averages of target and bidder values, with the weights being the relative sizes of the two firms. The ratio of the combined firms are used in the post acquisition period while those of the control firms are weighted by the relative asset value of the bidder and target one year before acquisition. The section that follows illustrates the calculation of pre and post acquisition measure on cash payment for expenses of the combined firm and control firm.

Pre acquisition performance measure on cash payment for expenses

a) **Target and bidder firms**

For $t = -4, \dots, -1$

$$P_{CPE\ pre\ i,t} = \left[\frac{CPE_{(B)}}{BV_{(B)}} \cdot \frac{Asset_B}{Asset_{(B+T)}} \right] + \left[\frac{CPE_{(T)}}{BV_{(T)}} \cdot \frac{Asset_T}{Asset_{(B+T)}} \right]$$

where

$P_{CPE\ pre\ i,t}$ is the combined firm measures on cash payment operating expenses in the pre acquisition period,

$CPE_{(B)}$ ratio and $CPE_{(T)}$ ratio are cash payment for expenses {OCF – (Sales – Changes in Debtors)} divided by the book value of assets (equity plus reserves plus debt) at the beginning of each year for bidders and targets, respectively

$Asset^{(T)}$ and $Asset^{(B)}$ represent book values of operating assets (equity plus reserves plus book value of debt, less cash and short-term investments) at the beginning of each year for target and bidder, respectively.

b) Target controls and bidder controls

For $t = -4, \dots, -1$

$$P_{CPE_{pre\ i,t}}^c = \left[\frac{CPE_{c(B)}}{BV_{c(B)}} \cdot \frac{Asset_B}{Asset_{(B+T)}} \right] + \left[\frac{CPE_{c(T)}}{BV_{c(T)}} \cdot \frac{Asset_T}{Asset_{(B+T)}} \right]$$

where

$P_{CPE_{pre\ i,t}}^c$ is the control firm cash payment for operating expenses in the pre acquisition period,

$CPE_{c(B)}$ ratio and $CPE_{c(T)}$ ratio are cash payment for operating expenses divided by the book value of assets (equity plus reserves plus debt) at the beginning of each year for bidder controls and target controls, respectively

$Asset^{(T)}$ and $Asset^{(B)}$ represent book values of operating assets (equity plus reserves plus book value of debt, less cash and short-term investments) at the beginning of each year for target and bidder, respectively.

Post acquisition performance measure on capital expenditure

a) Target and bidder firms

For $t = +1, \dots, +5$

$$P_{CPE_{post\ i,t}} = \frac{CPE_{(B)\ i,t}}{BV_{(B)\ i,t}}$$

where

$P_{CPE_{post\ i,t}}$ is the post acquisition cash payment for operating expenses for the combined firm

$BV_{(B)\ i,t}$ represents book values of assets for the combined firm.

b) Target controls and bidder controls

For $t = +1, \dots, +5$

$$P_{CPE_{post\ i, t}}^c = \left[\frac{CPE_{c(B)}}{BV_{c(B)}} \cdot \frac{Asset_{Bt-1}}{Asset_{(B+T)t-1}} \right] + \left[\frac{CPE_{c(T)}}{BV_{c(T)}} \cdot \frac{Asset_{Tt-1}}{Asset_{(B+T)t-1}} \right]$$

where

$P_{CPE_{post\ i, t}}^c$ is the control firm cash payment for expenses in the post acquisition period, $CPE_{c(B)}$ ratio and $CPE_{c(T)}$ ratio are cash payment for expenses divided by the book value of assets (equity plus reserves plus debt) at the beginning of each year for bidder control and target control, respectively,

$Asset_{Tt-1}$ and $Asset_{Bt-1}$ represent book values of operating assets (equity plus reserves plus book value of debt, less cash and short-term investments) for target and bidder at year $t-1$, respectively.

Similarly, the control adjusted cash payment for operating expenses ratio is obtained by subtracting the pre and post acquisition control firm measures of the ratio from the combined firms measures of the ratio for the respective takeover i for year t (similar to equation 5 and 6 in Section 6.4.4). The change in the ratio is taken as the difference between the annual control adjusted ratio from 4 years prior and 5 years post acquisition. In addition, a second test for the change in abnormal control adjusted ratio is estimated by regressing the median post acquisition control adjusted ratio on the pre acquisition control adjusted ratio using the regression in Section 6.4.5 (equation 7).

6.6 Summary

The current chapter discussed the detailed methodology to achieve the objectives set out in the thesis. The main objective of this research is to determine whether there are improvements in post acquisition corporate performance from

takeovers in Malaysia during the period 1988-1992. The cash flow performance of acquiring and target firms will be examined in this study to test directly for changes in operating performance that result from acquisitions. The second objective of the study is to explore the sources of acquisition-related changes in cash flow performance, by looking at efficiency indicators such as return on sales, asset turnover, capital expenditure rate, asset sale rate and cash payment for operating expenses.

Performance in the current study is measured as pre tax operating cash flow returns on book value of operating assets at the beginning of the year. Similar to the definition given by Manson et al. (1994) and Ali and Pope (1995) in the UK, operating cash flow is defined as profit before tax, depreciation and interest adjusted for changes in working capital (that is, changes in stocks, trade debtors and prepayments less changes in creditors and other current liabilities). Operating assets are defined as book value of shareholders fund and total debt less cash and marketable securities at the beginning of the year, similar to the definition used by Healy et al. (1992) and Barber and Lyon (1996).

In order to address the research objectives, the specific research questions to be answered are operationalised in the form of null hypotheses. Hypotheses were developed in comparing the level of pre acquisition performance of bidders, targets, and their respective controls. Target companies taken over are viewed to be less profitable than target controls not taken over, consistent with the hypothesis that firms not performing well will be taken over (Singh, 1971 and Kennedy and Limmack, 1996). Thus, it is hypothesised that target firm has poor operating cash flow performance prior to takeover as compared to the target controls. In addition, Morck et al. (1990), Limmack (1991) and Sudarsanam et al. (1996) are among studies that found firms with good performance prior to acquisition gain higher returns after acquisition than firms of poorly managed managers. Thus, if one expects that better

performing firms to make good investments, it is hypothesised that pre acquisition operating performance of acquiring firms is higher than that of the bidder controls. Further, if the takeover market attempts to reallocate resources to its most efficient use, it is hypothesised that acquiring firms have higher pre acquisition operating cash flow performance than that of target firms.

The combined firms are expected to have higher cash flow performance in comparison to their pre acquisition cash flows due to some benefits transferred to them through the combination of the acquired firms' technologies, products and markets with the bidding firm's existing set. Thus, it is hypothesised that post acquisition operating cash flow performance of the combined firms in Malaysia will improve in the first 5 years after acquisition relative to the pre acquisition period.

In addition, some important components of operating cash flow may offer explanation for the changes in the operating returns after acquisition. Changes in the operating return on sales (operating cash flow divided by sales) and asset turnover (sales divided by operating assets) are measures of how efficiently the management is using its resources to improve the firm performance. Thus, it is hypothesis that there are significant increase in the post acquisition operating return on sales and asset turnover. It is also hypothesised that there is an increase in capital expenditure rate (capital expenditure divided by total assets) of the combined firms 5 years after acquisition indicating that the firm has not sacrificed its long-term investments for the sake of its short-term improvement. Asset sales rate (cash receipts from asset sales divided by total assets) is expected to increase after the acquisition due to better management decision in disposing poorly performing assets to improve cash flow after acquisition. Cash payment for expenses ratio (cash payment for expenses divided by total assets) is expected to decrease as the firm engaged in cost-cutting strategies to improve economic efficiency.

The methodology used in assessing whether a sample of firms experienced any unusual changes in post acquisition operating cash flow returns is by identifying a model of expected performance to provide a benchmark in assessing how the target and bidder firms would have performed without the acquisition. The study constructs a pre acquisition performance of the combined firms by consolidating performance data of the target and bidding firms 4 years before the acquisition. Adjustment for the differences in size for bidder and target is achieved by multiplying the measures of the pre performance by the weighted averages of the relative sizes of the two firms. Post acquisition performance measures for the combined firms use data for the combined firm.

A control firm operating cash flow returns need to be calculated for each target and bidder four years prior (-4 to -1) and five years after (+1 to +5) in order to provide appropriate benchmark performance measures for the pre and post acquisition performance. Before the acquisition, control firm operating cash flow performance are constructed by weighting the control firm returns by the relative asset values of bidder and target firms at the beginning of each year. Since the asset values for the target and bidder firms are no longer obtained separately in the post acquisition years, the cash flow performance of target controls and bidder controls are weighted by the relative operating asset value of the acquirer and target firms in year -1. The control adjusted operating performance in the pre and post period is obtained by subtracting the pre and post acquisition control company measures of operating performance from the pre and post acquisition combined firms measures of operating performance for the respective takeover, respectively. The change in the operating performance is taken as the difference between the annual control adjusted performance from 4 years prior and 5 years post acquisition. In addition, a second test for the change in abnormal control adjusted performance is estimated by regressing the median post acquisition control adjusted operating performance on the pre acquisition control

adjusted performance. The constant term in the regression is interpreted as capturing the average abnormal operational gains from acquisitions.

The level of abnormal operating post acquisition returns to the combined firms may be dependent on the characteristics of the bid itself. The following chapter presents the methodology and hypotheses on the effects of acquisition characteristics on post acquisition performance.

Chapter 7

Research Methodology and Hypothesis (II)

Effects of Acquisition Characteristics on Post Acquisition Performance

7.1 Chapter Description

The methodology and hypotheses in examining the post acquisition operating performance from acquisitions in Malaysia during the period 1988-1992 and the sources of acquisition related changes in cash flow performance were discussed at length in Chapter 6. While consideration must be given to the performance of constituent firms prior to acquisition and the combined entity after acquisition in determining the overall economic efficiency from acquisitions, it is also important to identify the characteristics of acquisitions that lead to superior or inferior post acquisition cash flow performance. The current chapter focuses on the characteristics of acquisitions and their relationship to the level of, and changes in, post acquisition operating performance.

The differences in previous results on bidders abnormal returns could be due to several reasons, but none as so far confirmed to be the main cause. Several studies have suggested that the level of abnormal operating post acquisition returns to the combined firms is dependent on the characteristics of the bid itself. For example, Travlos (1987) and Asquith et al. (1987) analyse the impact of the form of payment on abnormal returns; Bradley et al. (1988) examine the impact of bidder competition on abnormal gains; Huang and Walkling (1987), Jarrell and Poulsen (1989) and Servaes (1991) analyse the impact of several offer and bid characteristic (the form of payment and the relative size of target and bidder) on abnormal returns; and Healy et al. (1997) and Ghosh (1998) examine the relation between the post

acquisition cash flow performance and the form of payment, the degree of business relatedness and the nature of acquisitions (hostile or friendly).

The specific bid characteristics examine in the current chapter are the degree of business relatedness, management turnover, the relative size of targets to bidders, the method of payment offered, and director ownership structure. These variables are discussed further below.

7.2 Business Relatedness

Salter and Weinhold (1978) and Porter (1987) are among studies suggesting that firms acquire other firms with some form of relatedness, thereby creating efficiency through synergy. Efficiency gains involve a more effective utilisation of the combined firms' assets by implementing a higher valued operating strategy such as 'more efficient management, economies of scale, improved production techniques, the combination of complementary resources, increased market power, the redeployment of assets to more profitable uses, or any number of value-creating mechanisms that fall under the general rubric of corporate synergy' (Bradley et al, 1983, p.184). Jensen and Ruback (1983) and Bradley et al. (1983) suggest that the increased value result from an opportunity to utilise a specialised resource that arises solely as a result of the acquisition. Thus, synergy usually implies that gains accrue to the acquiring firm through two sources: (a) improved operating efficiency based on economies of scale or scope; (b) some kind of skill transfers.

Operational synergy requires overlap in the activities, products and markets of the combined firms. Salter and Weinhold (1978) considered businesses to be related if they served similar markets, use similar distribution channels, used similar production technologies or exploited similar scientific research. Related acquisitions

occur when the acquirer enters product markets requiring functional skills (example research and development, production, marketing and distribution) and activities identical to (a subset of) those already possessed by the company. Thus, if acquiring firms are drawn from the same industry (horizontal or vertical), the presumption is that operational synergies (arising from economies of scale and scope or increased monopoly power) are available and that shareholders of the combined firms will gain. Most economies of scale in a related business can be achieved through cost savings as a result of eliminating duplicate facilities while other functions such as personnel, marketing, accounting, purchasing and other functions are consolidated. Thus, when the scale of common activities increases, there is potential for overall costs to decrease leading to improved cash flow. Economies of scope arise when capacity utilisation is increased through the production of two or more products. By producing a higher quantity of outputs at a lower cost the merged firm also has the ability to under-price the competing firms' offers and thus increase market share. Thus, higher post acquisition performance can be obtained from the reduction of overheads (while maintaining other variables as constant) and also in some cases from price increase due to industry concentration or less firms operating in the market.

Lubatkin (1987), Singh and Montgomery (1987), Shelton (1988) and Healy et al. (1997) are among studies that have shown that some level of product-market relatedness between target and bidder firms is necessary to boost post acquisition performance. Shelton (1988) shows that acquiring firms gain the most from related acquisitions, in general, and related-supplementary acquisitions more specifically¹⁴². However, Jarrell (1995) failed to find evidence that post acquisition improvement is strongest in related acquisitions. The results of related acquisitions in Jarrell's (1995)

¹⁴² A related-supplementary target provides the acquirer with greater access to new customers and markets (horizontal integration) rather than totally new assets or products, while a related-complementary target provides the acquirer with new products, assets, or skills for currently served product markets (vertical integration) rather than access to new markets.

study appear to be indistinguishable from that of the unrelated acquisitions. Brush (1996) also found improvement in the post acquisition performance for 356 US manufacturing firms involved in acquisitions during the period 1980 – 1984. Brush (1996) argued that the source of improved performance is explicitly the result of an operational gain due to increased opportunities for each acquired business to share resources and activities in the acquiring firm relative to the acquired firm. In examining US acquisitions with and without strategic fits between 1972 and 1990, Flanagan (1996) found evidence to support the hypothesis that the announcements of related acquisitions benefit more than the announcements of purely unrelated acquisitions. Similarly, Ramaswamy (1997) provides evidence that similarities in strategic characteristics, reflected by consistency in the resource allocation patterns of bidder and target firms, have a positive influence on post acquisition performance¹⁴³. Despite using different samples and different measures of relatedness, all the above studies report larger gains in related acquisitions than in unrelated acquisitions.

On the other hand, studies concerning diversification suggest that having different businesses under a group umbrella can also facilitate the sharing of common resources across businesses that are closely related to each other. Ghemawat and Khanna (1998) argued that different businesses are considered related to each other when they employ complementary resources such as technology, plants, supplier or customer relationships (similar distribution systems). In contrast to the insignificant increase of returns in related diversification, Morck et al. (1990) find that unrelated diversification in the 1980s reduces the returns to acquiring firms. Gregory (1997) find UK conglomerate takeovers (defined as those where the two-digit SIC codes differ

¹⁴³ Ramaswamy (1997) stated that acquiring and target firms in his study are considered strategically similar if the two firms exhibit very similar resource allocation patterns as measured across a variety of strategically relevant characteristics such as market coverage, marketing posture, risk propensity, operational efficiency and client mix.

between acquiring and acquired firm) are less successful than non-conglomerate acquisitions. In estimating the valuation effect of diversification during 1986-1991, Berger and Ofek (1995) also found that the value loss from diversification is smaller in related diversification.

However, in re-examining the conglomerate acquisition wave in the US in 1960s, Hubbard and Palia (1999) found that acquiring firms earned positive abnormal returns in diversifying acquisitions, albeit the returns are higher in related than in unrelated acquisitions. Matsusaka (1993) also found positive abnormal returns for US diversified acquisitions in the 1960s and 1970s. Hubbard and Palia (1999) contributed the positive abnormal returns earned by US diversifying acquisitions in 1960s to internal capital market in the absence of well developed external capital markets during that period¹⁴⁴. Khanna and Palepu (1999) also suggested the importance of internal capital markets in diversified firms in India¹⁴⁵. They indicated that diversified business group may concentrate around more generalised resources that derive their value from basic economic conditions arising from informational imperfections especially in capital, labour and product markets due to the absence of intermediaries. Similar to the US in 1960s, India is an emerging market that has a variety of market failures, caused by information and agency problems associated with securing external financing as noted by Alchian (1950) and Williamson (1975). As such large diversified firms which are usually affiliated into a group may use their

¹⁴⁴ Hubbard and Palia (1999) argued that external capital markets were less developed in terms of company-specific information, such as financing and budgeting expertise, in the 1960s relative to the current period. Due to lack of computers, databases, analyst reports and other sources of company-specific information, few intermediaries such as investment bankers and mutual funds in the 1960s had resulted in the difficulty of raising large amounts of borrowed fund. The high information costs in external capital markets may be solved by combining each company into a large diversified business group which can act as an intermediary between individual companies and imperfect markets. As a result of internal capital market, diversified entities may be able to improve the financial processes of generating and allocating financial resources relative to the alternative of standalone businesses.

¹⁴⁵ However, Khanna and Palepu (1999) did not find evidence that the quadratic dependence of firm profitability on group diversification was due to reallocation of finance through internal capital markets.

capital to help finance target companies. A firm is expected to refocus when external markets in emerging markets become more efficient. When such situation exists, many firms can provide company specific information to the capital markets directly and thus bypass the firm internal capital markets for investment funds.

The cost of external financing is much higher in developing countries such as Malaysia, similar to that in India, due to the lack of well developed capital market institutions that have an expertise in gathering company specific information. Internal capital markets play a vital role in allocating capital when external markets are imperfect. As a result of greater and cheaper information from internal capital market, firms can reallocate resources across projects more efficiently.

Previous studies have categorised acquisitions into related and unrelated acquisitions by using techniques that were either subjective (Lubatkin, 1987, Singh and Montgomery, 1987, and Healy et al., 1992, 1997) or objective (Morck et al., 1990, Berger and Ofek, 1995, Gregory, 1997 and Ghosh, 1998). Subjective categorisation involves the analysts appropriate judgement while objective categorisation involves using Standard Industrial Classification (SIC) codes which assumes that if two businesses share the same SIC they must have common input requirements and similar production or technology functions¹⁴⁶. It may be argued that it is more appropriate to use SIC codes but since these codes are not available in Malaysia, subjective categorisation is used in the current study. In examining the impact of the degree of business relatedness on post acquisition performance, acquisitions between target and acquiring firms in the current study are classified as those with high, medium and low (or no) business overlap (based on product-market), similar to the classification used in Healy et al. (1992, 1997). A high degree of business

¹⁴⁶ For example, Ghosh (1998) used two-digit SIC code to identify whether the acquiring and target firms are from two different industry group.

relatedness refers to acquisition of companies with the same level of product-market relatedness between bidder and target firms. This subjective classification is made by identifying the line of business discussion from the combined firm's annual reports and the relevant Kuala Lumpur Stock Exchange Annual Handbook. For example, the takeover between Benta Plantation Bhd and Federal Oil Palm Sdn Bhd, both cultivates oil palm, is classified as highly related business. The combination between General Lumber Holdings Bhd and UMW Industries Sdn Bhd is considered as a medium overlap transaction because General Lumber lists sawmill and timber trading in their line of business while UMW Industries lists furniture manufacturing in theirs. Ayer Hitam Tin Dredging Malaysia Bhd's acquisition of Daimaju Enterprise Sdn Bhd is classified as unrelated business transaction because the companies have no overlapping line of business.

As a consequence of the possible synergistic benefits that may accrue from related acquisitions, it is hypothesised that acquisitions of firms with high business relatedness will show greater cash flow improvements than acquisitions between firms with medium or unrelated business.

Hypothesis 10 – Operating Synergy

- H_0 : There is no significant difference in the level of abnormal operating post acquisition returns regardless of the degree of business overlap between the acquiring and target firms.
- H_a : Acquiring firms that are highly related to their targets are expected to have higher post acquisition cash flow returns than those that are in a medium or unrelated business to their targets.

Similar to Healy et al. (1992,1997), the following regression is used in this study to evaluate whether post acquisition performance differs by the degree of business relatedness.

(Equation 8)

$$AP_{post\ i}^c = \alpha + \beta AP_{pre\ i}^c + \theta MEDIUM_i + \Psi HIGH_i + \varepsilon_i$$

where $AP_{post\ i}^c$ is the mean (median) annual control adjusted cash flow returns for company i from the post acquisition years

$AP_{pre\ i}^c$ is the pre acquisition mean (median) control adjusted cash flow returns for the same company

HIGH is a dummy variable that is one if there is a highly overlapping business between the target and acquiring firms and zero otherwise

MEDIUM is a dummy variable that is one if the target and acquiring firms are in a medium overlap business and zero otherwise,

The intercept coefficient α represents post acquisition abnormal cash flow returns for firms that do not overlap, whereas the coefficients θ and Ψ show the differential post acquisition returns of firms in medium and high overlapping business respectively.

7.3 Management Turnover

In addition to the gains produced by product-market relatedness mentioned above, another potential source of economies of scale is management turnover. Porter (1987) and Ravenscraft and Scherer (1987) stated that an obvious way to economise is by reducing redundant managerial positions especially when the functional backgrounds are similar. However, reducing duplication of activities and increase economies of scale may lead to large-scale turnover among the acquired firms' management. Since related acquisitions operate in common product markets,

the top management may be familiar with the product, market, and technical characteristics of the two firms (Singh and Montgomery, 1987 and Shelton, 1988). Similarly, Waish (1988) suggests that the acquiring firm can afford to lose many of the acquired firms' top management when the acquiring company is familiar with the target firms' business. Walsh and Ellwood (1991), Martin and McConell (1991) and Mikkelson and Partch (1997) are among studies involving disciplinary bids in US that have reported significant increases in turnover of top management in target companies following takeover. Barber et al. (1995) suggested that conglomerate acquisitions are disciplinary as bidders subsequently removed the target firm's management after the acquisition. Denis and Denis (1995) document that 56 percent of 908 sample firms with top management dismissals involves target of some form of corporate activity such as a takeover or a leveraged buyout.

Cannella and Hambrick (1993), and Krishnan et al. (1997) argued that the retention of the top management in unrelated acquisition seems essential since acquiring firms have little experience in the operation of the acquired business. In such cases, it is likely that the acquiring firm would take steps to retain the target's top management. Matsusaka (1993) and Hubbard and Palia (1999) found that both related and diversifying acquisitions retained target management after acquisition. Hubbard and Palia (1999) contributed their findings to the internal capital market hypothesis where the acquiring firm provided finance while target management who are familiar with the organisation's environment provided company-specific operational information.

Therefore, it is hypothesised that there would be higher turnover in the target company of a related acquisition than an unrelated acquisition.

Hypothesis 11 – Management Turnover

H₀: There is no significant difference in management turnover regardless of the degree of business overlap between the acquiring and target firms.

H_a: A target company's top management turnover is likely to be higher following a related acquisition than following an unrelated acquisition

Further, transfer of skills from one firm to another is likely to result in synergy (Salter and Weinhold, 1979, and Singh and Montgomery, 1987). Shelton (1988) suggests that the potential for long-run value creation is greatest in related-supplementary acquisitions where the top executives of both acquiring and target firms share similar functional skills and common managerial premises, and are therefore in a good position to develop collectively and implement programs that use the assets of the target firms in new or more efficient ways. This is in support of Manne's (1965) concept of market for corporate control that more capable and competent executive teams will tend to replace less capable and competent teams and is likely to result in superior post acquisition performance. In analysing non-takeover related top management changes, Denis and Denis (1995) reported forced resignations that may be due to takeover attempts etc. are preceded by large significant decline in operating performance and followed by large improvements in performance¹⁴⁷. On the other hand, acquired executive departure in unrelated acquisition has negative implications for post acquisition performance since the loss of substantive experience may not be recovered and also because the top management of acquired firms are not available to facilitate organisational integration (Cannella and Hambrick, 1993, and Krishnan et al., 1997). Thus, it would seem that

¹⁴⁷ Firm performance in the study by Denis and Denis (1995) is operating income before depreciation divided by book value of total assets.

the more related the acquired firm is to the acquiring firm, the more effective top management departure will be to the post acquisition performance.

As a result of an adverse relationship between top management turnover and post acquisition performance, it is hypothesised that the higher the target's top management turnover in a related acquisition, the higher the post acquisition cash flow performance.

Hypothesis 12 – Managerial Synergy

H_0 : There is no significant difference in the operating post acquisition returns due to management departure regardless of the degree of business overlap between the acquiring and target firms.

H_a : There is a higher operating post acquisition returns due to management departure in highly related acquisitions than for unrelated acquisitions

Similar to the technique employed by Cannella and Hambrick (1993), a regression analysis is used in examining the impact of management turnover on related and post acquisition performance relationship.

(Equation 9)

$$AP_{post\ i}^c = \alpha + \beta AP_{pre\ i}^c + \Psi TURNOVER_i + \theta RELATED_i + \varepsilon_i$$

where $AP_{post\ i}^c$ is the average (median) annual control adjusted cash flow returns for company i from the post acquisition years

$AP_{pre\ i}^c$ is the pre acquisition average (median) control adjusted cash flow returns for the same company

TURNOVER is a dummy variable that is one if executives departure exists and zero otherwise,

RELATED is a dummy variable that is one if there is a high or medium overlapping business between the target and acquiring firms and zero otherwise

The intercept coefficient α represents post acquisition abnormal cash flow returns for firms.

The coefficient Ψ and θ show the differential post acquisition returns for firms with directors turnover and related acquisitions, respectively.

7.4 Relative Size of Targets and Bidders

The relative size is another variable that may be relevant in identifying changes in post acquisition performance. It is expected that as the target increases in size relative to that of the bidder, the impact of the acquisition would be more readily observed in the bidders' post acquisition performance. A number of studies have reported different returns to bidders as a consequence of acquiring relatively large targets. In the US, Asquith et al. (1983), Jarrell and Poulsen (1989), Loderer and Martin (1990), and Seth (1990) found a positive relationship between bidding firms' cumulative abnormal returns and the size of the target relative to the size of the bidder. However, Kuehn (1975) suggested that acquiring a large firm requires more integration effort and, additionally, may strain the post acquisition performance of the combined firms. Fowler and Schmidt (1989), Franks et al. (1991) and Healy et al. (1992) found no significant relation between relative size of bidders and targets (as measured by total assets) and bidder returns. Franks and Harris (1989) found no evidence that acquiring firms in the UK lose when targets are relatively large in comparison to bidders. However, Limmack (1993) found that the negative abnormal

returns to the bidding firm shareholders are significantly worse in acquisitions where the targets are smaller in size relative to bidders¹⁴⁸.

As evident from the existing literature, studies provide contradicting results on the relationship between relative size and level of abnormal returns to bidding company shareholders. It is hypothesised in this study that if acquisitions are on average wealth-increasing investments for acquiring firms, the largest positive cash flow performance should be observed when the target is large relative to the acquiring firm.

Hypothesis 13 – Relative Size

H₀: There is no relation between post acquisition performance and relative size of targets to bidders

H_a: A greater increased in positive post cash flow performance is observed among acquisitions involving targets that are large relative to bidders

The relative size is identified as the target size divided by bidder size. The size of the target and acquiring firms is measured as the book value of the companies (equity plus reserves, plus debt less cash and marketable securities) at the end of the financial year prior to acquisition (year –1).

The following regression is estimated to evaluate whether improvements in post acquisition performance is affected by the relative size of target to bidder:

¹⁴⁸ The size of target and acquiring firms is measured as the market value of each company six months prior to the formal announcement of the bid. Quartiles are labelled in order of increasing ratio of relative size of bidder to target.

(Equation 10)

$$AP^c_{post\ i} = \alpha + \beta AP^c_{pre\ i} + \theta RELSIZE + \varepsilon_i$$

where

$AP^c_{post\ i}$ and $AP^c_{pre\ i}$ are the median annual adjusted cash flow returns for company i in the post and pre acquisition years. The variable $AP^c_{pre\ i}$ is included in the model to control for pre acquisition performance.

The intercept α is used as the measure of the abnormal control adjusted cash flow return (changes in performance caused by acquisition).

The coefficient θ shows the differential post acquisition returns for firms with relative size

The slope coefficient β captures any correlation in cash flow returns between pre and post acquisition years.

RELSIZE is target size divided by bidder size.

7.5 Method of Payment

Financing options that are available to acquirers when making an acquisition include issuing shares and warrants to target shareholders, or by using cash or debt issue. Martin (1996) noted that the characteristic of the environment in which the acquisition takes place is one of the reasons that influence the method of payment in corporate acquisitions. He found that firms with high investment opportunities, measured using Tobin's q ratio, prefer to use shares to finance an acquisition because it gives them more discretion over the funds raised than debt financing. Unlike debt financing where management is monitored by the capital providers, equity financing reveals lower potential constraints on managers, thus giving them increased flexibility in their current investing and future financing plans.

Several other studies have focused on the role of asymmetric information on how the offer can provide new information to investors about the bidders' or targets' value. Myers and Majluf (1984) and Murphy and Nathan (1989) have contended that issuance of shares as a form of financing tells the market that the shares of the bidding firm are overvalued and hence, has a negative signalling effect on the acquirer's abnormal return. On the other hand, the issuance of cash is interpreted by investors that the shares of the bidding firm are undervalued. Since managers and shareholders have asymmetric information about firm value, managers can identify potential opportunities to transfer wealth from new investors to existing shareholders by issuing shares when the firm is overvalued. The market recognises this incentive and prevents wealth transfer, on average, by responding negatively to issue announcement. As a result, managers may be reluctant to raise equity to finance acquisitions for the fear that investors will interpret the decision as an indication that the firm's share is overvalued. Amihud et al. (1990, p.606) argued that "... investors expect this and will, therefore, drive down the value of firms that issue new equity. Cash (debt) financing of acquisitions will, therefore, be preferred unless its cost to insiders is excessive". Bhagat and Hirshleifer (1993) also support the argument that one would expect the market to interpret cash offers as signal of bidding firms' shares being undervalued, and that share offers as signals of the share prices being too high.

Huang and Walkling (1987), Travlos (1987), Franks and Harris (1989) and Asquith et al. (1990) are among market based studies in US that have shown that acquiring firms using cash to finance acquisitions perform significantly better than share financed acquisitions around the announcement period. Agrawal et al. (1992) note that post acquisition returns are lower for share than for cash financed acquisitions. Loughran and Vijh (1997) document a relationship between the post acquisition returns and form of payment. Franks et al. (1988) found that UK acquiring

firms using shares to finance the bid performed significantly worse than bidders who offered cash over the two-year period following acquisition. The Malaysian experience is consistent with the types of financing signalling effect in US and UK in that the market regards share financing as unfavourable news (Md. Isa, 1994). The positive or zero abnormal returns for firms financing a takeover of a public traded target with shares parallel a public offering of new shares (Asquith and Mullins, 1986, and Mikkelson and Partch, 1986).

If the issuance of shares in acquisition financing is an anticipation of a performance decline, then the cash flow performance after acquisition will be lower for bidders who offer share exchange than those who use cash financing. In examining the effect of the form of financing to the ultimate success of acquisitions, Healy et al. (1992), however, found no significant post acquisition difference between transactions financed with shares, cash or a mixture of securities. Similarly, in their later study Healy et al. (1997) found no significant difference between post acquisition cash flow performance and the type of acquisition financing. On the other hand, Ghosh (1998) found that the post acquisition cash flow performance improved significantly following cash acquisitions but not for share acquisitions. Linn and Switzer (2000) also found that the change in operating performance of merged firms is significantly larger for cases in which acquiring firms make cash offers as compared to share offers¹⁴⁹.

In examining bidder returns at the announcement of a takeover proposal when the target is privately held, Chang (1998), however, found evidence that bidders experience no abnormal return in cash offers but positive abnormal returns in share

¹⁴⁹ Operating performance in Linn and Switzer's (2000) study is defined as pre-tax profit before extraordinary items plus depreciation and amortisation charges, net interest expense and total income taxes divided by market value of assets.

offers. Chang argued that the financing of takeovers for privately held targets is similar to private placements of shares studied by Wruck (1989) and Hertz and Smith (1993). They suggested that the positive abnormal returns reflect resolution to the Myers and Majluf (1984) underinvestment problem, since managers can disclose their private information during their negotiations with the small group of private placement investors. Similar to private sale of shares, share financing of privately held target involves payment of shares to a single or small group of target shareholders (usually fewer than five). Privately held target shareholders can more easily assess the bidding firm's prospect and their willingness to accept shares from the bidders 'conveys to the market favourable information about the bidding firm, resulting in a positive stock price reaction to the merger proposal' (Chang 1998, p.3).

If the issuance of shares in acquisition financing is an anticipation of an improved performance, then the cash flow performance after acquisition will be higher for bidders who offer share exchange in private company than those who use cash financing in takeovers of privately held targets. Thus, it can be hypothesised that acquirers who use shares to finance an acquisition of privately held targets would have better post acquisition cash flow performance than those who use cash exchange.

Hypothesis 14 - Method of Payment

- H₀: There is no significant relation between the abnormal operating post acquisition cash flow performance and the method of payment
- H_a: There is significant increase in the operating post acquisition cash flow performance for acquiring firms who offer share exchange over those who offer cash financing

Cash offers in the current study is defined as cash and debt exchanges, and share offers include shares and where a combination of cash and shares is paid. Multiple regression is used to examine the possible inter-relationship effects of the method of payment on post cash flow operating returns of the bidders. The dependent variable is the post acquisition operating cash flow returns while the method of payment is the independent variable to be included in the multiple regression.

(Equation 11)

$$AP_{post\ i}^c = \alpha + \beta AP_{pre\ i}^c + \theta CASH + \varepsilon_i$$

where

$AP_{post\ i}^c$ and $AP_{pre\ i}^c$ are the median annual control adjusted cash flow returns for company i in the post and pre acquisition years. The variable $AP_{pre\ i}^c$ is included in the model to control for pre acquisition performance.

The intercept α is used as the measure of the abnormal adjusted cash flow return (changes in performance caused by acquisition) not affected by cash and share payment.

The slope coefficient β captures any correlation in cash flow returns between pre and posts acquisition years.

The coefficient θ shows the differential post acquisition returns for firms with cash payment.

CASH is a dummy variable that is one if the payment is made in cash and zero otherwise.

7.6 Director Ownership

Boards of directors are widely believed to play an important role in monitoring top management (Fama, 1980). Directors are supposed to supervise the actions of management, provide advice, and vetoing poor decisions. There have been several attempts to identify quantitatively the effects of shareholdings on the board of directors on profitability. Examples were studies carried out by Lewellen et al. (1989), Denis et al. (1997) and Shinn (1999) on how shareholdings by board of directors affect performance. In examining 203 US listed acquiring firms during the period 1963 to 1984, Lewellen et al. (1989) found that acquiring firms earn higher abnormal share returns around the announcement date with higher managerial ownership. Similarly, Denis et al. (1997) found negative relation between the level of diversification and managerial share ownership, consistent with the agency cost hypothesis that as managers' ownership stake increase, they are less likely to adopt diversification strategies that reduce shareholder wealth. Shinn (1999) also support the hypothesis that managers with a significant ownership position in their firms may engage in acquisition activity that increases shareholder wealth since a greater proportion of their wealth is tied to changes in the value of the firm.

The ownership of vote-carrying shares by management is motivated by the desire for direct monetary gain as well as the possibility of exercising control over the company. These differing motives may be due to the tradeoff between the agency costs that have given rise to the distinction between managerial alignment (Jensen and Meckling, 1976) and managerial entrenchment (Demsetz, 1983 and Morck et al. 1988). High level of managerial shareholding encourage managers to select policies aligned with those of other shareholders, as managers bear direct wealth consequences from their decision. This convergence-of-interest hypothesis predicts that market value of the management increases with management ownership. On the

other hand, managerial entrenchment occurs when there is a possibility that managers with significant ownership levels may gain so much power that they are able to use the firm to further their own interests rather than the interests of the shareholders. This entrenchment hypothesis predicts that market valuation of the corporation will be less valuable when managed by management free from checks on their control. Holl and Kyriazis (1997) suggested that managerial alignment is associated with low levels of ownership and managerial entrenchment is associated with high levels of ownership. This is similar to the argument made by Stulz (1988), and Hubbard and Palia (1995) that there is an existence of a non-linear inverted U-shaped relationship (non-monotonic relationship) between managerial shareholding and wealth gains, where the market value of the firm first increases, then declines, as ownership by the board of directors rises. In using α as proxy for voting rights controlled by management, Stulz (1988) argued that the value of the firm increases when α is low and decreases when α is large. Similarly, Morck et al. (1988) also found that profitability, measured by Tobin's q , is highest at moderate levels of share ownership by the board (over the 0 to 20% range). However, the firm performance declines after that point as managerial ownership concentration increases. In examining the relationship between managerial ownership and shareholders wealth (captured by abnormal market return), Hubbard and Palia (1995) also find empirical support for the non-monotonic relationship hypothesis that abnormal returns first increase, then decrease as the acquirer's managerial level increases. Unlike the study by Mork et al. (1988), however, Hubbard and Palia (1995) did not find a positive relationship between performance and managerial level at more than 25%.

Thus, the current study focuses on whether directors with significant shareholding plays a role in monitoring the actions of the bidding firm's management in producing positive post acquisition performance. It is hypothesised that there is a non-linear inverted U-shape relationship between managerial shareholding and

wealth gains. Post acquisition performance of the firm first increases as the directors' hold stake in the firm, then declines as ownership by the board of directors rises. Low levels of ownership helps to align the incentives of directors with those of shareholders, but managerial entrenchment may occur when there is a possibility that managers with high ownership level tend to use their power to further their own interests rather than the interests of the shareholders.

Hypothesis 15 – Managerial Ownership

- H₀: There is no significant relation between the abnormal operating post acquisition cash flow performance and directors share ownership
- H_a: The post acquisition operating cash flow performance for acquiring firms first increases, then declines as directors own share ownership increases.

Section 4(1) of Malaysian Companies Act defines directors as 'any person occupying the position of director of a corporation by whatever named called and includes a person in accordance with whose directions or instructions the directors of a corporation are accustomed to act and an alternate or substitute director'. Division 3A (Section 69D) of the Malaysian Companies Act 1965 defines a substantial shareholder as one who 'has an interest or interests in one or more voting shares in the company and the nominal amount of that share, or the aggregate of the nominal amounts of those shares is not less than five percent of the aggregate of the nominal amounts of all voting shares in the company'.

Similar to the study by Holl and Kyriazis (1997), DIREC is defined as fraction of shares held directly by the directors and his or her immediate family owning 5 percent or more of the firm's outstanding shares. The dependent variable is the post

acquisition operating cash flow returns while the percentage of directors ownership is the independent variable to be included in the multiple regression.

(Equation 12)

$$AP^c_{post\ i} = \alpha + \beta AP^c_{pre\ i} + \theta DIREC + \varepsilon_i$$

where

$AP^c_{post\ i}$ and $AP^c_{pre\ i}$ are the median annual control adjusted cash flow returns for company i in the post and pre acquisition years. The variable $AP^c_{pre\ i}$ is included in the model to control for pre acquisition performance.

The intercept α is used as the measure of the abnormal adjusted cash flow return (changes in performance caused by acquisition) not affected by directors ownership.

The slope coefficient β captures any correlation in cash flow returns between pre and posts acquisition years.

The coefficient θ is the ownership percentage of directors

7.7 Multivariate Analysis

To examine the possible inter-relationship effects of acquisition characteristics on post acquisition operating cash flow returns more specifically, the returns of the combined firms are analysed using a multiple regression model. The dependent variable is the post acquisition operating cash flow returns. The independent variables reflect the acquisition characteristics (business relatedness, management turnover, relative size of targets to bidders, method of payment, and directors ownership).

(Equation 13)

$$\begin{aligned} AP_{post\ i}^c &= \alpha + \beta_1 AP_{pre\ i}^c + \beta_2 (HIGH) + \beta_3 (MEDIUM) \\ &+ \beta_4 (TURNOVER) + \beta_5 (RELSIZE) + \beta_6 (CASH) \\ &+ \beta_7 (DIREC) + \varepsilon_i \end{aligned}$$

where $AP_{post\ i}^c$ is the average (median) annual control adjusted cash flow returns for company i from the post acquisition years

$AP_{pre\ i}^c$ is the pre acquisition average (median) for the same company

HIGH is a dummy variable that is one if there is a highly overlapping business between the target and acquiring firms and zero otherwise

MEDIUM is a dummy variable that is one if the target and acquiring firms are in a medium overlap business and zero otherwise

TURNOVER is a dummy variable that is given the value of one if there is target directors turnover and zero otherwise

RELSIZE is the actual percentage of relative size of target to bidder

CASH is a dummy variable that is one if the acquirer paid in cash and 0 otherwise

DIREC is the actual percentage of directors ownership

7.8 Summary

The current chapter details the methodology and hypotheses on the effects of acquisition characteristics on post acquisition performance. Table 7.1 summarises the acquisition characteristics to be examined and expected direction of each explanatory variable on the post acquisition performance.

Table 7.1

Acquisition characteristics and expected direction of each explanatory variable on the post acquisition performance

Variable	Description	Expected Direction of effect
HIGH	Highly overlapping business between target and acquiring firm	+
TURNOVER	Target directors turnover in related acquisitions	+
RELSIZE	Large relative size of target to bidder	+
CASH	Payment by cash	-
DIREC	Fraction of shares held by members of the board of directors owning 5% or more of the firm's outstanding shares	+

The next chapter describes the data collection of companies involved in corporate acquisition in Malaysia during the period 1988-1992.

Chapter 8

Data Sources and Sample Selection

8.1 Chapter Description

The last 2 chapters described the research methodology and hypotheses for the current study. The current chapter of the study describes the data collection for companies involved in corporate acquisitions undertaken in Malaysia between January 1, 1988 and December 31, 1992. Samples were selected from quoted acquirers and quoted and non-quoted acquired targets. Selection criteria used for the sample and control firms are also explained.

As far as possible, a census rather than sample analysis was attempted, although bids less than 50% of equity and offers for investment trusts and finance companies were excluded from the analysis. Data availability proved to be a problem. Through considerable effort, as discussed below, data was gathered on a final sample of 97 acquiring and 117 target companies.

8.2 Selecting Acquirers and Targets

The study sets out to analyse the operating performance of companies involved in corporate acquisitions undertaken in Malaysia during the period January 1, 1988 – December 31, 1992. The sample period is selected to focus on recent acquisitions and also to ensure sufficient pre and post acquisition performance data. Initially, the analysis in the study was design to include acquisitions for a period of seven (7) years commencing January 1, 1986. However, the pre acquisition financial reports for the target companies kept at the Malaysian Registrar of Companies (ROC) were available only from December 31, 1986. In order to ensure at least two (2) years

of financial records (excluding year of acquisition) prior to acquisition are available for the target companies, the sample period began on 1 January 1988. The selected period was truncated on December 1992 to permit a five-year post acquisition analysis. The focus on a longer post acquisition performance stems from the view that value increasing improvements in efficiency might not materialise for several years (Healy et al., 1992, 1997, Manson et al., 1994, Jarrell, 1995, Ghosh, 1999)¹⁵⁰. Barber and Lyon (1996, p.377) also found that expectation models that use a firm's lagged performance (2 or 3 years) after the event provide better results in detecting abnormal performance.

In Malaysia, all acquisition proposals are required to be submitted to the regulatory bodies, mainly the Foreign Investment Committee (FIC) and Securities Commission (SC). An attempt was made to obtain a list of acquisition proposals from the FIC. However, in a written reply, the FIC indicated that there were no proper records available on acquisitions during the period investigated. As the SC was established in 1993 they were also unable to provide data for the period under investigation. Instead, information on Malaysian acquiring and target companies involved in acquisitions was obtained from examination of individual copies of Kuala Lumpur Stock Exchange's (KLSE) monthly Investor Digests. Proposed acquisitions for the period under study (1988–1992) was taken from the lists of proposed acquisitions in the Investors Digest.

¹⁵⁰ Healy et al. (1992, 1997), Manson et al. (1994), and Anand and Singh (1997) use five years post acquisition period while Ghosh (1999) report his data using 3 years post acquisition period. Jarrell (1995) found that combined firms experience improvement in performance over the longer term (represented by the average of 4-6 post acquisition years) while the combined firms did not improve their performance over the short term (1 year). He inferred that the combined firms have to absorb the initial costs of the acquisition in the first year, then realising improvements in the long-term as the firm's assets or operations have been efficiently reorganised.

The initial condition for inclusion in the sample was that the acquiring firm must be quoted in the KLSE and acquiring more than 50.1% voting rights of targets. The percentage of more than 50.1% is used to justify the holding-subsidary relationship in producing the consolidated accounts, necessary for the combined cash flow data of acquiring and targets used in the current study. Section 5(1)(a) of the Malaysian Companies Act 1965 provides that a corporation shall be deemed to be a subsidiary of another corporation if that corporation:

- (i) controls the composition of the board of directors of the first-mentioned corporation, or
- (ii) controls more than half of the voting power of the first-mentioned corporation, or
- (iii) holds more than half of the issued share capital of the first-mentioned corporation, or
- (iv) the first-mentioned corporation is a subsidiary of any corporation which is that other corporation's subsidiary.

Due to (i) above, there will be cases where a substantial shareholder holding less than 50.1 per cent of the issued and paid up capital of a company is in virtual control of the company. This happens when the remaining shares in the company are spread over a wide spectrum of shareholders. However, due to the difficulty of identifying (i) above, the ownership of the majority of shares in a company (50.1 per cent) is used as the criteria for control in the current study.

Further restriction requires that a purchase price exceeding RM500,000 be taken into consideration. The selection of a minimum bid value, whilst somewhat arbitrary, is chosen to avoid the difficulty in identifying any response which could occur when firms acquire very small companies. Asquith et al. (1983) suggested that

if the investment in the target is small relative to the total value of the acquiring firm, the change in value from the acquisition may not cause much change either in the acquirer's share price or other performance measures.

Initially, a sample of 160 proposed acquisitions was identified, involving 160 bidders and 213 targets¹⁵¹. The list contained the name of acquiring and target firms, the percentage acquired, and the purchase price. The list was then cross-checked with the Annual Companies Handbook published by the KLSE and the respective companies' files in KLSE library to find out if the acquisition was successful. Further screening involved a reduction in the final sample as shown in Table 8.1. 29 acquisitions involving 33 target firms were excluded because the bid had lapsed. A further 39 bids, involving 13 bidders, were excluded either because the target was a dormant company (18 cases) or because there was insufficient accounting information for the target (21 cases). Since the initial requirement was based on acquiring firms quoted on KLSE, 3 non-listed bidders acquiring 6 targets were also excluded from the current study. Finally, 18 acquisitions involving financial firms & investment trusts were excluded because they are subject to special accounting and regulatory requirements. Generally, investment trusts are valued on the basis of the market value of their highly liquid assets such as shares and bonds. The offer price for such trusts are normally not based on a fixed offer price (cash or shares in the bidding firm) but as a percentage of net assets value for each of the target company's shares. Another restriction requires the acquiring firm not only to be listed in the KLSE at the time of acquisition but also to remain listed after the acquisition. Although this restriction introduces a potential survivorship bias, no bidder was in fact removed for this reason.

¹⁵¹ A bidder acquiring either one or more target firms in the same year is considered as one acquisition.

Table 8.1

Construction of Data Set

	1988		1989		1990		1991		1992		All Years	
	Bidders	Targets	Bidders	Targets	Bidders	Targets	Bidders	Targets	Bidders	Targets	Bidders	Targets
Initial bids identified	22	28	37	49	41	60	36	44	24	32	160	213
Finance/Unit Trusts	-	-	2	2	5	5	9	9	2	2	18	18
Acquisition lapsed	5	5	9	9	5	7	5	6	5	6	29	33
Dormant targets	3	3	2	4	2	4	2	3	1	4	10	18
Accounts of targets Not available	1	6	1	6	1	5	-	2	-	2	3	21
Non-listed bidders	-	-	-	-	2	4	-	-	1	2	3	6
TOTAL	13	14	23	28	26	35	20	24	15	16	97	117

Note:

The initial list of acquisitions for the period 1988-1992 was identified by examining the lists of proposed acquisitions in the Investors Digest and then cross-checked with KLSE Annual Companies Handbook and the respective company's files at KLSE library.

All the 97 acquiring companies in the final sample met the criterion. Other information obtained on the acquisitions from the KLSE Annual Companies Handbook and the respective companies' files in KLSE library included the initial announcement dates, the completion date, the composition of the acquiring companies by sector, the purchase price of the target firms, and the method of financing (cash or shares exchange). Names of the sample companies are provided in Appendix 1.

Table 8.2

Number of targets being acquired by a single bidder in a year for 117 Bids during the period 1988-1992

Years	No. of Bidders	No. of Targets Acquired by a Single Bidder	Total No. of Targets
88	12 1	1 2	12 2 ----- 14
89	18 5	1 2	18 10 ----- 28
90	22 3 1	1 3 4	22 9 4 ----- 35
91	17 2 1	1 2 3	17 4 3 ----- 24
92	14 1	1 2	14 2 ----- 16
TOTAL	----- 97		----- 117

Note:

Number of targets being acquired by a single bidder in each year during the period 1988-92.

The final sample consists of 97 acquiring and 117 target companies. As mentioned earlier, an acquiring firm taking over either one or more target firms

(multiple bids) in the same financial year is considered as one acquisition. The breakdown of the number of targets being acquired by a single bidder in a particular year is shown in Table 8.2.

Frequent, or active, bidders (bidders making more than 1 bid in subsequent years) are not excluded from the current study. There is a possibility that acquiring companies that attempted a second acquisition are those whose experience of first acquisitions are positive and therefore undertake further acquisitions. Those bidders which did not make a second bid may have been companies who experienced difficulties associated with their first acquisition. Whether active bidders perform better or worse than one-time acquirer is an empirical question. However, there is a possibility of introducing bias in the analysis if active bidders are excluded from the sample. In addition, there is a practical problem of data availability. Excluding frequent bidders would significantly reduce the data set. The breakdown of active bidders is summarised in Table 8.3.

Table 8.3

Multiple Acquisitions made by bidders during the period 1988-1992

No. of Acquisitions	No. of Bidders	Total Bids
1	38	38
2	23	46
3	3	9
4	1	4
Total	65	97

Note:

Acquisition activities of acquiring firms for the period 1988-92

Multiple acquisitions identified in Table 8.3 refers to the number of other acquisitions made by an acquiring firm in the 4-year period subsequent to the year of the first acquisition. As mentioned earlier, acquisition of more than one target firm in the same year are considered as a single bid. Out of the 97 acquisitions involving 65 companies, 27 (41.5%) companies made more than one bid during the investigation period 1988-1992. Few companies engage in a large number of acquisitions, but a reasonable proportion in the sample undertake more than 1 acquisition.

For preliminary analysis all 117 targets acquired were identified. The listing status of targets is summarised in Table 8.4. As can be seen most of these targets are private companies.

Table 8.4

Classification of Targets

<i>Classification</i>	<i>No. of companies</i>	<i>Percentage</i>
Public listed	3	2.56
<i>Non-public listed</i>	1	0.86
<i>Private</i>	113	96.58
Total	117	100

Note:

Companies name that end with Sendirian Berhad (Sdn. Bhd.) are categorised as private companies while those that end with Berhad (Bhd.) are public listed companies.

8.2.1 Composition of Companies

A summary of the industry composition of the 97 quoted acquiring companies is provided in Table 8.5, using the KLSE classification for the year of acquisition. The highest percentage of bidders are found in the Industrial sector (52.6%), followed by the Property sector (27.8%).

Table 8.5

Composition of Acquiring Firms

Industry	No. of companies	Percentage
Tin	4	4.1
Oil Palm	7	7.2
Rubber	8	8.3
Property	27	27.8
Industrial	51	52.6
Total	97	100

Note:

The classification of companies by industry was obtained from the KLSE.

Information of the private and non-public listed companies was obtained from the company files, found in the microfiche at the Malaysian Registrar of Companies (ROC), while those of public listed were obtained from KLSE. The companies in the ROC are categorised according to their business sector, as shown in Table 8.6. The largest percentage of companies (31.6%) is in the Property and Construction sector, followed by Industrial sector (27.4%).

Table 8.6

Composition of Acquired Firms

Sector	No. of Companies	Percentage
Property & Construction	37	31.6
Industrial	32	27.4
Trading	11	9.4
Oil Palm	11	9.4
Hotel & Recreation	10	8.4
Plantation	5	4.3
Betting operation	5	4.3
Telecommunication	3	2.6
Transport	3	2.6
Total	117	100

Note:

The classification of companies by sector was obtained from the Registrar of Companies.

8.2.2 Type of Acquisition and Method of Payment

Because of the difference in the two industry classification schemes used for Tables 8.5 and 8.6, a subjective categorisation is used in the current study to identify the degree of business relatedness. This subjective classification is made by reading the line of business discussion in the combined firm's annual reports and the KLSE Annual Handbook. Acquisitions between target and acquiring firms in the current study are classified as those with high, medium and low (or no) business overlap, similar to the classification given in Healy et al. (1992, 1997). Out of 117 acquisitions, 64 were found to be highly related, 17 medium related and 36 unrelated. The distribution of acquisition by relatedness of the business is given in Table 8.7.

Table 8.7

Distribution of Acquisitions by the Type of Acquisition and the Method of Payment for acquisitions completed during the period 1988-1992

Years	Related Versus Unrelated				Method of Payment		
	Highly	Medium	Non-related	Total	Cash	Shares	Total
1988	8	2	4	14	13	1	14
1989	11	8	9	28	20	8	28
1990	22	1	12	35	23	12	35
1991	13	4	7	24	19	5	24
1992	10	2	4	16	10	6	16
Total	64	17	36	117	85	32	117

Note:

List of acquisitions from 1988-92 for which data are available from the KLSE classified by the type of acquisition and the method of payment used in acquisitions. The type of acquisitions between target and acquiring firms in the current study are classified as those with high, medium and low (or no) business overlap. A high degree of business relatedness refers to acquisition of companies with a considerable overlap of product market relatedness between bidder and target firms. Cash offers include cash and debt exchanges, and share offers include shares and where a combination of cash and shares is paid.

The information on the form of payment made by the acquiring firms was obtained from the respective companies' files at the KLSE. Cash offers include cash and debt exchanges, and share offers include shares and combinations of cash and shares. Table 8.7 also gives the breakdown on the form of payment made.

8.2.3 Relative Size of Target to Bidders

Relative size of target to bidders is defined as the ratio of target size to bidder size at the end of the financial year prior to the bid year (year -1). The size of the target and acquiring firms is measured as the book value of the companies (equity plus reserves, plus debt less cash and marketable securities) at the end of the financial year before acquisition (year -1). The choice of this base date was undertaken to avoid any potential bias caused by the bid itself. Information on the size of bidders is obtained from the financial statement of bidders found at the KLSE while those of targets are taken from the ROC.

Table 8.8

Relative Size of Target to Bidder for 117 Acquisitions

Range Description	Book Value Of Bidder RM'000	Book Value Of Target RM'000	Relative Size Of Target to Bidders
Mean	278019	54286	0.412
Median	122611	20268	0.149
Standard Deviation	347181.2	90060.3	0.746
Maximum	1783835	693219	4.028
Minimum	5495	1267	0.103

Note: Firm size is defined as the book value of shares plus the book values of net debt (long-term debt plus short-term debt less cash and marketable securities) at the end of the year before acquisition (year -1). Relative size of the target is defined as the ratio of target size and bidder size in year -1.

The mean and median relative size of target is 41.2% and 14.9%, respectively (see Table 8.8). This size relation, similar to that reported by Healy et al. (1992), ensures that the targets in this study are large enough to have a significant effect on the bidder's performance.

Table 8.9 shows the distribution of relative size of target to bidder. The majority of the companies (49.6%) in the sample have relative size between 0.11-0.20, followed by 11.1% of the companies in the 0-0.05 and 0.21-0.30 range. Only 12 targets or 10.3% of the total, are larger in size than their bidders.

Table 8.9

**Distribution of Relative Size of Target to Bidder
for 117 acquisitions**

Range	Frequency	Percent	Cumulative Percent
0.0 - 0.05	13	11.1	11.1
0.06 - 0.10	7	6.0	17.1
0.11 - 0.20	58	49.6	66.7
0.21 - 0.30	13	11.1	77.8
0.31 - 0.40	5	4.3	82.1
0.41 - 0.50	2	1.7	83.8
0.51 - 0.99	7	5.9	89.7
>1.00	12	10.3	100
Total	117		

8.2.4 Directors Ownership

Prior to 1984, there was widespread use of nominee companies to register shareholdings making it difficult to discover who were the beneficial shareholders of many of the listed companies in Malaysia (Cheong, 1989). The new Companies Amendment Bill 1984 introduced into the Companies Act 1965 (Division 3A) has imposed obligation on shareholders to disclose their substantial interest in shares of

public companies so as to protect investors' interest¹⁵². Data on the board of directors who were affiliated with the acquiring firm were obtained from the proxy statement or director's report in the financial statements of the company one-year prior to acquisition.

Table 8.10 reports the descriptive statistics of share ownership of directors for 97 and 65 acquiring firms¹⁵³. In the sample of 97 acquiring firms, the mean combined stake owned by directors is 13.9% and the median stake is 10.9%. There is considerable variation in directors ownership within the sample, ranging from 0.04% to 59.7%. Similarly, the ownership of directors for the first acquisition of 65 acquiring firms ranges from 0.04% to 59.7%. The mean and median stake owned by these directors is 13.1% and 6.4%, respectively.

Table 8.10

Descriptive Statistics for Share Ownership of Directors for Acquiring Firms over the period 1988-1992

	<i>Percentage Share Ownership of Directors for 97 Acquiring Firms</i>	<i>Percentage Share Ownership of Directors for 65 Acquiring Firms</i>
<i>Mean</i>	13.9	13.1
<i>Median</i>	10.9	6.4
<i>Minimum</i>	0.04	0.04
<i>Maximum</i>	59.7	59.7
<i>Standard Deviation</i>	15.0	15.37

Note: 97 acquiring firms include bidders that made subsequent bids in the following year while 65 acquiring firms consist of bidders that made the first bid.

¹⁵² A person is deemed to be a substantial shareholder if he has an interest in 5 per cent or more of the voting shares in a company (Section 69D(1) of the Malaysian Companies Act 1965).

¹⁵³ 97 acquiring firms include bidders that made subsequent bids in the following year while 65 acquiring firms exclude those that made subsequent bids.

As shown in Table 8.11, 16 (16.49%) of the 97 acquiring firms have directors owning less than 0.1% of the firm's outstanding shares while majority of companies (22.68%) have directors owning shares in the range of 0.1% to 5%. The majority of the 65 acquiring firms (24.62%) also have directors owning in the range of 0.1% to 5% while 20% of the firms have directors owning less than 0.1% of the firm's outstanding shares.

Table 8.11

Distribution of Directors Ownership for Acquiring firms over the period 1988-1992

<i>Range</i>	Distribution of Directors Ownership for 97 Acquiring Firms			Distribution of Directors Ownership for 65 Acquiring Firms		
	<i>Frequency</i>	<i>%</i>	<i>Cumulative %</i>	<i>Frequency</i>	<i>%</i>	<i>Cumulative %</i>
Less than 0.1%	16	16.49	16.49	13	20.0	20.0
0.1- 5%	22	22.68	39.17	16	24.62	44.62
5 -10%	9	9.28	48.45	6	9.23	53.85
10 -15%	13	13.40	61.85	7	10.77	64.62
15 - 20%	11	11.34	73.19	5	7.69	72.31
20 - 25%	11	11.34	84.53	8	12.31	84.62
25 - 30%	1	1.03	85.56	1	1.54	86.16
30 - 35%	1	1.03	86.59	1	1.54	87.70
35 - 40%	6	6.19	92.78	3	4.61	92.31
More than 40%	7	7.22	100	5	7.69	100
Total	97	100		65	100	

8.2.5 Turnover of Directors

There is no readily available comprehensive source of information on top management turnover for individual companies. However, information may be obtained on named directors of the companies. Names of target directors were

obtained from the proxy statement or directory of directors in the companies annual reports and KLSE Companies Annual Handbooks one-year prior and one-year post acquisition period. A company's top management team is defined as all executive directors and the chairman. Turnover is defined as the proportion of directors present at the time of acquisition who had departed by the end of the first post acquisition financial year. The list of names in the post acquisition period is checked against the pre acquisition list to determine if existing directors had left the company or new directors have been appointed after the acquisition.

Being only private companies, target company in the current study normally have only 4-5 directors in the company. As mentioned in Chapter 7, it is hypothesised (H_{010}) in the current study that acquisitions of firms with high business relatedness will show greater cash flow improvements than acquisitions between firms with medium or unrelated business. Thus, the sample of takeovers are subdivided into two groups, with Group A including targets of related acquisition, further subdivided into those which have and those which do not have any change of directors in the year following the bid. Related acquisitions include those of highly and medium related acquisitions as defined in Section 8.2.2. Group B includes targets of unrelated acquisition and is also subdivided into those which have and those which do have any change of directors in the same period. Table 8.12 shows the distribution of managerial turnover for the two groups.

As shown in Table 8.12, both the related and unrelated acquisitions have a high proportion of top managerial turnover after the acquisition. The turnover of directors is also higher in unrelated than in related acquisitions. There are 47 (58%) cases of directors turnover and 34 (42%) directors retained out of 81 related acquisitions, while 25 (69%) cases out of 36 companies replaced directors and 11 (31%) retained directors in unrelated acquisitions.

Table 8.12**Distribution of Directors Turnover by Business Relatedness for 117 Bids Completed during the period 1988-1992**

Years	Group A Related Acquisitions			Group B Unrelated Acquisitions			Total
	<i>Turnover</i>	<i>Retain</i>	<i>Total</i>	<i>Turnover</i>	<i>Retain</i>	<i>Total</i>	
1988	6	4	10	3	1	4	14
1989	13	6	19	6	3	9	28
1990	14	9	23	8	4	12	35
1991	9	8	17	5	2	7	24
1992	5	7	12	3	1	4	16
Total	47	34	81	25	11	36	117

Related acquisition is where there is a high or medium overlapping line of business between the target and acquiring firm.

8.3 Bidder Controls and Target Controls

Control companies consist of firms that have not engage in acquisition activity during the period under study. The control selected in this study were non-acquiring and non-target companies in the same industrial classification as those of the respective companies matched by year and size on one by one basis¹⁵⁴. The matching procedure used here allows for a direct comparison between the performance of firms that are engaged in acquisitions and firms that do not. As mentioned earlier, the size of Malaysian companies in the study is based on book value (book value of shares plus reserves plus book value of debt, less cash and marketable securities) at the end of the financial year prior to acquisition.

Firms are matched from pre acquisition periods and the same firms are used as a benchmark for both pre and post acquisition years. List of quoted companies

¹⁵⁴ As mentioned in Chapter 6, Barber and Lyon (1995) and Ghosh (1998) suggest that control firms selected on the basis of industry and size are likely to serve as better benchmarks than median firms from the same industry for detecting abnormal operating performance.

based on industry for the period 1988-92 is obtained from the KLSE. The size of these companies is computed from their respective financial statements obtained from the KLSE Annual Handbook. The companies are ranked each year based on size within their respective industry. A company having similar size and in the same industry as the bidder is identified as the bidder control. Companies that were either the subject of a bid or made a bid themselves during the period of study (1988-1992) are excluded from the control firm. If the selected company is involved in a bid, the next company in the same industry having similar size as the bidder is chosen as the bidder control. As far as possible a company in the same industry is chosen only once as a bidder control¹⁵⁵. A total of 97 bidder controls are finally identified, one for each acquiring firm in the sample.

Information on thousands of companies under different business sector is kept in the microfiche at ROC each year. Due to the difficulty of obtaining the size of non-target companies from the company microfilm at ROC, the non-target companies were matched to those of the respective target companies by the same industrial classification and same time period only. A control company to match the target is chosen at random from the list of companies in the same business sector as the target. If information on the chosen company is not available in the microfiche, another company is selected from the list. The process is repeated until a company in the same industry with sufficient financial reports (both pre and post) as the target is found. The matched company was neither a subject of a bid nor had made a bid itself during the period of study.

The relative size of target control to bidder control and the controls to their respective sample firms are shown in Table 8.13. The mean and median relative size

¹⁵⁵ In 12 cases it was necessary to use the same control firm because there was no other company of similar size in the same industry.

of target controls to bidder controls is 20.6% and 4.6%, respectively. The relative size of target controls to targets is 63.0% for the mean and 25.7% for the median. On the other hand, the mean and median relative size of bidder controls to bidders is 110.2% and 98.4%. Size matching was therefore deemed to be fairly accurate for bidders, although less so for targets.

Table 8.13

Relative Size of Target Controls to Bidder Controls and to their Respective Sample Firms for 117 Bids Completed during the period 1988-1992

<i>Range Description</i>	<i>Book Value of Bidder Controls</i> <i>RM'000</i>	<i>Book Value of Target Controls</i> <i>RM'000</i>	<i>Relative size Target Controls to Bidder Controls</i>	<i>Relative size Target Controls to Targets</i>	<i>Relative size of Bidder Controls to Bidders</i>
<i>Mean</i>	252932	21999	0.206	0.630	1.102
<i>Median</i>	124642	9241	0.046	0.257	0.984
<i>Standard Deviation</i>	282653	54762	0.527	0.993	0.551
<i>Maximum</i>	1708857	474313	3.839	5.307	3.294
<i>Minimum</i>	4626	1001	0.033	0.101	0.404

Note: Firm size is defined as the book value of shares plus the book values of net debt (long-term debt plus short-term debt, less cash and marketable securities) at the end of the year before acquisition (year -1). Relative size of the target is defined as the ratio of target size and bidder size in year -1.

8.4 Data on Cash Flow and Asset

Whenever possible eleven years of data on cash flow and asset are required for each sample and control companies, commencing 5 years prior to acquisition until 5 years post acquisition period (inclusive the year of acquisition)¹⁵⁶. Financial reports on the quoted acquiring and quoted non-acquiring companies were obtained from the KLSE library while those on non-quoted target and non-quoted matched target companies were obtained from the company files at the ROC.

¹⁵⁶ During analysis of data, year of acquisition is excluded to control for any one-time costs incurred during the acquisition.

Prior to 1997, the 'Cash Flow Statements' was not available in the financial statements of Malaysian companies. Instead, the presentation of Consolidated Statement of Changes is a statutory requirement in the Malaysian financial statements, as required by the 9th Schedule of the Companies Act (1965). As such, cash flow data (net profit before tax, adjusted for changes in working capital) required for the current analysis are computed each year for each company and control company, 4 years prior to acquisition and 5 years post acquisition period. Similarly, operating asset figures (book value of shares plus reserves plus book value of debt, less cash and marketable securities) are computed each year for the companies involved. Since the financial reports for the target companies kept at the ROC were available only from December 31, 1986, some companies did not have pre acquisition cash flow and asset data as far as three years prior to acquisition.

8.5 Summary

This chapter explained data collection of companies involved in corporate acquisitions in Malaysia that took place between January 1, 1988 and December 31, 1992. Information on Malaysian acquiring and target companies involved in acquisitions was obtained from the KLSE monthly Investor Digest. Data was gathered on a final sample of 97 quoted acquiring and 117 target companies, comprising of 3 quoted, 1 non-quoted and 113 private companies. Same number of control companies in the same industrial classification as those of the respective companies set matched by year and size on one by one basis were selected for each bidder and target firms. Information on the initial announcement dates, the completion date, the composition of the acquiring companies by sector, acquisition experience and the method of financing (cash or shares exchange) of the acquisitions were obtained from the KLSE Annual Companies Handbook and the respective companies' files in KLSE library.

Information on the quoted acquiring and non-acquiring companies needed for the current study were sought from the KLSE Annual Companies Handbook 1988-1992, the companies' annual reports and proxy statements for the respective years kept at KLSE. On the other hand, those on the private targets and their respective target controls were obtained from the microfiche at the ROC. Specifically, information needed include those on relative size of target to bidders, size of bidders, directors ownership structure and directors turnover. In addition, data on cash flow and other ratios needed were obtained from the respective companies' annual financial statements both at KLSE and ROC.

The next stage of the current study is to analyse the data. The following chapters (Chapters 9 to 10) present the results of the analyses.

Chapter 9

Analysis of Operating Cash Flow Returns

9.1 Chapter Description

This chapter describes the analysis of the performance of 97 quoted acquiring and 117 target companies (comprising of 113 private, 3 public listed and 1 non-public listed) involved in corporate acquisitions in Malaysia during the period January 1, 1988 to December 31, 1992, using cash flow data. The post acquisition performance of the combined firm is also examined to identify whether or not corporate acquisitions provide economic benefits in the long run. Performance is measured as pre tax operating cash flow returns on book value of total assets. Similar to the study undertaken by Manson et al. (1994) in the UK, cash flow in this study is defined as operating profits before interest, taxes and depreciation adjusted for changes in working capital (that is, changes in stocks, trade debtors and prepayments and changes in creditors and accruals)¹⁵⁷. The book value of assets, measured at the beginning of the year, is the book value of shares plus net debt (long-term debt, plus short-term debt, less cash and marketable securities), similar to the definition used by Healy et al. (1992) and Barber and Lyon (1996)¹⁵⁸.

The relatively short time frame (1988–1992) suggests that the sample firms' performance may be influenced by economy or industry-wide changes. In assessing whether a sample of firms experience any unusual changes in post acquisition

¹⁵⁷ Healy et al. (1992) defined operating cash flow as sales, minus cost of goods sold and selling and administrative expenses, plus depreciation and goodwill expenses. Gadad and Thomas (2000) used similar operating cash flow measures as in the current study when they examine the effects of divestiture on seller firm operating performance.

¹⁵⁸ Healy et al. (1992) used market value of assets as the denominator. The results in the current study may understate the impact of improved performance to the extent that revaluation of assets at the time of acquisitions is included in the book value of assets post acquisition.

operating cash flow, a control was provided as a benchmark against which the sample firms can be compared. The control consists of matched non-acquiring and non-target companies in the same industrial classification as those of the respective companies, with matching based on year and size (whenever possible). The results for both medians and means are presented in the tables. Similar to Healy et al. (1992), Manson et al. (1994) and Ghosh (1998), the current study focuses on median measures to reduce the impact of outliers. The results based on means are however similar, although normally larger in absolute value. In comparing how two matched sample probability distributions correspond to each other, the Wilcoxon signed rank tests rather than Student *t*-tests are used. According to Barber and Lyon (1996), the Wilcoxon signed-rank test rather than the Student *t*-test has more power to detect changes in accounting measures of performance. Mann-Whitney tests are used to test for the difference between means of 2 independently drawn samples.

9.2 Cash Flow and Asset Growth Rate

Cash flow and operating assets are the main variables used in calculating the operating cash flow performance of the firms involved in acquisition. The changes in cash flow and operating assets in the year prior to acquisition (year -1) relative to earlier years, and in years $+1$ to $+5$ relative to the year -1 are reported in Table 9.1. Table 9.1 also summarises the percentage change and control adjusted change in operating cash flow and book value of operating assets for 97 bids in the period 1988 to 1992. All changes in operating cash flow and book value of assets after acquisition are measured from year -1 , the fiscal year before the acquisition is completed. The mean and median change for year $+1$ represents the change in operating cash flow and book value of assets from year -1 to the first year post acquisition. The mean and median change for year $+2$ represents the change from year -1 to the second year post acquisition, and so on.

Table 9.1

Percentage Change & Control Adjusted Change in Operating Cash Flow and Operating Book Value of Assets for 97 acquisitions over the period 1988 to 1992 ¹								
Growth Period In Relation to Acquisitions								
	Year -1 Relative to Year-4 %	Year -1 Relative to Year-3 %	Year -1 Relative to Year-2 %	Year +1 Relative to Year-1 %	Year +2 Relative to Year-1 %	Year +3 Relative to Year-1 %	Year +4 Relative to Year-1 %	Year +5 Relative to Year-1 %
PANEL A								
Rate of Growth of Cash Flow								
<i>Median:</i>								
Firm	71 ^b	93 ^b	15	63 ^a	83 ^a	221 ^a	352 ^a	334 ^a
Control	37 ^a	5	-3	10	35 ^b	26 ^b	30 ^b	12
Control Adjusted	-12	36	0	74 ^b	10 ^b	198 ^a	346 ^a	366 ^a
<i>Trimmean(20%)</i>								
Firm	101 ^c	119 ^b	36 ^b	112 ^a	139 ^a	351 ^a	702 ^a	715 ^a
Control	107 ^b	41	21 ^b	12	61 ^a	53 ^a	68 ^a	23 ^a
Control Adjusted	-10	64	25	167 ^a	57 ^a	388 ^a	679 ^a	846 ^a
% Positive								
Firm	66	63	55	61	64	76	80	77
Control	71	53	48	52	57	57	60	53
Control Adjusted	48	58	51	60	51	66	69	74
PANEL B								
Rate of Growth of Operating Assets								
<i>Median:</i>								
Firm	15 ^a	18 ^a	5 ^a	99 ^a	128 ^a	195 ^a	275 ^a	373 ^a
Control	6	10 ^b	3 ^b	9	22 ^a	36 ^a	51 ^a	93 ^a
Control Adjusted	14	11	2	70 ^a	118 ^a	161 ^a	198 ^a	239 ^a
<i>Trimmean(20%)</i>								
Firm	35 ^b	34 ^a	12	138 ^a	223 ^a	362 ^a	510 ^a	750 ^a
Control	17 ^b	18 ^b	7 ^b	18 ^a	38 ^a	57 ^a	96 ^a	149 ^a
Control Adjusted	14	18	2	97 ^a	128 ^a	205 ^a	254 ^a	364 ^a
% Positive								
Firm	76	73	65	91	93	95	97	96
Control	59	60	57	66	75	78	87	89
Control Adjusted	61	59	52	76	75	77	77	75
No. of observations								
	41	73	91	97	97	97	97	97

¹ Operating cash flow is defined as operating profit before tax and extraordinary items, adjusted for depreciation and goodwill and changes in working capital (that is, changes in stocks, trade debtors and prepayments and changes in creditors and accruals). The operating book value of assets at the beginning of the year is the book value of shares plus net debt less cash and marketable securities. Before the acquisition (year -1), cash flow and operating asset values of the combined firm are weighted averages of the acquirer and target values, with the weight being the relative operating asset values of the two firms. The values of the combined firm are used in the post acquisition period. Pre and post acquisition control returns are target control and bidder control values, weighted by the relative operating asset values of the two corresponding bidder and target firms at the beginning of the year prior to acquisition (year-1). Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm in the same industry during that period.

^a Significantly different from zero at the 1% level, using a two-tailed test.

^b Significantly different from zero at the 5% level, using a two-tailed test.

All changes in operating cash flow and book value of assets prior to acquisition are measured from year -4 to year -1, year -3 to year -1, and so on. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm during that period.

Similar to Healy et al. (1992), cash flow and asset values for the combined firm in years -4 to -1 are weighted averages of target and acquirer values, with the weights being the relative asset sizes of the two firms¹⁵⁹. The values of the combined firm are used in the post acquisition period. Both pre and post acquisition control firm returns are based on target control and bidder control values, weighted by the relative asset sizes of the two corresponding sample firms at the beginning of the year prior to acquisition (year -1).

The results in the current section focus on medians and trimmeans due to skewness in the data. There are 10 combined firms and 6 control companies having a percentage rate of increase of more than 1000% in cash flow for individual observation in the post acquisition period. The high values for the rate of increase in cash flow in post acquisition years for the firm is due to either a negative or a very low positive cash flow in the year prior to acquisition. Where negative cash flows occurred in any base year the absolute value was used as denominator while the change was incorporated in the numerator. For example, one outlier company has operating cash flow of -1449 in year -1. A positive operating cash flow in year +1 of 3882 would have caused a growth rate of 368% by year +1. Due to the large increase in cash flow, results for the trimmean rather than the mean are presented in Table 9.1.

¹⁵⁹ Asset size of target and bidder in the current study is measured by the book value of equity plus reserves plus long term and short term debt, less cash and marketable securities at the beginning of each year.

Trimmean of 20% is used to exclude 20% of data points from the top and bottom tails of the data.

Panel A of Table 9.1 shows that both the median and the trimmean rate of growth of cash flow for the combined firm increase significantly in year -1 relative to the pre acquisition period (except for year -2 , -1), and in all the 5 years post acquisition period in comparison with year -1 . Wilcoxon signed rank tests are used to test the significance between the pre and post acquisition cash flow growth rate for the combined firms. The results in panel A of the table indicates a significant rate of increase in median cash flow for the combined firms by 63% in year $+1$, 83% in year $+2$, 221% in year $+3$, 352% in year $+4$, and 334% in year $+5$. These results are not due to subsequent acquisitions by some of the firm as these have been controlled for.

Similarly, the median and trimmean rate of increase in cash flow for the control companies is positive during the same period, 10%, 35%, 26%, 30%, and 12% in year $+1$ to year $+5$, respectively. The rate of increase in cash flow in year $+2$, year $+3$ and year $+4$ are significant, using Wilcoxon signed rank test. However, the rate of increase is not as high as that experienced by the sample firms in post acquisition years. As shown in the table, the combined firms have a higher percentage of companies earning positive rates of growth than the control companies in all post acquisition period. For example, 61% of the combined firms have positive rates of growth in year $+1$ relative to only 52% positive in control companies. The proportion of observations with positive rates of growth is significantly different between the two groups at the 10% level, using Chi-square test.

Median measured control adjusted changes in cash flow increased by 74% from year -1 to year $+1$, 10% by year $+2$, 198% by year $+3$, 346% by year $+4$, and 366% by year $+5$, all significantly different from zero, using the Wilcoxon-signed rank

test. The results demonstrate that the combined firms have significantly higher rate of cash flow increases than their industry counterparts. However, the rate of increase in cash flows does not of itself indicate that the combined firms performed better in the post acquisition period. As shown in Panel B, the median and trimmean operating asset growth rate for the firm and control companies is also significantly positive after acquisition. As explained earlier, trimmean rather than mean is used due to the skewed distribution of post acquisition growth rates. The median operating asset growth rate for the combined firm in years 1 to 5 are 99%, 128%, 195%, 275% and 373%, all significantly different from zero, using the Wilcoxon test. The control adjusted operating assets growth rate is also significantly positive during this period, albeit lower than the control adjusted cash flow growth rate. The median control adjusted asset growth rate is 70% in year +1, 118% in year +2, 161% in year +3, 198% in year +4 and 239% in year +5, all significantly different from zero, using Wilcoxon signed rank test.

The period of time covered under the current study was one of a high rate of growth in the Malaysian economy. The results suggest that firms involved in takeovers were at the forefront of this growth. The results also provide evidence that these takeovers produced outcomes that have been identified as related to management interests. In the next section analyses are made as to whether the takeovers also provide opportunities for shareholders to benefit.

9.3 Pre Acquisition Performance

Before examining the post acquisition performance of the Malaysian bidders, it is necessary to analyse the level of performance of bidders, targets and their respective controls in the pre acquisition period. Table 9.2 summarises the mean and

median operating cash flow return for the targets and bidders together with their control adjusted returns for each of the four years prior to acquisition.

As explained previously, operating cash flow returns for both sample and control companies are defined as operating profit before interest, taxes and depreciation adjusted for changes in working capital and deflated by the book value of assets at the beginning of the year. Book value of assets is defined as the book value of shares plus long term and short term debt, less cash and marketable securities. Control adjusted measures are computed for each firm and year as the difference between the firm measure in that year and the measure for the control company during that period.

Panel A of Table 9.2 presents the results of targets, target controls and control adjusted operating cash flow returns for the years -4 to -1 prior to acquisition. The accounting data for some companies are not available in all the years prior to takeover but a complete pre acquisition data is available for the full sample of 117 targets in year -1 . Panel B of the table shows results from year -4 to year -1 for bidders, bidder controls and control adjusted operating cash flow returns. Similarly, a complete pre acquisition data is available for the full sample of 97 bidders for the financial year prior to acquisition but not for all earlier years.

The first hypothesis developed in the study is to determine if target firms have poor operating cash flow performance prior to takeover relative to their control firms. As mentioned in the literature, acquisitions are hypothesised to act as a disciplinary mechanism on the management of poorly performing firms. Manne (1965) viewed acquisitions as one of the means by which failing firms are returned to health while Alchian (1950) and Singh (1971) suggested that only those firms which maximise company performance will survive and those who do not will disappear or will be

taken over. Holl and Pickering (1988) and Kennedy and Limmack (1996) in the UK, Palepu (1986), Lang et al. (1991) and Mikkelsen and Partch (1997) in the US found evidence supporting the hypothesis that firms, which do not maximise company performance, are taken over. However, Cowling et al. (1980) and Taffler and Holl (1991) did not find any evidence in UK that acquired companies are less profitable than target firms not taken over.

As seen in Panel A of Table 9.2, the median control adjusted operating returns for target companies are all positive, 5.20% in year -4, 1.88% in year -3, 4.17% in year -2 and 5.09% in year -1. Using Mann-Whitney to test for the difference between medians, year -2 and year -1 are found to be significantly different from zero at the 5% level. The median annual control adjusted operating cash flow returns for the period -4 to -1 is 3.83%, significantly different from zero at the 1% level. The results indicate that, prior to the acquisition, target companies are performing better than companies not taken over. During the same period, 57.69% of the targets had operating cash flow returns higher than their controls. Thus, the null hypothesis (H_{01}) in the current study is rejected. The result contradicts the traditional economic view of Manne (1965), Fama and Jensen (1983) and Jensen (1988) that target firms, which had performed poorly prior to acquisition, will be taken over. Based on the results reported in Table 9.2, takeovers in Malaysia are likely to be non-disciplinary in nature as these takeovers involve acquisitions of private companies.

Table 9.2**Pre Bid Performance of Targets and Bidders Relative to Controls****Panel A**Operating performance for 117 target and control firms in years prior to acquisition¹

Year relative to acquisition	Targets		Control		Control Adjusted			Number of Observations
	Median %	Mean %	Median %	Mean %	Median %	Mean %	% Positive	
-4	4.52	5.89	6.22	-0.28	5.20	6.17	57.14	49
-3	4.40	-0.80	1.30	-0.42	1.88	-0.38	52.27	88
-2	5.54	-1.72	1.21	-3.83	4.17 ^b	2.11	58.18	110
-1	5.82	11.61	0.21	-0.21	5.09 ^b	11.82 ^c	61.54	117
Average performance over years								
-4 to -1	4.84	3.81	1.32	-1.36	3.83^a	5.17	57.69	

Panel BOperating performance for 97 acquiring and control firms in years prior to acquisition¹

Year relative to acquisition	Bidders		Control		Control Adjusted			Number of Observations
	Median	Mean	Median	Mean	Median	Mean	% Positive	
-4	6.55	8.59	5.38	7.72	0.64	0.88	53.41	88
-3	4.92	4.35	8.60	6.77	-0.44 ^b	-2.42	48.96	96
-2	5.74	2.88	6.59	4.25	-1.87	-1.37	43.75	96
-1	6.44	8.74	6.84	6.77	-1.51 ^c	1.97 ^c	47.42	97
Average performance over years								
-4 to -1	5.85	6.10	6.72	6.35	-0.54^a	-0.26^c	48.28	

¹ Operating performance is defined as operating cash flow deflated by the book value of operating assets. Operating cash flow is operating profit before tax and extraordinary items, adjusted for depreciation and goodwill and changes in working capital. Operating assets at the beginning of the year is the book value of equity plus debt less cash and marketable securities. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm in the same industry during that period.

² Statistical tests are conducted only on control adjusted figures.

^a Significantly different from zero at the 1% level, using a two-tailed test.

^b Significantly different from zero at the 5% level, using a two-tailed test.

^c Significantly different from zero at the 10% level, using a two-tailed test.

Traditional economic theory also suggests that takeover bids are likely to be initiated by companies from the more efficient sectors of an economy¹⁶⁰. Thus, the second hypothesis (H_{02}) tested in the current study is whether the pre bid operating cash flow performance of acquiring firms is different to that of control companies. Panel B of Table 9.2 presents the results of bidders, bidder controls and control adjusted operating cash flow returns for the year -4 to year -1 prior to acquisition. As seen in Panel B, bidders are found to be performing worse than the control companies for most of the period prior to acquisition. The median performance for the bidder companies is lower than their controls except for year-4. During the 4-year period prior to acquisition (-4, -1), 51.72% of bidders have negative operating cash flow control adjusted returns with a significant median performance of -0.54%, using Mann-Whitney test. The results provide evidence that bidders are performing poorly relative to their control companies, thus, rejecting the second null hypothesis (H_{02}) in the study.

The third test is of the hypothesis that acquiring firms have higher pre operating performance than that of target firms. If the takeover market reallocates resources to a most efficient use, bidders are likely to be more profitable than their targets. Lang et al. (1989) and Servaes (1991) provide evidence that well managed bidders with high q ratio created more value by taking over poorly performing companies with low q ratio. Holl and Kyriazis (1997) in the UK also provide evidence that target companies with low Tobin's q in their sample of 178 successful takeovers are taken over by acquiring firms with high Tobin's q ¹⁶¹. Table 9.3 summarises the results of a comparison of pre acquisition operating performance of acquiring with target firms. The comparison here includes only those for which paired data are

¹⁶⁰ A number of authors have referred to the limited nature of this assumption. Refer to Limmack (2000) for a review of the disciplinary role of takeovers.

¹⁶¹ Lang et al. (1989), Servaes (1991) and Holl and Kyriazis use Tobin's q ratio as a measure of managerial and financial performance of the target and acquiring firms.

available. A complete pre acquisition data is only available for the full sample of 117 bids in year -1.

Table 9.3

Pre Performance of Bidders Relative to Targets

Operating performance for 117 bids in years prior to acquisition ¹								
Year relative to acquisition	Bidders		Targets		Difference			Observations
	Median %	Mean %	Median %	Mean %	Median %	Mean %	% Positive	
-4	6.85	5.97	4.52	5.89	1.72	0.08	53.06	49
-3	4.31	3.39	4.40	-0.80	2.41	4.20	54.55	88
-2	5.59	2.80	5.54	-1.72	-1.24	4.52	47.27	110
-1	5.85	7.40	5.82	11.61	-1.07	-4.20	44.44	117
Average performance over years								
-4 to -1	5.69	4.85	4.84	3.81	-0.41	1.04	48.90	

¹ Operating performance is defined as operating cash flow deflated by the book value of operating assets. Operating cash flow is operating profit before tax and extraordinary items, adjusted for depreciation and goodwill and changes in working capital. Operating assets at the beginning of the year is the book value of equity plus debt less cash and marketable securities. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm in the same industry during that period.

² Statistical tests are conducted only on control adjusted figures.

As reported in Table 9.3, the operating performance of bidders is higher than that of targets in years -4 and -3 prior to acquisition, but lower than targets with a median of -1.24% and -1.07% in years -2 and -1, respectively. In none of the years is the difference significantly different from zero, using Mann-Whitney test. Overall, 49% of bidders have higher performance than targets but the median performance over the 4-year period is a statistically insignificant -0.41%.

Thus, the third null hypothesis (H_{03}) is accepted since pre operating cash flow performance of acquiring firms are no different to that of target companies. The result

is inconsistent with Manne's (1965) concept of market for corporate control which suggest that more capable and competent executive teams tend to replace one that is less capable and competent. Again, however, this disciplinary role is less likely to be present in agreed takeovers which is the normal characteristic of private acquisitions in this sample.

The above result is similar to that reported in the studies of Singh (1971), Meeks (1977) and Cosh et al. (1980) for UK acquisitions¹⁶². For example, Cosh et al. (1980) found that for takeovers made in the period 1967–1969, acquiring firms are on average larger in size than acquired firms and the control firm but there is little difference in the average profitability of acquiring and acquired firms. In exploring the financial performance of 55 cases of abandoned acquisitions in UK during the period 1977–1981, Taffler and Holl (1991) also found no evidence that the capital market is able to exercise control over allocation of resources to the rest of the economy. They found that the bidders do not appear to be more profitable than their targets either in successful or abandoned bids. It is important to emphasise again, however, that unlike these previous studies which examine public listed targets, the specific feature of the current sample is that it consists mainly of privately owned targets.

9.4 Post Acquisition Performance of Combined Firms

The next section describes the results of tests of changes in operating cash flow performance in the five years post acquisition. Summary statistics on operating

¹⁶² Singh (1977) found that acquiring firms are significantly larger, more dynamic, higher rate of growth but less liquidity than either the acquired or the non-acquiring firms. In examining the pre acquisition characteristics of acquiring and acquired firms during the period 1964 – 1972, Meeks (1977) found that the acquired firms to be an 'average performer in terms of profitability' as compared to their industry average over the same period. Small size rather than low profitability seems to be the characteristic of the acquired firms.

cash flow returns for 97 combined acquiring and target firms in years surrounding acquisition is presented in Table 9.4¹⁶³.

Before the acquisition, the combined cash flow is calculated as the sum of bidder and target operating profit before interest, taxes and depreciation adjusted for changes in working capital divided by the sum of bidder and target book value of assets at the beginning of each year. Adjustment for the differences in size of bidder and target is achieved by multiplying the measures of performance by the weighted average of the relative asset sizes of the two firms¹⁶⁴. After the acquisition, the bidder's cash flow ratio that represents the actual values reported by the combined firms in years +1 to +5 is used.

In order to adjust for economy wide or industry factors that may be affecting the cash flow returns of the combined firms, control companies cash flow returns are also measured during the same nine-year period. Before the acquisition, control companies returns are based on bidder control and target control operating cash flow returns, weighted by the relative asset values of the two corresponding sample firms at the beginning of each year. In the post acquisition years, the cash flow performance of target control and bidder control are weighted by the relative asset value of the two sample firms at the beginning of the year prior to acquisition (year – 1)¹⁶⁵.

¹⁶³ As mentioned in chapter 8, a bidder that acquires either one or more target firms in the same year is considered as one acquisition. There were instances where an acquiring firm acquired more than one target in a year, thus, resulting in 97 acquiring and 117 target firms for acquisitions completed during the period 1988-1992. To test the robustness of the results, 117 combined acquiring and target firms are also analysed and the results are presented in Appendix 2.

¹⁶⁴ Asset size of target and bidder is measured by the book value of equity plus reserves plus net debt less cash and marketable securities at the beginning of each year.

¹⁶⁵ To test the sensitivity of the results, the operating performance of target control and bidder control in the post acquisition period are recalculated by multiplying the measure of performance by the weighted average of the relative asset values of the two control firms at the beginning of the year. The results are similar to those reported in Table 9.4 and are presented in Appendix 3. The median annual control adjusted performance significantly increase from –0.03% in the 4-year prior to acquisition to 2.78% in the post acquisition period.

From Table 9.4, the median operating cash flow performance for the combined firms ranges from 4.08% to 7.46% in the four years prior to acquisition. In the five years subsequent to the acquisition, operating performance of the combined firms tends to increase, ranging from 5.47% to 10.21%. The results of Wilcoxon ranked sign test indicates that the median annual pre-tax operating cash flow return of the combined firm is significantly higher after the acquisition. The median post acquisition performance over the years +1 to +5 for the combined firm is 7.56%, significantly higher than the median performance of 5.79% during the 4-year period prior to acquisition. However, there is an insignificant decrease in operating performance of the control companies during the same period. The median annual performance of the control companies during the 4-year period prior to acquisition and 5-year period after acquisition is 6.36% and 4.81%, respectively, a result not significantly different from zero¹⁶⁶.

The increase in post acquisition operating performance of the combined firms may arise because cash flows grow faster than assets in the post acquisition period as explained in Section 9.2. However, it is difficult to draw conclusions from the median results of the combined firms because these data do not adjust for economy wide or industry factors that may be affecting the cash flow returns of the combined firms. Thus, a reported significant change may be due to factors other than the acquisition. To account for the impact of possible contemporaneous events, the control adjusted median and mean performance measures are reported in column 6 and 7 of the table.

¹⁶⁶ Similarly, operating cash flow returns for 117 combined acquiring and target firms are analysed in years surrounding acquisition. The results in Appendix 2 are similar to the results reported above for the 97 combined firms. The median annual performance for the firm significantly increase from -0.3% in years prior to acquisition to 2.98% in the post acquisition period. The increased in control adjusted cash flow returns is reported for 63.97% of the sample relative to 49.45% in years prior to acquisition.

Table 9.4

Operating performance for 97 combined acquiring and target firms in years surrounding acquisitions completed over the period 1988-1992¹

Year relative to acquisition	Firm		Control		Control Adjusted			Number of Observations
	Median %	Mean %	Median %	Mean %	Median %	Mean %	% Positive	
-4	7.46	7.68	4.40	4.90	3.22	2.78	60.98	41
-3	4.08	3.54	7.18	5.44	-0.41	-1.90	49.32	73
-2	5.49	5.96	6.63	3.34	-1.20	2.62	47.25	91
-1	6.93	10.09	4.74	4.98	1.43	5.11	52.58	97
Average annual performance over years -4 to -1	5.79	6.94	6.36	4.59	0.46	2.35	51.32	
+1	6.62	9.34	4.94	3.89	0.27	5.46 ^c	54.64	97
+2	5.47	8.75	5.74	6.01	0.38	2.74	52.58	97
+3	7.61	10.07	5.52	2.74	5.64 ^b	7.33 ^a	63.92	97
+4	10.21	15.35	4.22	3.99	4.21 ^a	11.36 ^a	72.16	97
+5	8.86	11.73	4.00	3.91	4.04 ^a	7.82 ^b	64.95	97
Average annual performance over years +1 to +5	7.56^a	11.05^b	4.81	4.11	3.01^a	6.94^b	61.65	

¹ Operating performance in the pre acquisition period are pre-tax operating cash flow return on assets of target and bidder, weighted by the relative asset sizes of the two firms. Post acquisition performance used data of the combined firms. Pre acquisition control firm returns are target control and bidder control values, weighted by the relative asset values of the two corresponding sample firms at the beginning of each year. In the post acquisition period the weights used to compute control firm returns are the relative asset values of the acquirer and target firms in year-1. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm in the same industry during that period.

² Mann-Whitney tests are conducted on median control adjusted figures

Wilcoxon signed rank tests are used to test the significance between the pre and post acquisition median annual performance

^a Significantly different from zero at the 1% probability level, using a two-tailed test.

^b Statistically different from zero at the 5% probability level, using a two-tailed t-test.

^c Statistically different from zero at the 10% probability level, using a two-tailed t-test.

The median and mean cash flow returns in the post acquisition period significantly increase after adjusting for the control values. In the pre acquisition period, median control adjusted operating returns ranges from -0.41% to 3.22% , but they are not significantly different from zero when tested using the Mann-Whitney test. In addition more than 50% of the combined firm experience positive control adjusted returns only in year-4 and year-1, while the control companies outperform the combined firms in more than 50% of the cases in years -3 and -2 . The median annual control adjusted performance over the years -4 to -1 is 0.46% and it is not significantly different from zero, indicating that the combined firm is not performing better than the control companies during the 4-year period prior to acquisition. However, the median control adjusted performance ranges from 0.27% to 5.64% in the 5 years post acquisition and they are statistically significant in years $+3$, $+4$, and $+5$. The percentage of firms with cash flow returns higher than their control companies also improves in post acquisition years, with more than 50% of the combined firms show positive control adjusted returns in all post acquisition years. The median annual control adjusted performance of 3.01% over the years $+1$ to $+5$ is significantly different from zero at the 1% level.

Overall, the resulting median annual control adjusted performance for the sample firm increases from 0.46% in the 4-year period prior to acquisition to 3.01% in the 5-year post acquisition period. The Wilcoxon signed-rank test is used to test the significance between the pre and post acquisition median annual control adjusted returns for the combined firms. The result is significant, rejecting the fourth null hypothesis (H_{04}) of no difference in post acquisition performance relative to years prior to acquisition. A positive control adjusted cash flow returns is reported for 61.65% of the sample as compared to 51.32% in the years prior to acquisition. Thus, it appears that acquisitions in Malaysia do lead to improvement in firm performance in comparison to prior years.

In order to summarise the five annual control adjusted operating performance measures above into a single measure, a median annually control adjusted performance measure is calculated for each firm over the four years pre acquisition with a similar measure calculated for the five years post bid. Post acquisition median control adjusted operating performance is then regressed on the pre acquisition median control adjusted operating performance in order to incorporate the relation between prior and post acquisition adjusted returns¹⁶⁷. The abnormal adjusted cash flow returns are then estimated using equation 7, previously discussed in Chapter 7 and the results are presented in Table 9.5. Results of regressing the median control adjusted over the 5-year post acquisition period on the median control adjusted pre acquisition operating performance over the 4-year period are shown in Table 9.5 (a). The intercept, α , is 0.04, indicating that the combined firms obtain a significant increase of 4.0% per year in post acquisition period after controlling for the pre acquisition performance¹⁶⁸. This analysis confirms that there is a significant increase in the performance of the combined firms after acquisition¹⁶⁹.

In addition to the above, other separate regression tests of operating improvements are undertaken to identify whether the results are affected by the lack of full data, particularly for years -4, -3, and -2. The results shown in Table 9.5 (b) and (c) produce intercept items that are all significant at the 1% and 5% level. When 3-year, 2-year, and 1-year median control adjusted performance post acquisition is regressed on 2-year (year -2 to -1) median control adjusted performance pre acquisition, the results show that intercept items are all significant at the 10% level.

¹⁶⁷ The method used in the current study is similar to that used in studies by Healy et al. (1992), Cornett and Tehranian (1992), Manson et al. (1994), Ghosh (1998) and Gadad and Thomas (2000).

¹⁶⁸ When mean rather than median value is used for each of the 5 years of annual prior and post in the regression analysis, the intercept alpha also shows a significant increase of 7.0% in post acquisition years.

¹⁶⁹ When 117 combined acquiring and target firms are used for the regression, the intercept is 0.04, similar to the result obtained for the 97 combined firms.

Thus, the results are not affected by the lack of full data in the early pre acquisition years.

Table 9.5

The results of regressing median control adjusted operating performance post acquisition ($AP^c_{post,i}$) on the median control adjusted performance pre acquisition ($AP^c_{pre,i}$) for 97 combined acquiring and target firms for acquisitions completed over the period 1988-1992. The regression in equation 7 from Chapter 7 is:

$$AP^c_{post,i} = \alpha + \beta AP^c_{pre,i} + \varepsilon_i$$

- a. *5-year median control adjusted performance post acquisition regressed on 4-year median control adjusted performance pre acquisition*

$$AP^c_{post,i} = 0.04 + 0.207 AP^c_{pre,i}$$

(3.5)^a (3.0)^a

$$R^2 = 0.09 \quad F\text{-statistic} = 9.17 \quad N=97$$

- b. *4-year median control adjusted performance post acquisition regressed on 4-year median control adjusted performance pre acquisition*

$$AP^c_{post,i} = 0.04 + 0.207 AP^c_{pre,i}$$

(2.7)^a (2.2)^b

$$R^2 = 0.05 \quad F\text{-statistic} = 5.033^b \quad N=97$$

- c. *4-year median control adjusted performance post acquisition regressed on 2-year median control adjusted performance pre acquisition*

$$AP^c_{post,i} = 0.04 + 0.09 AP^c_{pre,i}$$

(2.68)^a (1.37)

$$R^2 = 0.02 \quad F\text{-statistic} = 1.87 \quad N=97$$

$AP^c_{post,i}$ and $AP^c_{pre,i}$ are the median annual control adjusted operating cash flow returns in the post and prior acquisition period for firm i .

^a Significantly different from zero at the 1% level.

^b Significantly different from zero at the 5% level.

The slope coefficient β in equation 7 as shown in Table 9.5 captures the continuation (persistence) of pre acquisition performance of the two firms. That is, if there is no effect of the acquisition ($\alpha = 0$), the post acquisition performance for the combined firm (AP^c_{post}) is exactly the same as the pre acquisition performance (AP^c_{pre})

relative to the control companies. Table 9.5 (a) shows that the slope coefficient, β , performance between the pre and post acquisition years is 0.207, and it is significantly different from zero. It indicates that the association of pre acquisition performance to post acquisition performance is low when the value of the β coefficient is close to zero. Manson et al. (1994) and Gadad and Thomas (2000) argued that slope coefficient close to zero reflects a highly competitive industry in which the pre acquisition control adjusted performance (AP_{pre}^c) would therefore be expected to steadily revert to zero as any comparative advantage is eventually eliminated. By contrast a slope coefficient of one would reflect an uncompetitive economy in which comparative advantage is retained, while an intermediate slope coefficient reflects an imperfectly competitive industry. The analysis is thus repeated but constrain the slope coefficient to be either zero or unity (assumed extreme values)¹⁷⁰.

The results testing the operating gains when β in equation 7 (chapter 7) is either free to float (as per Table 9.5 a) or is constrained to equal either one or zero are shown in Table 9.6. When β is unconstrained, the intercept α is 0.04 and it is significantly different from zero. However, the results are different for the case when the slope coefficient is restricted to take the value of 1 in the equation when operating gains are assessed as the difference between post acquisition and pre acquisition performance. Similar to the results found by Manson et al. (1994), there are no significant increased of post acquisition operating performance when the slope coefficient is constrained to equal 1. On the other hand, the intercept, α (0.04), are essentially unchanged when β is restricted to take the value of 0 in the equation where operating gains are assessed by post acquisition control adjusted operating

¹⁷⁰ Manson et al. (1994) and Gadad and Thomas (2000) used similar regression in which β is unconstrained and constrained to equal either 0 or 1.

performance. The result indicates that there is still significant increased of operating performance in post acquisition period if the Malaysian economy is assumed to be highly competitive. The true state of the economy is likely to be in between the two extremes, that is, as presented by the regression using the floating beta.

Table 9.6

The results of estimated operating cash flow returns for 97 combined firms where β is unconstrained as estimated in equation 7 (chapter 7) and constrained to equal 1 or 0. (t-values in parentheses)

	Unconstrained β	$\beta = 1$	$\beta = 0$
<i>Operating gain</i>	<i>0.04 (3.5)^a</i>	<i>0.03 (1.6)</i>	<i>0.04 (3.7)^a</i>

^a Significantly different from zero at the 1% level

One of the assumptions of the linear regression model is that the residual variance of each observation is homoscedastic, that is they all have the same variance. However, if the residual is not independent of the size of any of the independent variables and the size of the predicted value of the dependent variable, the data is described as heteroscedastic and the OLS regression model is not the best estimates. A test for heteroscedasticity is performed by using White's (1980) heteroscedasticity-corrected variances and standard errors, obtained from Shazam (Gujarati, 1995). The results are shown in Table 9.7. The β coefficient is significant at the 5% confidence level compared to the 1% originally reported in Table 9.5 (a). The alpha value of 0.04 has the same significant level as reported earlier, thus confirming the post acquisition improvement after adjusting for heteroscedasticity. All further regression estimates reported in the current study are obtained using White's heteroscedastic adjustment in Shazam.

Table 9.7

Abnormal adjusted operating cash flow returns for 97 combined acquiring and target firms for acquisitions completed over the period 1988-1992 after adjusted for heteroscedasticity (White correction)
(t-values in parentheses)

a. Using unconstrained β as estimated in equation 7 (chapter 7)

$$AP_{post\ i}^c = 0.04 + 0.207 AP_{pre\ i}^c$$

(3.5)^a (2.6)^b

$$R^2 = 0.09$$

$$N=97$$

$AP_{post\ i}^c$ and $AP_{pre\ i}^c$ are the median annual control adjusted operating cash flow returns in the post and prior acquisition period for firm i .

^a Significantly different from zero at the 1% level.

^b Significantly different from zero at the 5% level.

There is a possibility that the improvement in the post acquisition operating performance reported earlier is biased by the inclusion of multiple acquisitions. Companies that experience positive performance in their first acquisition might be encouraged to make further acquisitions, while the ones which did not make a second bid may have been companies who experience difficulties with their first acquisition. As described in the previous chapter, out of 97 acquisitions involving 65 companies, 38 (58%) companies made a single acquisition and 27 (42%) companies made more than one bid during the investigation period 1988-1992. The results for the first acquisition of the 65 companies are shown in Appendix 4. Similar to the results found earlier, the median annual control adjusted performance for the first bid acquisition increases from 1.15% prior to acquisition to 4.04% post acquisition, and it is significant at the 1% level using the Wilcoxon signed-rank test. When the post acquisition median control adjusted operating performance is regressed on the pre acquisition median control adjusted performance, the intercept α is 0.05 and it is significantly different from zero at the 1% level.

The results in the current study are consistent to those found in studies by Healy et al. (1992) and Ghosh (1998) in US, and Manson et al. (1994) in UK. Healy et

al. (1992) found a significant improvement in operating pre-tax cash flow returns in relation to the industry in the post acquisition years¹⁷¹. Ghosh (1998) also found that acquiring firms show significant improvement in their post acquisition operating performance relative to their industries¹⁷². Similarly, Manson et al. (1994) found that there is a significant improvement in operating performance after acquisition in UK for acquisitions undertaken in the period 1985 to 1987. Thus, in comparable to similar UK and US studies using cash flow data, the results in the current study indicate that Malaysian acquisitions improve operating performance. The higher post acquisition operating cash flow returns to the combined firms relative to the pre acquisition operating cash flow returns in this section indicates that there is a better utilisation of the combined firm's existing resources after acquisition.

9.5 Sources of Operating Cash Flow Returns

This section sets out to analyse a variety of potential sources of improvement in cash flow returns in the post acquisition period. The specific sources analysed in the current study are return on sales, asset turnover, capital expenditure rate, asset sales rate, and cash payment for expenses.

¹⁷¹ Healy et al. (1992) reported that 73% of the sample in their study have higher operating cash flow returns on assets than their industries in the post acquisition period. The combined firms obtained 2.8% median annual industry-adjusted cash flow return for years 1 to 5 after acquisition as compared to 0.3% median annual performance during the 5-year period prior to acquisition.

¹⁷² However, Ghosh (1998) found that acquiring firms did not improve their post acquisition operating performance relative to the performance of matched firms, where firms are matched on acquiring and target firm's size and industry.

9.5.1 Efficiency Indicators

The operating cash flow return on assets can be decomposed into operating return on sales and asset turnover. The operating return on sales is one measure of how well the firm is using its resources to improve the firm performance. It measures how much pre-tax operating cash flow the company earns for each dollar of sales it makes. Similarly, the asset turnover ratio indicates managerial capabilities in managing the firms' resources. It measures the sales dollar the company is able to generate for each dollar invested in assets.

Operating return on sales in the current study is measured as operating cash flow divided by sales. Table 9.8 shows the result on operating return on sales for 97 combined firms in years surrounding acquisitions that occur in Malaysia during the period 1988-1992. The combined firms experience a slight increase in operating return on sales in the post acquisition period. The median annual performance for the combined firms increase (not statistically significant) from 0.131 in the pre acquisition period to 0.145 in the post acquisition period. The control companies on the other hand experience a decrease in the post acquisition operating return on sales. The median annual returns for the control companies decline from 0.138 in the 4-year pre acquisition period to 0.099 over the 5-year post acquisition period, and the difference is significant at the 1% level, using Wilcoxon ranked sign test.

The median annual control adjusted operating return on sales over the years -4 to -1 is -0.024 and it is not significantly different from zero. However, the combined firms outperform the control companies in all the 5 years post acquisition but the outperformance is significant only in years +3 to +5.

Table 9.8

Operating Return on Sales for 97 combined acquiring and target firms in years surrounding acquisitions completed over the period 1988-1992¹

Year relative to acquisition	Firm		Control		Control Adjusted			No. of Observations
	Median	Mean	Median	Mean	Median	Mean	% Positive	
-4	0.200	0.344	0.113	0.031	0.114 ^b	0.313 ^b	63.41	41
-3	0.112	-0.126	0.146	0.368	-0.161 ^b	-0.495 ^b	41.10	73
-2	0.135	0.059	0.175	0.048	-0.073	0.010	41.76	91
-1	0.116	0.175	0.153	0.155	0.015	0.020	52.58	97
Average annual performance over years -4 to -1	0.131	0.09	0.138	0.158	-0.024	-0.068	48.01	
+1	0.101	0.043	0.117	-0.015	0.050	0.095	52.58	97
+2	0.101	0.079	0.119	-0.012	0.032	0.191	54.64	97
+3	0.155	0.179	0.101	0.043	0.104 ^c	0.252	67.01	97
+4	0.197	0.295	0.075	0.136	0.124 ^a	0.098	61.86	97
+5	0.181	0.234	0.075	-0.041	0.093 ^a	0.207	68.04	97
Average annual performance over years +1 to +5	0.145	0.166^c	0.099^a	0.022	0.081^b	0.169^a	60.82	

Panel B: Abnormal adjusted post acquisition operating return on sales (t-values in parentheses)

$$AS_{post,i}^c = 0.12 + 0.09 AS_{pre,i}^c \quad R^2 = 0.015 \quad F\text{-statistic} = 1.460$$

(2.62)^b (1.208)
(2.53)^b (1.02)

$AS_{post,i}^c$ and $AS_{pre,i}^c$ are the median annual control adjusted operating return on sales in the post and prior acquisition period for firm i .

t-statistics given in the second brackets were adjusted for heteroscedasticity (White correction).

¹ Operating return on sales is defined as operating cash flow as a percentage of sales. Performance measures for the combined firm in the pre acquisition period are weighted by the relative asset sizes of the two firms. Post acquisition performance used data of the combined firms. Pre acquisition control firm returns are target control and bidder control values, weighted by the relative asset values of the two corresponding sample firms at the beginning of the year. In the post acquisition period the weights used to compute control firm returns are the relative asset values of the acquirer and target firms in year-1. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm during that period.

² Mann-Whitney tests are conducted on median control adjusted figures

Wilcoxon signed rank tests are used to test the significance between the pre and post acquisition median annual performance

^a Significantly different from zero at the 1% probability level, using a two-tailed test.

^b Significantly different from zero at the 5% probability level, using a two-tailed test.

^c Significantly different from zero at the 10% probability level, using a two-tailed test.

The median annual control adjusted performance of 0.081 over the 5-year post acquisition period is significant at the 1% level using the Mann-Whitney test, indicating that the combined firms earn 8 cents more in cash flow than their control companies for each dollar of sales they make. A Wilcoxon signed rank test used in testing the significance between the pre and post acquisition median annual control adjusted returns indicates that the result is significant at the 5% level. Thus, null hypothesis 5 (H_{05}) of no difference between return on sales during pre and post period is rejected.

To confirm this result, the median value for the 5-year post acquisition control adjusted return on sales is regressed on the median of the 4-year pre acquisition control adjusted returns. The result of the regression is shown in Panel B of Table 9.8. The intercept α in the cross-sectional regression of post acquisition adjusted operating return on sales is a significantly positive 0.12 when unconstrained β coefficient is used. Constraining the β to equal 1 and 0 (not reported in the table) also produced significantly positive alphas of 0.17 and 0.12, respectively. The results indicate that the post acquisition control adjusted operating return on sales has significantly increased regardless of assumptions about the competition level in the industry. Healy et al. (1992) also found that combined firms earned higher operating return on sales than their industry in post acquisition period. However, they did not contribute the increase to the acquisition itself because the median return on sales was also higher than that of the controls in the pre acquisition period.

Summary statistics on asset turnover, defined as the ratio of sales to operating assets, are reported in Table 9.9. Using Wilcoxon ranked sign test, the result indicates that there is no significant improvement in the median annual asset turnover for the combined firm after the acquisition. The combined firm median annual turnover rate of 0.5144 over the 5 years post acquisition is slightly higher (not

significant) than the median annual rate of 0.4135 prior to acquisition. The control companies median annual turnover rate of 0.4408 after acquisition is slightly lower (not significant) than the rate of 0.4640 prior to acquisition. Overall, the median annual control adjusted asset turnover for the combined firms has significantly increased (at the 5% level) from -0.0500 over years -4 to -1 to 0.0135 over the period $+1$ to $+5$. The result indicates that the combined firms generate 1.35 cents more in sales than their control companies for each dollar of assets after the acquisition.

The abnormal control adjusted change in asset turnover is also estimated using the regression in Section 9.4. Post acquisition median control adjusted asset turnover is regressed on the median pre acquisition control adjusted asset turnover to incorporate the relation between prior and post acquisition adjusted returns. As shown in panel B of Table 9.9, the intercept α in the cross-sectional regression of post acquisition adjusted asset turnover is 0.08, and is significantly different from zero when β is unconstrained¹⁷³. The evidence in the current study indicates that there is a significant improvement in the combined firms' asset turnover in the post acquisition period. Thus, hypothesis 6 (H_{06}) of no difference between asset turnover during pre and post period is also rejected. Healy et al. (1992) reported that the median asset turnover of the combined firms in their study was lower than the industry prior to acquisition but comparable to the industry in the post acquisition period.

¹⁷³ When β is constrained to equal 1, alpha is 0.18, significant at 1% level but alpha is 0.03 and not statistically significant when β is constrained to equal 0.

Table 9.9**Asset turnover for 97 combined acquiring and target firms in years surrounding acquisition completed over the period 1988-1992¹**

Year relative to acquisition	Firm		Control		Control Adjusted			No. of Observations
	Median	Mean	Median	Mean	Median	Mean	% Positive	
-4	0.3117	0.5667	0.4995	0.7163	-0.1034	-0.1496	36.59	41
-3	0.3713	0.5711	0.4833	0.9474	-0.0676 ^c	-0.3763	35.62	73
-2	0.3996	0.6020	0.4490	0.7951	-0.0652	-0.1931 ^c	39.56	91
-1	0.5081	0.7923	0.4509	0.7641	0.0011	0.0283	51.55	97
Average annual turnover over years -1 to -4	0.4135	0.6509	0.4640	0.8112	-0.0500	-0.1603	42.05	
+1	0.5858	0.6812	0.5348	0.6957	0.0500	0.0580	55.67	97
+2	0.5287	0.6369	0.4291	0.6396	0.0472	0.0872	56.70	97
+3	0.5457	0.6422	0.5129	0.7578	-0.0740	-0.0525	49.48	97
+4	0.5060	0.5886	0.5179	0.6717	0.0169	-0.0248	54.64	97
+5	0.4939	0.5665	0.5069	0.6828	-0.0228	-0.0551	49.48	97
Average annual turnover over years +1 to +5	0.5144	0.6560	0.4408	0.6674^c	0.0135^b	-0.0113^c	53.20	

Panel B: Abnormal adjusted post acquisition asset turnover (t-values in parentheses)

$$AAT_{post,i}^c = 0.08 + 0.364 AAT_{pre,i}^c \quad R^2 = 0.250 \quad F\text{-statistic} = 31.70^a$$

(1.685)^c (5.6)^a
 (1.70)^c (3.20)^a

$AAT_{post,i}^c$ and $AAT_{pre,i}^c$ are the median annual control adjusted asset turnover in the post and prior acquisition period for firm i .

t -statistics given in the second brackets were adjusted for heteroscedasticity (White correction).

¹ Asset turnover ratio is the ratio of sales to book value of operating assets at the beginning of the year. Performance measures for the combined firm in the pre acquisition period are weighted by the relative asset sizes of the two firms. Post acquisition performance used data of the combined firms. Pre acquisition control firm returns are target control and bidder control values, weighted by the relative asset values of the two corresponding sample firms at the beginning of the year. In the post acquisition period the weights used to compute control firm returns are the relative asset values of the acquirer and target firms in year-1. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm during that period.

² Mann-Whitney tests are conducted on median control adjusted figures

Wilcoxon signed rank tests are used to test the significance between the pre and post acquisition median annual performance

^a Significantly different from zero at the 1% probability level, using a two-tailed test.

^b Significantly different from zero at the 5% probability level, using a two-tailed test.

^c Significantly different from zero at the 10% probability level.

Thus, the results in the current study suggest that the improvements in post acquisition operating cash flow performance of the combined firms in Malaysia during the period 1988-1992 are attributable to both the increased in return on sales and asset turnover. Bidding firms in Malaysian acquisitions appear to make more efficient use of the higher level of resources available in the post acquisition period.

9.5.2 Growth Rate in Capital Expenditure

It is possible that the improvement in the post acquisition operating cash flow returns described above may be related to a reduced asset base in the combined firm following disposal of unnecessary assets post acquisition. Indeed one of the motives for the acquisition may well be to eliminate unwanted capacity. An alternative motive for asset disposals is to be able to report a short-term improvement in profitability. It is unlikely that this form of 'performance manipulation' has occurred in the sample under investigation, given the large increases in operating assets reported in Table 9.1. Nevertheless, examination of changes in the capital expenditure, fixed asset sales rates, and disposal of fixed assets rate in year of acquisition relative to prior years is made to test whether a reduction in the asset base is the source of the perceived improvement in operating performance.

The capital expenditure rate is measured by dividing the capital expenditure by the book value of assets (equity plus debt) at the beginning of each year. The results of capital expenditure rate for 97 combined firms in years surrounding acquisition are reported in Table 9.10. Using the Wilcoxon signed rank test, the median capital expenditure rate for the combined firms is shown to have significantly increased at the 1% level from 1.83% in the pre acquisition period to 4.68% after acquisition. The increase in capital expenditure rate after acquisition may be caused by asset write-offs in year of acquisition, which will be analysed later in this section.

Table 9.10

Capital Expenditure Rate for 97 combined acquiring and target firms in years surrounding acquisition completed over the period 1988-1992¹

Year relative to acquisition	Firm		Control		Control Adjusted			Number of Observations
	Median %	Mean %	Median %	Mean %	Median %	Mean %	% Positive	
-4	1.09	1.81	1.93	5.14	-1.08 ^b	-3.33 ^b	36.59	41
-3	1.45	4.48	1.47	5.61	0.08	-1.13	53.42	73
-2	1.94	6.13	2.76	5.96	0.06	0.17	51.65	91
-1	4.14	9.21	2.04	6.44	1.63 ^b	2.77	61.86	97
Average annual rate over years								
-4 to -1	1.83	6.14	1.97	5.92	0.10	0.22	53.31	
+1	4.79	10.6	2.37	5.51	2.30 ^b	5.12 ^b	67.01	97
+2	3.92	7.41	2.59	5.24	1.03 ^b	2.17 ^c	58.76	97
+3	4.77	8.92	3.14	5.35	0.41 ^b	3.57 ^b	55.67	97
+4	5.20	9.31	2.29	4.74	1.39 ^b	4.56 ^b	63.92	97
+5	5.23	8.21	2.89	5.41	0.59 ^c	2.80 ^b	55.67	97
Average annual rate over years								
+1 to +5	4.68 ^a	8.90 ^a	2.56	5.25	1.21 ^b	3.64 ^a	75.26	

Panel B: Abnormal adjusted post acquisition capital expenditure rate (t-values in parentheses)

$$ACE_{post,l}^c = 0.03 + 0.162 ACE_{pre,l}^c \quad R^2 = 0.028 \quad F\text{-statistic} = 2.70$$

(3.05)^a (1.66)
 (3.13)^a (1.09)

$ACE_{post,l}^c$ and $ACE_{pre,l}^c$ are the median annual control adjusted capital expenditure rate in the post and prior acquisition period for firm l .

t-statistics given in the second brackets were adjusted for heteroscedasticity (White correction).

¹ Capital expenditure rate is measured by dividing the capital expenditure by the book value of assets (equity plus reserves plus debt). Performance measures for the combined firm in the pre acquisition period are weighted by the relative asset sizes of the two firms. Post acquisition performance used data of the combined firms. Pre acquisition control firm returns are target control and bidder control values, weighted by the relative asset values of the two corresponding sample firms at the beginning of the year. In the post acquisition period the weights used to compute control firm returns are the relative asset values of the acquirer and target firms in year-1. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm during that period.

² Mann-Whitney tests are conducted on median control adjusted figures

Wilcoxon signed rank tests are used to test the significance between the pre and post acquisition median annual performance

^a Significantly different from zero at the 1% probability level, using a two-tailed test.

^b Significantly different from zero at the 5% probability level, using a two-tailed test.

^c Significantly different from zero at the 10% probability level, using a two-tailed test.

There is a concurrent increase in the median annual capital expenditure rate for the control companies from 1.97% to 2.56% prior and post acquisition, respectively, but this increase is not statistically significant. The median control adjusted capital expenditure rate is 0.10% prior to acquisition and it is not significantly different from zero. During the 5 years post acquisition, the median control adjusted capital expenditure rate is 1.21% and it is significant at the 1% level using the Mann-Whitney tests. The Wilcoxon signed-rank test used in the analysis indicates that the increased in capital expenditure rate between the two periods is significant at the 5% level. Thus, hypothesis 7 (H_{07}) of no difference between capital expenditure rate during pre and post acquisition period is rejected. The combined firms outperform the control companies for 75.26% of the sample in the post acquisition period as compared to 53.31% in the pre acquisition period, also confirming that there is a significant improvement in the combined firms' expenditure rate in the post acquisition years.

The median value for the 5-year post acquisition adjusted capital expenditure rate is also regressed on the median of the 4-year pre acquisition adjusted rate. As revealed in panel B of Table 9.10, the intercept α in the cross-sectional regression of post acquisition adjusted capital expenditure rate is 0.03 and it is significantly different from zero at the 1% level when an unconstrained β is used in the regression¹⁷⁴.

The evidence in the current study indicates that there is a significant increase in the combined firms' capital expenditure rate after acquisition. Thus, the combined firm does not appear to have sacrificed its long-term investments through insufficient capacity or by causing the company to fall behind its competitors in the adoption of new investments for the sake of short-term profitability. Healy et al. (1992) found that

¹⁷⁴ When β is constrained to equal 1, alpha is 0.02 and it is not significant but alpha is a significant 0.03 at the 1% level when β is constrained to equal 0.

the median capital expenditure rate of the combined firms is 14.4% and 10.6% in the pre and post acquisition period respectively, although they were not significantly different from their industry level in the relevant periods. They concluded merely that the improvements in the post acquisition operating cash flow was not caused by reduced investment for the long term.

In addition to the measures of asset turnover ratio, asset sales rates are also analysed to test for changes in the combined firms' investment policies. Asset sales rate is defined as cash receipts from asset sales divided by the book value of assets (equity plus debt). The results on asset sales rate are reported in Table 9.11. The median asset sales rate for the combined firm has significantly increased at the 1% level from 0.11% over the pre acquisition years -1 to -4 to 0.19% over the years $+1$ to $+5$. During the same period, the median asset sales rate for the control companies have also significantly increased at the 5% level from 0.10% prior to acquisition to 0.14% after the acquisition. The control adjusted asset sales rate is 0.00% over the years -4 to -1 (not significantly different from zero). Similarly, the median control adjusted rate of 0.03% over the 5 years post acquisition is not statistically significant. Using Wilcoxon signed rank test, the increase in the control adjusted asset sales rate of 0.03% in the post acquisition period, relative to the 0% in the pre period, is not significantly different from zero. Thus, hypothesis 8 (H_{08}) of no difference between asset sales rate during pre and post period is accepted.

As a final test, the post acquisition median control adjusted asset sales rate is regressed on the pre acquisition median control adjusted rate.

Table 9.11**Asset Sales Rate for 97 combined acquiring and target firms in years surrounding acquisition completed over the period 1988-1992¹**

Year relative to acquisition	Firm		Control		Control Adjusted			Number of Observations
	Median %	Mean %	Median %	Mean %	Median %	Mean %	% Positive	
-4	0.07	0.45	0.16	0.74	-0.04	-0.27	43.90	41
-3	0.10	0.39	0.09	0.36	0.01	0.03	52.05	73
-2	0.11	1.08	0.11	1.10	0.01	-0.02	54.95	91
-1	0.13	1.51	0.10	0.91	0.01	0.60	52.58	97
Average annual rate over years								
-4 to -1	0.11	0.97	0.10	0.81	0.00	0.16	51.99	
+1	0.16	1.60	0.17	0.56	0.03	1.04 ^b	57.73	97
+2	0.20	1.14	0.13	0.81	0.02 ^c	0.33	52.58	97
+3	0.15	0.43	0.18	1.87	0.01	-1.44 ^c	52.58	97
+4	0.20	0.78	0.10	0.48	0.04 ^a	0.30	57.73	97
+5	0.21	0.96	0.16	0.74	0.04	0.21	57.73	97
Average annual rate over years								
+1 to +5	0.19 ^a	0.98	0.14 ^b	0.89	0.03	0.09	69.59	

Panel B: Abnormal adjusted post acquisition asset sales rate (t-values in parentheses)

$$AAS_{post,t}^c = 0.001 + 0.08 AAS_{pre,t}^c \quad R^2 = 0.014 \quad F\text{-statistic} = 1.301$$

(1.58) (1.14)

(1.61) (0.96)

$AAS_{post,t}^c$ and $AAS_{pre,t}^c$ are the median annual control adjusted asset sales rate in the post and prior acquisition period for firm i .

t-statistics given in the second brackets were adjusted for heteroscedasticity (White correction).

¹ Asset sales rate is defined by cash receipts from asset sales divided by the book value of assets (equity plus reserves plus debt). Performance measures for the combined firm in the pre acquisition period are weighted by the relative asset sizes of the two firms. Post acquisition performance used data of the combined firms. Pre acquisition control firm returns are target control and bidder control values, weighted by the relative asset values of the two corresponding sample firms at the beginning of the year. In the post acquisition period the weights used to compute control firm returns are the relative asset values of the acquirer and target firms in year-1. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm during that period.

² Mann-Whitney tests are conducted on median control adjusted figures

Wilcoxon signed rank tests are used to test the significance between the pre and post acquisition median annual performance

^a Significantly different from zero at the 1% probability level, using a two-tailed test.

^b Significantly different from zero at the 10% probability level, using a two-tailed test.

As shown in panel B of Table 9.11, the intercept α in the cross-sectional regression of post acquisition adjusted asset sales rate is 0.001 and it is not significantly different from zero when an unconstrained β is used in the regression. Neither is the α significant when β is constrained to equal 1 or 0.

The overall result on asset sales rate shows that there is no significant change in the cash proceeds from disposal of assets after acquisition for the sample of Malaysian firms in the current study. The result indicates that the high turnover after acquisition (as shown by the increase in asset turnover in section 9.5.1) is not due to the sale of assets. Rather the improvement in operating performance appears to have been achieved by a more efficient utilisation of assets in a growing firm. The effect of asset sales is unlikely to be significant on post acquisition performance since the improvement in asset sale of the combined firms is similar to that of the control companies. Similar result was found in the study carried out by Healy et al. (1992). In both the pre and post acquisition periods, the median asset sales rate for the combined firms in their study is 0.65%, and the results are not significantly different from their industry counterparts.

Disposal of fixed assets in year of acquisition (year 0) is also examined to determine if the improvement in post acquisition operating cash flow returns reported earlier has been distorted by the sale of assets in the year of acquisition. Descriptive statistics on asset disposal rates are reported in Table 9.12. Asset disposal rate is defined as the cost of fixed assets sold in the year divided by the book value of fixed assets at the beginning of the year. The cost of fixed assets sold in the year is calculated by taking the proceeds from asset sale, adjusted for profits or losses on

sale of asset and adding back the accumulated depreciation charged on the asset¹⁷⁵. As shown in Table 9.12, the median asset disposal rate for the combined firm in the year of acquisition is 0.40%, significantly higher than year -4, year -3 and year -2 by 0.30%, 0.27% and 0.24%, respectively. However, it is not significantly higher than the median asset disposal rate of 0.16% in year -1 prior to acquisition.

Table 9.12

Asset Disposal Rate for 97 combined acquiring and target firms in years surrounding acquisition completed over the period 1988-1992¹

Year relative to acquisition	Firm		Control		Difference	Number of Observations
	Median (Mean) %	Difference between year 0 relative to prior years	Median (Mean) %	Difference between year 0 relative to prior years	Median (Mean) %	
-4	0.10 (0.56)	0.30 ^a (1.05)	0.21 (0.82)	0.11 (0.54) ^c	-0.01 (-0.26)	41
-3	0.13 (0.56)	0.27 ^a (1.05) ^b	0.12 (0.46)	0.20 ^a (0.90) ^a	0.01 (0.09)	73
-2	0.16 (0.92)	0.24 ^a (0.69)	0.15 (0.55)	0.17 ^a (0.81) ^a	0.01 (0.37)	91
-1	0.16 (2.0)	0.24 (-0.39)	0.13 (1.07)	0.19 ^a (0.29)	0.03 ^c (0.93)	97
0	0.40 (1.61)		0.32 (1.36)		0.08 (0.25)	

¹ Asset disposal rate is defined as the cost of fixed assets sold in the year divided by the book value of fixed assets at the beginning of the year. The cost of fixed assets sold in the year is calculated by taking the proceeds from asset sale, adjusted for profits or losses on sale of asset and adding back the accumulated depreciation charged on the asset. Asset disposal rate for the combined firm in the pre acquisition period is weighted by the relative asset sizes of the two firms. Post acquisition asset disposal rate used data of the combined firms. Pre acquisition control firm rates are target control and bidder control values, weighted by the relative asset values of the two corresponding sample firms at the beginning of the year. In the post acquisition period the weights used to compute control firm returns are the relative asset values of the acquirer and target firms in year-1. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm during that period.

^a Significantly different from zero at the 1% probability level, using a two-tailed test.

^b Significantly different from zero at the 5% probability level, using a two-tailed test.

^c Significantly different from zero at the 10% probability level, using a two-tailed test.

¹⁷⁵ Depreciation on the asset being sold is determined by taking the difference between the opening and closing balance in the accumulated depreciation account, plus the depreciation charged to the income statement for the year.

The control companies reported a median asset disposal rate of 0.32% in the year of acquisition and it is significantly higher than those reported in all the years prior to acquisition except for year -4. Based on the column for differences between the values of the combined firms and the control companies in the table, the median asset disposal rate for the combined firm is higher than the control companies in the year of acquisition by 0.08%, but it is not significantly different from zero. The result indicates that the increase in asset disposal rate for the combined firms in the year of acquisition is comparable to those of the control companies in the same period. Thus, the improvement in the post acquisition operating performance for the combined firms is not due to a reduction in the fixed asset base in the year of acquisition.

9.5.3 Cash Operating Expenses

Cash operating expenses ratio is another variable that may offer explanation for the changes in the post acquisition operating returns. An improvement in the post acquisition performance may be due to cost reductions. A decrease in operating cash expenses after acquisition might indicate that the combined firms have engaged in cost-cutting strategies to achieve economic efficiency. Similarly to Ghosh (1998), the cash expenses ratio in the current study is defined as operating cash flow minus cash receipts from sales (sales minus changes in debtors) divided by the opening book value of assets (equity plus debt). Although it is possible to infer the change in this item from the earlier analysis of operating performance and sales margin, a clearer indication is provided by examination of operating expenses separately.

Table 9.13**Cash Operating Expenses for 97 combined acquiring and target firms in years surrounding acquisition completed over the period 1988-1992¹**

Year relative to acquisition	Firm		Control		Control Adjusted			No. of Observations
	Median %	Mean %	Median %	Mean %	Median %	Mean %	% Positive	
-4	26.39	40.91	44.96	64.62	-14.08	-23.70	36.59	41
-3	33.25	46.64	36.61	55.52	-8.21	-8.88	43.84	73
-2	26.85	46.53	33.48	62.28	-6.08	-15.75	41.76	91
-1	42.31	61.09	34.74	62.95	-0.27	-1.86	49.48	97
Average annual rate over years								
-4 to -1	32.91	50.47	36.00	61.18	-4.68	-10.71	44.04	
+1	43.74	104.69	38.30	57.40	1.45	47.30	52.58	97
+2	41.84	55.55	30.59	52.24	3.45	3.31	54.64	97
+3	39.86	50.00	33.78	56.67	-2.20	-6.67	46.39	97
+4	32.90	52.60	37.42	55.74	-0.16	-3.14	49.48	97
+5	30.86	41.93	38.64	65.22	-9.74	-23.29	44.33	97
Average annual rate over years								
+1 to +5	35.05	60.96	36.54	57.45	-0.20	3.50	61.86	

Panel B: Abnormal adjusted post acquisition cash expenses (t-values in parentheses)

$$ACE_{post,i}^c = 0.014 + 0.658 ACE_{pre,i}^c$$

(0.396) (10.91)^a
 (0.401) (5.9)^a

$R^2 = 0.556$ $F\text{-statistic} = 119^a$

$ACE_{post,i}^c$ and $ACE_{pre,i}^c$ are the median control adjusted cash expenses ratio in the post and prior acquisition period for firm i .

t-statistics given in the second brackets were adjusted for heteroscedasticity (White correction).

¹ Cash operating expenses ratio is defined as operating cash flow minus cash receipts from sales (sales minus changes in debtors) divided by the book value of assets (equity plus debt). Performance measures for the combined firm in the pre acquisition period are weighted by the relative asset sizes of the two firms. Post acquisition performance used data of the combined firms. Pre acquisition control firm returns are target control and bidder control values, weighted by the relative asset values of the two corresponding sample firms at the beginning of the year. In the post acquisition period the weights used to compute control firm returns are the relative asset values of the acquirer and target firms in year-1. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm during that period.

² Mann-Whitney tests are conducted on median control adjusted figures

Wilcoxon signed rank tests are used to test the significance between the pre and post acquisition median annual performance

^a Significantly different from zero at the 1% probability level, using a two-tailed test.

The results for cash operating expenses ratio in the current study are reported in Table 9.13. There is an increase in the median cash operating expenses ratio for both the combined firm and the control companies in the 5-year post acquisition period. The median cash operating expenses ratio for the combined firms increased from 32.91% in pre acquisition period to 35.05% in the post acquisition period while that of the control companies increase from 36.00% to 36.54% during the same period. The Wilcoxon signed-rank test used in the analysis indicates that the increased in cash operating expenses across the two periods is not significantly different from zero.

The median control adjusted cash operating expenses in both the pre and post acquisition period are negative, indicate that the combined firms' cash operating expenses are lower than the control companies. The median control adjusted cash operating expenses rate for the combined firm over the 4-year pre acquisition period is -4.68% but it is not statistically significant. The Mann-Whitney test also shows that the median control adjusted rate for the combined firm over the years +1 to +5 of -0.20% is not significantly different from zero. Although, the pre and post acquisition median control adjusted cash operating expenses ratio increase from -4.68% to -0.20% , respectively, the increase is not statistically significant. Thus, hypothesis 9 (H_{09}) of no difference between cash operating expenses from pre to post acquisition period is accepted.

The result seems to suggest that the level of cash operating expenses did not change following acquisitions. To confirm this result, post acquisition median control adjusted cash operating expenses rate is regressed on the pre acquisition median control adjusted rate. Regression results in Panel B of Table 9.13 indicate that cash operating expenses increase by 0.014 in post acquisition years, but that the increase is not significantly different from zero when unconstrained β is used in the

regression¹⁷⁶. Ghosh (1998) also found no significant increase in the cash operating expenses ratio in the post acquisition period.

9.6 Summary

In summary, the results reported in the current chapter suggests that acquisitions in Malaysia during the period 1988-1992 provide the potential for wealth increases to shareholders in the long run, as seen by the significant increase in operating cash flow performance following acquisitions. Improvements in operating cash flows result from increases in return on sales (cash flow per dollar of sales) and asset turnover (sales per dollar of assets). Post acquisition cash flow improvements are not caused by the reduced investment for the long term as seen by the increase in the rate of capital expenditure for the combined firms in the post acquisition period. Neither is the improvement in post acquisition performance a result of a reduced asset base in the combined firm following disposal of unnecessary assets, as seen by the insignificant results for the change in asset sales rate and disposal of asset rate in the year of acquisition. The average increase in post acquisition operating cash flow also does not appear to be driven by cost-cutting strategies of reducing cash expenses. In addition, the median growth in total assets and sales (managerial interests) and post acquisition cash flow performance are higher for the combined firms relative to their control counterparts. The results demonstrate superior performance in line with both managerial and shareholders interest in Malaysian acquisitions. The results obtained also demonstrate that there are opportunities for operating gains to be made from takeovers, even when these are not explicitly disciplinary bids. It may be that improvements arise from increase economies of scale

¹⁷⁶ The change in post acquisition cash operating expenses ratio is also not significant when β is constrained to equal 1 or 0.

or, possibly, from the substitution of objectives of shareholder wealth maximisation for other sub-optimal objective functions held by owner-directors.

The following chapter provides the results of examination of the effect of characteristics of the companies involved in acquisition on post acquisition operating performance.

Chapter 10

Analysis of the Effects of Acquisition Characteristics on Post Acquisition Performance

10.1 Chapter Description

The result in Chapter 9 indicates that there is a significant increase in operating cash flow performance in Malaysia following acquisitions completed during the period 1988-1992. Several studies (Servaes, 1991, Healy et al., 1997, and Ghosh, 1998, among others) have suggested that the level of abnormal operating post acquisition returns to the combined firms is dependent on the characteristics of the bid. This chapter provides an analysis of the characteristics of the companies involved in acquisitions and their relationship to the post acquisition operating performance. The specific bid characteristics analysed in this chapter are business relatedness, management turnover, the relative size of targets to bidders, the method of payment offered, and components of board members ownership structure.

It is important to emphasise that the specific feature of the current sample is that it consists mainly of privately owned targets. The owners of these private companies are in position to sell their companies at their own discretion. Fama and Jensen (1983) argued that acquisitions reflect a market for corporate control where companies compete for the right to determine the management of a target company's resources. However, the disciplinary role is less likely to be present in agreed bids between the bidders and targets in the current study. Thus, the results in the current sample may differ to those results in previous research in which acquisitions were mainly of public targets.

The results in Chapter 9 were based on the analysis of 97 acquiring and 117 targets. As discussed in Chapter 8, 14 bidders made multiple acquisitions in the same financial year. Thus, analysing bid characteristics of 117 bids might bias the results since the performance of acquiring firms acquiring more than one target in the same year is counted more than once. To avoid this potential bias, the performance of 14 acquiring firms and 34 targets are excluded in the initial analysis.

10.2 Business Relatedness

One of the ways firms seek to realise synergy through economies of scale is by acquiring other firms with some form of relatedness to their own business. Wealth is expected to be created when the assets of target and bidder firms are used more effectively by the combined firms than by target and bidder separately. Several accounting based studies (Lubatkin, 1987, Singh and Montgomery, 1987, Shelton, 1988 and Healy et. al., 1997) have shown that some level of relatedness between target and acquiring firms is a characteristic that can help boost post acquisition performance. Using a market based methodology, Brush (1996) argued that the source of improvement in the post acquisition performance is the increased opportunities to share resources and activities in the acquiring firm. Flanagan (1996) and Ramaswamy (1997) also found evidence to support the hypothesis that the announcements of related acquisitions result in positive post acquisition performance while the announcements of purely unrelated acquisitions has a negative influence on post performance¹⁷⁷.

¹⁷⁷ Flanagan (1996) uses event study methodology to examine the returns of purely related and purely unrelated acquisitions for US mining and manufacturing firms between 1972-90, while Ramaswamy (1997) uses return on assets as a measure of performance.

Thus, the focus of the current section is to examine if the increase in post acquisition operating cash flow performance in Malaysia is a result of operational synergy obtained due to some level of relatedness between target and acquiring firms. Some previous studies (for example Morck et al., 1990, Berger and Ofek, 1995, Gregory, 1997 and Ghosh, 1998) have adopted an objective categorisation by using Standard Industrial Classification (SIC) codes to distinguish between related and unrelated acquisitions. Due to unavailable SIC codes in Malaysia, the current study categorised acquisitions by using subjective techniques similar to that used by Healy et al. (1992, 1997)¹⁷⁸. In examining the impact of the degree of business relatedness on post acquisition performance, acquisitions between target and acquiring firms in the current study are classified as those with high, medium and low (or no) business overlap based on product markets. As mentioned in Chapter 7, a high degree of business relatedness refers to acquisition of companies with a considerable overlap of product market relatedness between bidder and target firms. This subjective classification is made by reading the line of business discussion in the combined firm's annual reports and Kuala Lumpur Stock Exchange Annual Handbook. Out of 83 acquisitions in the current study, 42 companies are identified as highly related, 16 have medium overlap and 25 are of unrelated business. A detailed classification of the degree of business overlap for each of the sample transactions used in the current analysis is provided in Appendix 1.

The regression model described in equation 8 (Chapter 7) is used in the current section to evaluate whether post acquisition performance on 83 acquisitions differs by the degree of business relatedness. The results are presented in Table 10.1. As shown in Panel A of the Table, the estimated coefficient β on AP_{pre}^c is

¹⁷⁸ Other studies that have used subjective techniques in categorising acquisitions between degree of business relatedness include those by Lubatkin, 1987 and Singh and Montgomery, 1987.

positive and significant as reported in earlier regression in Chapter 9. However, the estimated intercept and coefficients on MEDIUM and HIGH are not significant, indicating that the degree of business overlap has no impact on the improvement of post acquisition performance. These results are sensitive to one extreme observation based on casewise diagnostics for outliers outside 3 standard deviations. The outlier in the initial analysis is Technology Resources Bhd. which acquired Celcom Sdn. Bhd, an unrelated acquisition with a high median post acquisition return of 0.33.

Table 10.1

Comparisons of control adjusted post acquisition performance between firms of different business relatedness for 83 acquisitions completed over the period 1988-1992¹. The regression as in equation 8 (Chapter 7) is:

$$AP^c_{post,i} = \alpha + \beta AP^c_{pre,i} + \theta MEDIUM_i + \psi HIGH_i + \varepsilon_i$$

Panel A: Full Sample
(t-values in parenthesis)

$$AP^c_{post,i} = 0.02 + 0.17 AP^c_{pre,i} + 0.02 MEDIUM + 0.04 HIGH$$

(0.67)	(2.2) ^b	(0.48)	(1.5)
(0.59)	(1.9) ^b	(0.55)	(1.4)

$$R^2 = 0.10 \quad F\text{-statistic} = 2.9^b \quad N=83$$

Panel B: Sample excluding outlier²
(t-values in parenthesis)

$$AP^c_{post,i} = 0.0009 + 0.19 AP^c_{pre,i} + 0.03 MEDIUM + 0.06 HIGH$$

(0.038)	(2.6) ^b	(0.9)	(2.0) ^b
(0.021)	(2.1) ^b	(1.0)	(2.0) ^b

$$R^2 = 0.15 \quad F\text{-statistic} = 4.4^a \quad N=82$$

t-statistic given in the second bracket was adjusted for heteroscedasticity (White correction).

¹ $AP^c_{post,i}$ and $AP^c_{pre,i}$ are the median annual control adjusted operating cash flow returns in the post and prior acquisition period for firm i . MEDIUM and HIGH are dummy variables that take the value of one if the transaction is between two firms whose product markets have medium and high overlap, respectively, and zero otherwise.

² This sample excludes one observation identified as an influential outlier. The transaction is Technology Resources Bhd. acquiring Celcom Sdn. Bhd.

^a Significantly different from zero at the 1% level.

^b Significantly different from zero at the 5% level.

The results excluding this observation are reported in Panel B of Table 10.1. The intercept and coefficient on MEDIUM is positive but remains insignificant

indicating that there is no association between firms with no or medium business overlap and improvement in post acquisition performance. Highly related acquisitions, however, have a significant effect on post acquisition performance. The β coefficient on highly related acquisition has the same significant level of 5% after applying White's heteroscedasticity adjustment in Shazam. The results indicate that acquiring firms experience post acquisition performance improvement of 6% in transactions with high business overlap. Thus, hypothesis 10 (H_{010}) of no difference in the level of post acquisition cash flow performance is rejected.

The above result is similar to that found in studies by Singh and Montgomery (1987), Shelton (1988), Healy et al. (1992, 1997) and Hubbard and Palia (1999) that acquiring firms gain the most from related acquisitions. Healy et al. (1992) recorded 5.2% improvements in post acquisition operating cash flow returns in transactions with a high business overlap but none in other types of acquisitions. In another study, Healy et al. (1997) found that strategic acquisitions earned control adjusted performance of 4.4% more than financial acquisitions, indicating that strategic acquisitions produced greater synergies than financial transactions¹⁷⁹. The current study also provides evidence that opportunities for creating positive post acquisition operating return is greater if the line of business of target is highly related to those of the bidder.

¹⁷⁹ Healy et al. (1997) defined strategic acquisitions as friendly transactions that normally involved share payment for firms in overlapping business and financial strategy as hostile transactions that normally involved cash payments for firms in unrelated business.

10.3 Management Turnover

Another potential source of improving post acquisition operating returns is in management and administration. Several accounting based studies (Salter and Weinhold, 1979, Singh and Montgomery, 1987, Porter, 1987, and Ravenscraft and Scherer, 1987) support the hypothesis that transferring management skill from one firm to another in a related business are likely to result in synergy. Shelton (1988) and Walsh (1988) suggest that the acquiring firm can afford to lose many of the acquired firms' top management when the acquiring company is familiar with the target firms' business. Walsh and Ellwood (1991), Martin and McConell (1991) and Mikkelson and Partch (1997) are among studies in US that have reported significant increases in turnover of top management in target companies following takeover. Cannella and Hambrick (1993), and Krishnan et al. (1997) argue that the retention of the top management in unrelated acquisition seems essential since acquiring firms have little experience in the operation of the acquired business. Baker (1992) suggested that early conglomerate acquisitions of US companies involved the transfer of management skills but retained target management when the acquisition involved well-performing target firms that have been managed by competent managers. Thus, it would seem that the more related the acquired firm is to the acquiring firm, there are likely more top management departures.

The majority of target companies included in the sample are private companies so the disciplinary motives experienced by previous studies mentioned above are not likely to be found in the current study. Nevertheless, three sets of tests are examined here to determine whether management turnover has any effect on the level of post acquisition performance. The first tests whether there is higher directors turnover in the target company of a related acquisition than an unrelated acquisition. The second test examines if there is any relationship between directors turnover and

acquisition performance. The third stage involves analysis of the impact of both relatedness and director turnover on post acquisition operating performance.

The names of top management members who were affiliated with the acquired firm at the time of acquisition were obtained from the proxy statement or director's report in the financial statements of the company. Only the directors' names were obtained since there is no readily available comprehensive source of information on senior management for individual companies. A company's top management team was defined as all executive directors and the chairman. The names of the directors were obtained for the period a year prior to acquisition to one year after the acquisition. Besides the difficulty of obtaining information on directors departure, the basis of choosing one year after acquisition is to test the direct impact of management turnover immediately after acquisition. Turnover is defined as the proportion of directors present at the time of acquisition who had departed by the end of the first post acquisition financial year.

Being mainly private companies, a target company in the current study normally has only 4-5 directors in the company. The sample of takeovers are subdivided into two groups, with Group A includes targets of related acquisition while Group B includes targets of unrelated acquisitions. Related acquisitions include those of highly and medium related acquisitions. In most cases in which any target director was replaced, the normal pattern was that all would be replaced by the end of the first post acquisition year. In only 6 out of 83 cases, have targets retained a few directors and replacing the others with directors from the acquiring firms. All the 6 companies are included in the sub-sample of directors turnover. Table 10.2 shows a crosstabulation table presenting the frequencies of turnover and relatedness.

Table 10.2**Crosstabulation of Directors Turnover by Business Relatedness for 83 Bids Completed over the Period 1988-1992¹**

<i>Business Relatedness</i>		<i>Directors Turnover</i>		<i>Total</i>
		<i>Retained</i>	<i>Turnover</i>	
Unrelated	Count	6	18	24
	Expected Count	9.5	14.5	24.0
Related	Count	27	32	59
	Expected Count	23.5	35.5	59.0
Total		33	50	83

Chi-Square = 3.07 D.F. = 1 Significance = 0.080

¹ Related acquisitions is when there is a high or medium overlapping line of business between the target and acquiring firms. Unrelated acquisitions refers to acquisition of companies with no overlapping line of business between bidder and target firms.

There are 32 (54%) cases of directors turnover and 27 (46%) directors retained out of 59 related acquisitions, while 18 (75%) cases out of 24 companies replaced directors and 6 (25%) retained directors in unrelated acquisitions. The result shows that the Pearson Chi-Square is significant at the 10% level, indicating that the proportion of directors turnover is significantly higher in unrelated acquisition than related acquisition. Thus, the null hypothesis (H_{011}) of no difference in management turnover regardless of the degree of business relatedness between the acquiring and target firms is rejected.

To explore if there is any relationship between directors' turnover and performance, the sample of 83 acquisitions is divided into two groups, those with directors turnover and those without. Denis and Denis (1995) used similar techniques in their study when measuring changes in operating income surrounding

management changes¹⁸⁰. Summary statistics on control adjusted post performance for each group is summarised in Table 10.3.

Table 10.3

Control Adjusted Operating Performance Surrounding Directors Turnover for 83 Acquisitions completed over the period 1988-1992¹
(t-values and z-scores in parentheses)

	Turnover of Directors			Retained Directors		
	<i>Pre Acquisition Control Adjusted Performance</i>	<i>Post Acquisition Control Adjusted Performance</i>	<i>Control Adjusted Change In Performance</i>	<i>Pre Acquisition Control Adjusted Performance</i>	<i>Post Acquisition Control Adjusted Performance</i>	<i>Control Adjusted Change In Performance</i>
Mean	0.02 (0.63)	0.04 ^b (2.64)	0.02 (0.801)	0.03 (1.16)	0.06 ^a (3.60)	0.09 (1.26)
Median	0.02 (1.01)	0.04 (1.46)	0.02 (1.25)	0.01 (0.71)	0.03 ^b (2.71)	0.05 ^b (2.05)
Maximum	0.72	0.33	0.48	0.74	0.35	0.64
Minimum	-0.33	-0.36	-0.74	-0.17	-0.26	-0.21
Standard Deviation	0.17	0.12	0.19	0.17	0.12	0.17
Sample size	50	50	50	33	33	33

¹Control adjusted operating cash flow return is the difference between the firm operating performance in that year and the value of the matched firm during that period. Operating performance is defined as operating profit before tax and extraordinary items, adjusted for depreciation and goodwill and changes in working capital deflated by the book value of operating assets (shares plus debt less cash and marketable securities) at the beginning of the year. Control adjusted change operating performance is measured as the change of post control adjusted operating performance from pre acquisition period.

^a Significantly different from zero at the 1% level.

^b Significantly different from zero at the 5% level.

Deducting the pre acquisition control adjusted performance measure from the post acquisition control adjusted performance measure for each group provides a

¹⁸⁰ Denis and Denis (1995) measured operating income as the ratio of operating income before depreciation to book value of total assets. They found positive improvements in the median industry adjusted operating income ratio following forced resignations of top management.

measure of improvement in performance. The median control adjusted change in performance for acquisitions resulting in target directors turnover is positive at 0.02, but this is not statistically different from zero. The median control adjusted change in performance for companies that retained directors is 0.05, and the increase is significantly different from zero at the 5% level using a Wilcoxon-Signed rank test. The median control adjusted change in performance for the 'retention' group (0.05) is also significantly higher than that for the 'turnover' group (0.02) at the 10% level, using a Mann-Whitney test.

In examining if higher post acquisition performance is observed in related than in unrelated acquisitions after controlling for directors turnover, each sub-group is further divided into related and unrelated acquisitions. The results on the impact of directors turnover and relatedness on the change in control adjusted from pre to post acquisition performance is shown in Table 10.4. Related acquisitions in the 'retaining' group result in positive median control adjusted change in performance of 0.04, and this is significantly different from zero at the 5% level. However, unrelated acquisitions in the 'retaining' group result in negative median control adjusted change in performance of -0.1, and this is not statistically significant. The median control adjusted change in performance for the 'turnover' group in related acquisitions is 0.02, and this is not significantly different from zero using Wilcoxon-signed rank test. The median control adjusted change in performance for unrelated acquisitions in the 'retaining' group is -0.02, and it also not statistically significant. The difference in median control adjusted change in performance between the four groups is not significant, using Mann-Whitney test. This may be due to the small number of observations in each group. Thus, related acquisitions that retained directors produce

significant positive change in control adjusted performance but the improvement is not significantly higher than related acquisition involving directors turnover¹⁸¹.

Table 10.4

The Impact of Directors Turnover and Relatedness on Changes in Control Adjusted Acquisition Performance for 83 Acquisitions completed over the period 1988-1992¹

(t-values and z-scores in parentheses)

	Turnover of Directors		<i>Retained Directors</i>	
	Related	Unrelated	Related	Unrelated
	Control Adjusted Change in Performance	Control Adjusted Change in Performance	Control Adjusted Change in Performance	Control Adjusted Change in Performance
Mean	0.01 (0.16)	0.05 (1.17)	0.04 (0.99)	-0.03 (-1.52)
Median	0.02 (1.20)	-0.02 (-0.54)	0.04 ^a (1.95)	-0.1 (-1.26)
Maximum	0.35	0.48	0.40	0.05
Minimum	-0.74	-0.24	-0.63	-0.16
Standard Deviation	0.18	0.17	0.19	0.08
Sample size	32	18	27	6

¹Control adjusted operating cash flow return is the difference between the firm operating performance in that year and the value of the matched firm during that period. Operating performance is defined as operating profit before tax and extraordinary items, adjusted for depreciation and goodwill and changes in working capital deflated by the book value of operating assets (shares plus debt less cash and marketable securities) at the beginning of the year. Change in control adjusted operating performance is measured as the change of post control adjusted operating performance from pre acquisition period. Business relatedness is where there is a high or medium overlapping line of business between the target and acquiring firms.

^a Significantly different from zero at the 5% level, two-tailed test.

In addition to the above, a multiple regression analysis is used in examining the impact of management turnover and relatedness on post acquisition performance.

¹⁸¹ Using covariate analysis to test the difference in means and taking into account the covariate between each group also produced insignificant results. The dependent variable in the analysis is the control adjusted post acquisition and the covariate is the control adjusted pre acquisition performance. The independent variables are the relatedness of the acquisition and the directors turnover/retained. The interaction between the independent variable of relatedness and directors turnover or those being retained is not significant since the *p* value is 0.803 (t-statistics = 0.063).

The first model is a regression between related and performance for the 'turnover' group (Model 1). The second model is a regression between related and performance for the 'retaining' group (Model 2)¹⁸². The third model (Model 3) includes both related and turnover in the regression as in equation 9 (Chapter 7).

The results of the above regressions are summarised in Table 10.5. Based on Model 1 in Table 10.5, related acquisitions have a positive coefficient of 0.049, but it is not statistically significant, indicating that relatedness has no impact on the post acquisition performance in the 'turnover' group¹⁸³. The result is similar to that shown in Table 10.4 where there is no difference in the change in control adjusted performance regardless of the relatedness of the acquisition for companies with directors turnover. Model 2 indicates that related acquisitions have significant impact on post acquisition performance in the 'retaining group'¹⁸⁴. Relatedness has a coefficient of 0.058 and it is significant at the 5% level after applying White's adjustment for heteroscedasticity. The result is similar to that found in Table 10.4 where related acquisitions have a significant positive change in control adjusted performance.

Model 3 provides the test whether both relatedness and director turnover have any impact on post acquisition performance. Using casewise diagnostics outside 3 standard deviations, one outlier in the initial analysis of 83 acquisitions, Technology Resources Bhd. which acquired Celcom Sdn. Bhd, is excluded from the analysis in Model 3. The results in Table 10.5 (Model 3) show that turnover of directors has no impact on post acquisition performance regardless of the relatedness of the line of business. Relatedness has a significant positive coefficient of 0.06 while turnover has

¹⁸² Both Model 1 and 2 also use the control adjusted change in performance as the dependent variable in the regression.

¹⁸³ Similarly, the coefficient of -0.04 is not statistically significant when the control adjusted change in performance is used as the dependent variable.

¹⁸⁴ When the control adjusted change in performance is used as the dependent variable in the regression, the coefficient is 0.07 and it is not significantly different from zero.

an insignificant negative coefficient of -0.01^{185} . Similar to the earlier findings on business relatedness in Section 10.2, Model 3 indicates that related acquisitions have significant positive impact on post acquisition performance, as shown by the positive coefficient of 0.06^{186} .

Table 10.5

Regression Analysis Examining the Impact of Directors Turnover on Related and Control Adjusted Post Acquisition Performance for 83 Acquisitions completed over the period 1988-1992

The regression for Model 3 as in equation 9 (Chapter 7) is:

$$AP_{post}^c = \alpha + \beta AP_{pre}^c + \Psi \text{TURNOVER}_i + \theta \text{RELATED}_i + \varepsilon_i$$

Variable	Model 1	Model 2	Model 3
Intercept	0.008 (0.280) (0.208)	0.003 (0.064) (0.017)	0.002 (0.078) (0.075)
Related	0.049 (1.387) (1.301)	0.058 (1.151) (2.120) ^b	0.06 ^b (2.222) (1.69) ^c
Turnover			-0.01 (-0.42) (-0.38)
Pre Performance	0.11 (1.013) (0.985)	0.257 ^b (2.15) (1.78) ^c	0.19 ^b (2.57) (1.94)
F-Value	2.014	3.028 ^c	4.96 ^a
R²	0.079	0.168	0.160
Number	50	33	182

¹The number of sample excludes one observation identified as influential outliers. The transaction is Technology Resources Bhd. which acquired Celcom Sdn. Bhd. Business relatedness is where there is a high or medium overlapping line of business between the target and acquiring firms

t-statistic given in the second bracket was adjusted for heteroscedasticity (White correction).

^a Significantly different from zero at the 1% level.

^b Significantly different from zero at the 5% level.

^c Significantly different from zero at the 10% level.

¹⁸⁵ Both relatedness and turnover produce an insignificant coefficient when the control adjusted change in performance is used as the dependent variable.

¹⁸⁶ Related acquisitions in this section are defined as those having high and medium overlapping line of business between target and acquiring firms.

The overall result found in Table 10.5 indicates that regardless of the relatedness of the business, management turnover has no impact on the post acquisition performance. Thus, the null hypothesis (H_{012}) of no significant difference in the operating post acquisition returns regardless of the relatedness of the acquisition for directors turnover, is accepted.

In summary, the findings in the current study indicate that the proportion of directors turnover is significantly higher in unrelated than related acquisitions (Table 10.2). The results in Table 10.3 provide evidence that companies retaining directors have slightly higher median control adjusted change in performance than companies that have directors turnover. There is a significant positive control adjusted change in performance for related acquisitions in companies that retained directors but it is not significantly higher than for related acquisitions involving directors turnover (Table 10.4). The results in Table 10.5 show that management turnover has no impact on post acquisition performance regardless of the degree of relatedness of the line of business. The results in the current study contradict the findings by Shelton (1988) and Walsh (1988) who suggested that superior post acquisition performance is likely to result when top management are replaced in related acquisitions. This may be due to the specific feature of the sample in the current study that consists mainly of acquisitions of privately owned companies in which the unique skills of previous directors may often be retained post acquisition regardless of the degree of business relatedness. Such acquisitions of private companies are unlikely to have the same disciplinary features as acquisitions of public quoted companies. As found earlier in Chapter 9, targets were experiencing higher positive returns two years prior to acquisition. Thus, acquiring firms in the current study might retain target's incumbent managers as they are familiar with the target organisation's environment. In addition,

there might be a cultural or tactical reason for retaining target directors in acquisitions of private companies¹⁸⁷.

10.4 Relative Size of Targets to Bidders

The focus of this section is to examine if relative size of target to bidders have any impact on post acquisition performance. It is expected that as the target increases in size relative to that of the bidder, the impact of the acquisition would be more readily observed in the bidders' post acquisition performance. Difficulty in absorption might also has an impact on post acquisition if the size of target is large relative to the bidder. Previous studies (Fowler and Schmidt, 1989, Jarrell and Poulsen, 1989, Loderer and Martin, 1990, Franks et al., 1991, and Healy et a., 1992, among others) report conflicting results on the relationship between relative size and the level of post acquisition performance.

The relative size in the current study is identified as the target size divided by bidder size. The size of the target and acquiring firms is measured as the book value of the companies (equity plus reserves, plus debt less cash and marketable securities) at the end of the financial year prior to the bid year (year -1). Table 10.6 presents the descriptive statistics of relative size of target to bidder for the 83 bids in the current sample¹⁸⁸. Although the mean relative size of target to bidder is 47.3%, the median relative size is only 15.9%, indicating that the distribution is skewed. Only 9 targets or 10.8% of the total, are larger in size than their bidder.

¹⁸⁷ That is, a face-saving exercise in friendly acquisitions where target management is retained for a few years after acquisition.

¹⁸⁸ As mentioned earlier, to avoid the potential bias of analysing bid characteristics of 117 bids (as a result of acquiring firm acquiring more than one target in the same year), the performance of 14 acquiring firms and 34 targets are thus excluded from the analysis.

Table 10.6

Descriptive Statistics on Relative Size of Target to Bidder for 83 Acquisitions completed over the period 1988-1992.

Range Description	Book Value Of Bidder RM'000	Book Value Of Target RM'000	Relative Size Of Target to Bidders
Mean	244806	59133	0.473
Median	123121	30552	0.159
Standard Deviation	314947	74079	0.792
Maximum	1783835	433117	4.03
Minimum	5495	1267	0.100

Relative size of target to bidder is defined as the ratio of target size and bidder size at the beginning of year prior to the bid year (year -1). Firm size is book value of shares plus the book values of net debt (long-term debt plus short-term debt, less cash and marketable securities) at the end of the year before acquisition (year -1).

A regression model as described in equation 10 (Chapter 7) is used to evaluate whether improvements in post acquisition performance are affected by the relative size of target to bidder. The results on the relationship between the median post acquisition adjusted returns and the relative size of target to bidder are reported in Table 10.7. The results indicate that both the pre bid operating cash flow performance and the relative size of target to bidders have significant impact on post acquisition performance. The estimated intercept α and coefficients θ on RELSIZE are significant, 3.9% and 3% respectively, indicating that the larger the relative size of target to bidder, the greater the post acquisition performance. Thus, hypothesis thirteen (H_{013}) of no difference in the level of post acquisition performance among acquisitions involving bidders and targets of similar size is rejected.

The results in the current study contradict those reported by Healy et al. (1992) who found that the relative size of target to bidder did not influence the post acquisition cash flow performance. However, their study used a sample of relatively large acquisitions that are possibly without much variation in relative size. Other

studies by Franks and Harris (1989), Fowler and Schmidt (1989) and Franks et al. (1991) also found no evidence of a significant relationship between relative size of target to bidder and abnormal returns.

Table 10.7

Relation between median post acquisition adjusted returns and relative size of target to bidder for 83 combined firms over the period 1988-1992

The regression as in equation 10 (Chapter 7) is:

$$AP_{post,i}^c = \alpha + \beta AP_{pre,i}^c + \theta RELSIZE + \varepsilon_i$$

(t-value in parenthesis)

$$AP_{post,i}^c = 0.039 + 0.188 AP_{pre,i}^c + 0.03 RELSIZE$$

(1.9)^c
(2.5)^b
(1.88)^c
(2.0)^b
(2.3)^b
(1.86)^c

$$R^2 = 0.12 \quad F\text{-statistic} = 5.3^a \quad N=83$$

$AP_{post,i}^c$ and $AP_{pre,i}^c$ are the median annual adjusted operating cash flow returns in the post and prior acquisition period for firm i .

RELSIZE is the actual percentage of relative size of target to bidder at the end of the financial year prior to the bid. Size of the target and acquiring firms is measured as the book value of the companies (equity plus reserves, plus net debt less cash and marketable securities).

t-statistic given in the second bracket was adjusted for heteroscedasticity (White correction).

^a Significantly different from zero at the 1% level.

^b Significantly different from zero at the 5% level.

^c Significantly different from zero at the 10% level.

The results reported in the current study are however consistent with those reported by Asquith et al. (1983), Jarrell and Poulsen (1989), Seth (1990) and Loderer and Martin (1990) who found a positive relationship between bidding firms' cumulative abnormal security returns and the size of target relative to the bidder.

10.5 Method of Payment

The method of financing made by acquirers when making an acquisition is another factor that may explain the wealth effects of post acquisition performance.

Myers and Majluf (1984), Murphy and Nathan (1989) and Bhagat and Hirshleifer (1993) focused on the role of asymmetric information and contended that one would expect the market to interpret cash offers as signal of bidding firms' shares being undervalued, and that share offers as signals of the share prices being too high.

Agrawal et al. (1992), Loughran and Vijh (1997), and Limmack and McGregor (1992) are among market-based studies that have shown that acquiring firms using cash to finance acquisitions perform significantly better than share financed acquisitions around the announcement period. Chang (1998), however, found evidence that bidders experience no abnormal return in cash offers but positive abnormal returns in share offers when the acquisition involves a privately held targets. Chang (1998) argued that the financing of takeovers for privately held targets is similar to private sale of shares, where share financing of privately held target involves payment of shares to a single or small group of target shareholders (usually fewer than five). This helps to resolve the asymmetric information problem identified by Myers and Majluf (1984) through the disclosure of bidding firm managers' private information to the small number of target shareholders. The willingness of privately held target shareholders to accept shares from the bidders suggest favourable information about the bidding firm, and is being reflected in positive abnormal returns, according to Chang (1998).

If the issuance of shares in acquisition financing is an anticipation of improved performance, then the cash flow performance after acquisition will be higher for bidders who offer share exchange for a private company than those who use cash financing in takeovers of privately held targets.

Acquiring firms in Malaysia have an option of issuing shares and warrants or issuing cash or debt to target shareholders. Cash offers in the current study are

defined as cash or debt exchanges, and share offers include shares and where a combination of cash and shares is paid. There are 60 cash financed transactions as compared to only 23 share (or mixed) offer¹⁸⁹.

The regression as in equation 11 (Chapter 7) is used to examine the possible inter-relationship effects of the method of payment on post acquisition cash flow operating returns of 83 bids. The dependent variable is the post acquisition operating cash flow returns while the method of payment is the independent variable to be included in the multiple regression. The results are presented in Table 10.8. The estimated intercept α and coefficient β on AP^c_{pre} is positive and significant as reported in earlier regression. The coefficient on CASH is significantly negative, indicating that acquiring firms experience negative post acquisition performance of 5% in cash offers. Thus, hypothesis fourteen (H_{014}) of no difference in the level of post cash flow performance is rejected.

Table 10.8

Comparisons of post acquisition performance between firms that made either cash or share payment for acquisitions completed over the period 1988-1992¹. The regression as in equation 11 (Chapter 7) is:

$$AP^c_{post\ i} = \alpha + \beta AP^c_{pre\ i} + \theta CASH + \varepsilon_i$$

(t-values in parenthesis)

$$AP^c_{post\ i} = 0.09 + 0.175 AP^c_{pre\ i} - 0.06 CASH$$

(3.65) ^a	(2.34) ^b	(-2.20) ^b
(3.36) ^a	(2.06) ^b	(-2.09) ^b

$$R^2 = 0.13 \quad F\text{-statistic} = 5.8^b \quad N=83$$

¹ $AP^c_{post\ i}$ and $AP^c_{pre\ i}$ are the median annual control firm-adjusted operating cash flow returns in the post and prior acquisition period for firm i . CASH are dummy variables that take the value of one if the acquisition is paid by cash and zero otherwise.

² The sample excludes two public listed and one non-public listed targets

t -statistic given in the second bracket was adjusted for heteroscedasticity (White correction).

^a Significantly different from zero at the 1% level.

^b Significantly different from zero at the 5% level.

¹⁸⁹ There are only 6 cases where the financing of takeovers involve a combination of cash and shares.

The results found in the current study contradict those found by previous market-based studies (for example Agrawal et al., 1992 and Loughran and Vih, 1997) that acquiring firms using cash to finance acquisitions perform significantly better than share finance acquisitions around the announcement period. By contrast, in examining acquiring firms' post acquisition cash flow performance, Healy et al. (1997) found that the industry adjusted cash flow returns showed significant improvement of 4.4% when shares were used to finance the acquisitions. Linn and Switzer (2000), however, found that the change in operating cash flow performance is significantly larger for cases in which the acquiring company offered cash as compared to share offers. Consistent with the results reported by Chang (1998), the current study also finds evidence of higher post acquisition cash flow performance for bidders who offer share exchange over those which use cash financing. In fact, the cash financed acquisitions in the current study resulted in significant negative post acquisition performance.

10.6 Directors Ownership

Shareholdings by directors is a potential governance aspect that may have an effect on the post bid performance of the combined firms and the willingness of managers to make value creating or value destroying acquisitions. Conjectures have been made frequently in the financial economic literature that that top management may deliberately make corporate acquisitions for their firms that are detrimental to shareholder wealth. Top management are said to have indulge in non-value maximising transaction, such as excessive consumption of perquisites (Jensen and Meckling, 1976) or the selection of less risky investment projects (Amihud and Lev, 1981) when they do not have a significant stake in the firm. Jensen and Meckling (1976) argued that the market value of a firm increases as management ownership

rises: managers bear a large share of any loss as their stake rises and are therefore less likely to make value reducing decisions.

A recent study by Shinn (1999) supports the hypothesis that managers with a significant ownership position in their firms may engage in acquisition activity that is in the interest of shareholders since managerial wealth would likewise be adversely affected. Morck et al. (1988), Stulz (1988), Hubbard and Palia (1995), and Holl and Kyriazis (1997) are among studies that suggested an existence of a non-linear inverted U-shaped relationship (non-monotonic relationship) between managerial shareholding and wealth gains, where the market value of the firm first increases, then declines, as ownership by the board of directors rises.

The current section examines whether directors with significant shareholding play a role in monitoring the actions of the bidding firm's management in producing positive post acquisition performance. Similar to the studies by Morck et al. (1988), Hubbard and Palia (1995) and Holl and Kyriazis (1997), it is expected that there is a non-linear inverted U-shape relationship between directors shareholding and wealth gains. Due to the practical problem in gathering information on managerial ownership, board members ownership (similar to that used by Morck et al., 1988 and Shinn, 1999), rather than managerial ownership (as used by Hubbard and Palia, 1995) is used in the current study. Data on directors who are affiliated with the acquiring firm are obtained from the proxy statement or director's report in the financial statements of the company one-year prior to acquisition. Directors' ownership positions in their company's ordinary shares is represented by shares held directly by the directors and his or her immediately family as of the proxy statement date. Similar to Morck et al.

(1988), percentage ownership rather than the dollar value of the stake is used in the current study¹⁹⁰.

Table 10.9

Descriptive Statistics for Share Ownership of Directors on 83 Acquiring Firms for 83 combined firms over the period 1988-1992

	<i>Percentage Share Ownership of Directors</i>
<i>Mean</i>	14
<i>Median</i>	11
<i>Minimum</i>	0.1
<i>Maximum</i>	59.6
<i>Standard Deviation</i>	15.0

Table 10.9 reports the descriptive statistics for share ownership of directors. The mean combined stake owned by directors is 14% and the median stake is 11%. There is considerable variation in directors ownership within the sample, with the ownership of directors ranges from 0.1% to 59.6%.

A simple linear regression using equation 12 (Chapter 7) is applied to test the possible inter-relationship effects of directors shareholdings on the post acquisition control adjusted cash flow operating returns. The dependent variable is the post acquisition control adjusted operating cash flow returns, while the directors' ownership and the pre acquisition performance are the independent variable to be

¹⁹⁰ Shinn (1999) use both percentage ownership and market value of company shares owned when examining the relationship between the wealth effects of acquisition activity and the ownership and wealth of both the executives and board of directors of the firms.

included in the regression. Percentage ownership of directors (DIREC) is used in the regression and the results are shown in Table 10.10. The results in Table 10.10 show that the coefficient on DIREC is -0.001 , but it is not significantly different from zero, indicating that directors ownership has no impact on post acquisition performance.

Table 10.10

Relationship between post acquisition control adjusted performance and director ownership in acquisitions completed over the period 1988-1992¹.

The regression as in equation 12 (Chapter 7) is:

$$AP^c_{post,i} = \alpha + \beta AP^c_{pre,i} + \theta DIREC + \varepsilon_i$$

Full Sample
(t-values in parenthesis)

$$AP^c_{post,i} = 0.05 + 0.20 AP^c_{pre,i} - 0.001 DIREC$$

(3.0) ^a	(2.6) ^b	(-1.02)
(2.9) ^a	(2.3) ^b	(-1.16)

$$R^2 = 0.09 \quad F\text{-statistic} = 3.8^b \quad N=83$$

¹ $AP^c_{post,i}$ and $AP^c_{pre,i}$ are the median annual control adjusted operating cash flow returns in the post and prior acquisition period for firm i . DIREC are ownership percentage own by directors.

t -statistic given in the second bracket was adjusted for heteroscedasticity (White correction).

^a Significantly different from zero at the 1% level.

^b Significantly different from zero at the 5% level.

Demsetz and Len (1985) use a simple linear regression model similar to the one used in the current study and found no significant relationships between profit and ownership by large shareholders. Morck et al. (1988) who also used linear regression found no relationship between managerial ownership and shareholders wealth. They conclude that imposing a linear structure is inappropriate in examining the relationship between ownership and performance. Thus, in an attempt to determine whether level of shareholdings has an effect on performance, the post acquisition control adjusted change in operating performance is identified for different

levels of share ownership of directors, similar to the method used by Denis et al. (1997)¹⁹¹.

Table 10.11 documents the relationship between directors' share ownership and the change in control adjusted operating cash flow returns. As defined in earlier sections, deducting the pre acquisition control adjusted performance measure from the post acquisition control adjusted performance measure for each group provides a measure of the change in improvement. The distributions of directors ownership together with the mean and median change in control adjusted operating cash flow returns are shown in the table.

As with the results in Table 10.10, the results in Table 10.11 do not support the hypothesis that the level of directors ownership has any effect on the change in control adjusted performance. As seen in Table 10.11, the level of directors share ownership does not exhibit any observable pattern in the median change in control adjusted performance. A two-tailed Wilcoxon signed rank test is applied on the change in control adjusted operating cash flow returns at each ownership level. Firms with no director ownership earn a median change in control adjusted operating cash flow returns of -0.13 , and it is significantly different from zero at the 5% level. As the level of director ownership increases, the median change in performance is still negative except for ownership level from 10 to 15 percent where the median change in performance is 0.08 , but it is not significantly different from zero. Thus, hypothesis fifteen ($H_{0,15}$) of no significant difference in the level of abnormal operating post cash flow regardless of share ownership own by directors is accepted.

¹⁹¹ Morck et al. (1988) and Hubard and Palia (1995), however, constructed three dummy variables for each level of ownership (less than 5%, between 5%-25%, and more than 25%) and used these variables as regressors in piecewise linear regressions.

Table 10.11

Post Acquisition Change in Control Adjusted Operating Returns by Share Ownership of Directors for 83 combined acquiring and target firms in acquisitions over the period 1988-1992¹

Ownership Level	Directors		
	Change in Control Adjusted Operating Performance		
	Number of firms	Mean	Median
None*	11	-0.11 ^a	-0.13 ^a
0.1- 5%	22	-0.04	-0.02
5 -10%	7	-0.07	-0.11
10 -15%	11	0.10	0.08
15 - 20%	9	-0.04	-0.03
20 - 25%	11	-0.03	-0.04
More than 25%	12	0.01	-0.01

*None means that no single member of the executive or non-executive directors owned any of the firm's outstanding shares.

¹ Control adjusted operating performance is the difference between the firm operating performance in that year and the value of the matched firm during that period. Operating performance is defined as operating profit before tax and extraordinary items, adjusted for depreciation and goodwill and changes in working capital deflated by the book value of operating assets (shares plus debt less cash and marketable securities) at the beginning of the year. Change in control adjusted performance is the difference between post and pre control adjusted performance.

^a Significantly different from zero at the 0.05 probability level, using a two-tailed test.

The results in Table 10.11 do not support the hypothesis that there is a non-monotonic relationship between directors ownership and improvement in post acquisition performance. Thus, the results in the current study differ from those of Morck et al. (1988) who reported a positive relationship between ownership and performance in the 0% - 5% range, a negative relation in 5%-25% range, and a positive relation beyond 25%. The findings in the current study also contradict with those reported by Stultz (1988), Hubbard and Palia (1995) and Holl and Kyriazis (1997) that the firm's performance first increases, then declines as ownership by the board of directors rises. Hubbard and Palia (1995) report an increase in abnormal returns when managerial ownership increases to 5%, and then decrease thereafter. It should be noted that except for Morck et al. (1988) who used Tobin's Q, other studies mentioned above used abnormal market returns to measure performance.

10.7 Multiple Regression

Table 10.12 summarises the impact of the individual acquisition characteristics that have been tested on post acquisition operating performance. So far the results show that the main determinants of cross-sectional differences in operating cash flow performance following acquisitions in Malaysia during the period 1988-1992 are relatedness, large relative size of target to bidders, and payment method. The characteristics that appear to have no significant effect on post acquisition performance are management turnover and the level of shareholding of directors in the acquiring firms.

Table 10.12

Acquisition characteristics and direction of each explanatory variable on the post acquisition performance

Variable	Description	Direction of effect
HIGH	Highly overlapping business between target and acquiring firm	+
TURNOVER	Target directors turnover	no effect
RELSIZE	Relative size of target to bidder	+
CASH	Payment by cash	-
DIREC	Fraction of shares held by members of the board of directors owning 5% or more of the firm's outstanding shares	no effect

Table 10.13 shows the Pearson Correlation between the post acquisition operating cash flow return and the independent variables: pre acquisition

performance, directors turnover, business relatedness, method of payment, relative size of targets to bidders, and directors ownership.

Table 10.13

Pearson Correlation between post acquisition control adjusted operating cash flow return and the independent variables. The independent variables are pre acquisition performance, directors turnover, business relatedness, method of payment, relative size of targets to bidders, and directors ownership

		Post	Pre	turnover	highly	medium	cash	relative	director
					related	related		size	ownership
Post Performance	Pearson Correlation	1.000	.271	-.080	.197	-.036	-.258	.207	-.096
	Sig. (2-tailed)	.	.013	.475	.074	.746	.019	.061	.386
Pre Performance	Pearson Correlation	.271	1.000	-.069	.168	-.022	-.109	.031	.054
	Sig. (2-tailed)	.013	.	.535	.130	.843	.328	.781	.626
turnover	Pearson Correlation	-.080	-.069	1.000	-.283	.147	.102	-.052	-.014
	Sig. (2-tailed)	.475	.535	.	.010	.185	.359	.642	.898
highly related	Pearson Correlation	.197	.168	-.283	1.000	-.481	.095	.069	.063
	Sig. (2-tailed)	.074	.130	.010	.	.000	.395	.535	.569
medium related	Pearson Correlation	-.036	-.022	.147	-.481	1.000	-.029	-.061	.081
	Sig. (2-tailed)	.746	.843	.185	.000	.	.792	.583	.468
cash	Pearson Correlation	-.258	-.109	.102	.095	-.029	1.000	-.114	.143
	Sig. (2-tailed)	.019	.328	.359	.395	.792	.	.305	.196
relative size	Pearson Correlation	.207	.031	-.052	.069	-.061	-.114	1.000	-.064
	Sig. (2-tailed)	.061	.781	.642	.535	.583	.305	.	.564
director ownership	Pearson Correlation	-.096	.054	-.014	.063	.081	.143	-.064	1.000
	Sig. (2-tailed)	.386	.626	.898	.569	.468	.196	.564	.
No of observations		83	83	83	83	83	83	83	83

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Based on Table 10.13, the only variables that have significant correlation are between post acquisition performance and pre acquisition performance (5% level), post acquisition performance and highly related business (10% level), turnover and highly related (1% level), post acquisition performance and cash payment (5% level), and post acquisition performance and relative size of targets to bidders.

To examine the possible inter-relationship effects of acquisition characteristics on post acquisition cash flow operating returns more specifically, post acquisition operating returns of the combined firms are analysed using a multiple regression model as described in equation 13 of Chapter 7. The dependent variable is the post acquisition control adjusted operating cash flow returns. The independent variables use to reflect the acquisition characteristics are business relatedness, directors turnover, relative size of targets to bidders, method of payment, directors ownership and pre acquisition performance. The results are summarised in Table 10.14.

Table 10.14

Relationship between post acquisition control adjusted performance and acquisition characteristics in acquisitions completed over the period 1988-1992¹.

(t-values in parenthesis)

$$\begin{aligned}
 AP^c_{post,i} = & 0.05 + 0.15 AP^c_{pre,i} + 0.03 \text{ MEDIUM} + 0.05 \text{ HIGH} \\
 & (1.35) \quad (2.0)^a \quad (0.61) \quad (1.76)^b \\
 & (1.55) \quad (1.8)^a \quad (0.88) \quad (1.76)^a \\
 & + 0.004 \text{ TURNOVER} + 0.02 \text{ RELATIVE SIZE} \\
 & (0.143) \quad (1.53) \\
 & (0.163) \quad (1.20) \\
 & - 0.06 \text{ CASH} - 0.0007 \text{ DIREC} \\
 & (-2.06)^a \quad (-0.86) \\
 & (-2.02)^a \quad (-0.96)
 \end{aligned}$$

$$R^2 = 0.17 \quad F\text{-statistic} = 2.6^a \quad N=83$$

¹ $AP^c_{post,i}$ and $AP^c_{pre,i}$ are the median annual control adjusted operating cash flow returns in the post and prior acquisition period for firm i . MEDIUM and HIGH are where target and bidders are in medium and high overlap business, respectively, TURNOVER is target directors turnover, RELATIVE SIZE is the relative size of target to bidder, CASH is payment made in cash and DIREC is ownership percentage own by directors.

t-statistic given in the second bracket was adjusted for heteroscedasticity (White correction).

^a Significantly different from zero at the 5% level.

^b Significantly different from zero at the 10% level.

The results in Table 10.14 indicate that when all variables are included in the model, only the pre bid performance, level of relatedness, and means of payment are significant in explaining cross-sectional differences in performance. The degree of explanatory power of the model is, however, relatively low ($R^2=0.17$).

10.8 Summary

The chapter focused on analysing the effect of acquisition characteristics on post acquisition operating performance for 83 bids consisting of 83 public listed bidders acquiring 80 private, 2 public listed and 1 non-public listed targets in Malaysia during the period 1988-1992. The specific bid characteristics analysed are business relatedness, management turnover, the relative size of targets to bidders, the method of payment offered and board of directors ownership.

Since the specific feature of the current sample is that it consists mainly of privately owned targets, the disciplinary role found in acquisitions of public listed targets are not expected to be found in agreed bids between the bidders and targets in the current study. Acquisitions of highly related business between target and acquiring firm, large relative size of target to bidders and payment for the acquisition by shares have a significant positive impact on post acquisition control adjusted performance. The target directors turnover and the directors share ownership do not have a significant effect on the post acquisition performance. However, highly related business between target and bidder and payment by shares are the only acquisition characteristics that have a significant positive impact on the post acquisition control adjusted performance when multiple regression is used.

The empirical evidence in the current chapter indicates that the major source of synergy gains is the acquisition of product-market related targets. The improved

post acquisition performance in transactions with a high business overlap, not observed in other types of acquisitions, is explicitly the result of an operational gain due to increased opportunities for each acquired business to share resources and activities in the acquiring firm. In addition, acquisitions paid by shares are more likely to achieve improved post acquisition performance, possibly because target owners are 'tied' to the acquiring firms for the future.

The next chapter pursues the implications of acquisition activity for performance improvement by exploring different definition on measuring accounting performance.

Chapter 11

Takeovers and Accounting Measures of Performance

11.1 Chapter Description

The results reported in the current study suggest that acquisitions in Malaysia during the period 1988-1992 lead to improvements in the long run operating cash flow performance. The conclusion, based on analysis of operating cash flows are contrary to the results reported in those studies in UK and US that have employed accounting data to examine improvements in operating performance. Examples of the studies are Singh (1971), Utton (1974), Meeks (1977), Holl and Pickering (1988) and Dickerson et al. (1997) in UK, whilst those in US include Mueller (1980), Ravenscraft and Scherer (1987), Clark and Ofek (1994), Philappatos and Baird III (1996), and Denis et al. (1997). However, the negative post acquisition performance reported in accounting based studies might be affected by the acquisition accounting methods adopted or by the potential earnings manipulation, neither of which affects the measurement rules used in the current study. Thus, the main objective of the current chapter is to pursue the implications of acquisition activity for performance improvement by exploring different definitions of measurement of accounting performance.

The first measure used to test the robustness of the results in Chapter 9 is to use operating cash flow similar to the definition given by Healy et al. (1992, 1997) and Ghosh (1998) in measuring the operating cash flow returns. Operating cash flow in Chapter 9 is defined as operating profit before tax and extraordinary item, adjusted for depreciation, interests and goodwill and changes in working capital (that is, changes in stocks, trade debtors and prepayments and changes in creditors and accruals). The measure used in the current study differs slightly from that used by Healy et al.

(1992, 1997), Anand and Singh (1997) and Ghosh (1998) as these authors make no adjustments for changes in working capital accruals that may be subjected to manipulation by managers (Murphy and Zimmerman, 1993 and Dechow, 1994)¹⁹².

Alternative measures of performance include that of operating cash flow after interest. Interest income and interest expense are initially excluded in computing the operating cash flow performance to avoid problems involved in financing issues. The method use to finance the acquisition, that is, by cash or shares or a combination of cash, shares and other securities may affect the post acquisition performance measures. Firms that use debt financing incur interest expense (cost of debt) which lower their net profit. Thus, as an alternative measure cash flow after interest is tested to determine whether any operating benefits are swallowed up by higher interest charges.

The third measure of performance in the current chapter is based on return on assets (defined as net profit before tax and extraordinary item as a percentage of total assets). For the purpose of comparison, the definition for net profit used here is similar to the conventional accruals accounting based measures of performance used in earlier studies in UK and US (example Mueller, 1980, Singh, 1971, Meeks, 1977, and Dickerson et al., 1997 among others) .

¹⁹² Ghosh (1998) admitted that the results in his study might be biased to the extent that the operating cash flow calculation in his study includes working capital accruals that is subjected to managers' manipulation.

11.2 Data and Methodology

The same list of 97 listed acquiring and 117 target firms (3 public listed, 1 non-public listed and 113 private firms) for the period 1988-1992 used in analysing the operating cash flow performance of companies in Chapter 9 are used in the current chapter. Similarly, the same control firm is used, consisting of matched non-acquiring and non-target companies in the same industry as those of the respective companies, with matching year and size¹⁹³. Size is measured by the book value of equity plus reserves plus net debt, less cash and marketable securities at the end of the year prior to acquisition. Similar to the techniques used in measuring post acquisition cash flow performance in Chapter 9, frequent bidders (bidders making more than 1 bid in subsequent years) are also included in the current chapter. Data required for the current analysis are obtained from the same annual reports used in Chapter 9.

Similar to the methodology used in the previous chapter, the combined firm performance prior to acquisition is calculated as the sum of the bidder and target performance returns multiplied by the weighted average of the relative asset values of the two firms. After the acquisition, the actual values are reported for the combined firms. Control firm returns before acquisition are calculated as the bidder control and target control returns weighted by the relative asset value of the two corresponding sample firms at the beginning of each year. In the post acquisition years, the return of the bidder control and target control are weighted by the relative asset value of the two firms at the beginning of the year prior to acquisition (year -1).

¹⁹³ Target control private companies in the same industrial classification were matched only by year since it was difficult to obtain the size of non target companies.

11.3 Operating Cash Flow Returns

The focus of the current section is to determine if a definition of operating cash flow that does not account for changes in working capital accruals affects the earlier findings reported in Chapter 9¹⁹⁴. Similar to the definition used by Healy et al. (1992, 1997), Anand and Singh (1997) and Ghosh (1998), operating cash flow in the current section is defined as profit before tax and extraordinary item, before depreciation, interest and goodwill. No adjustments for changes in working capital are made to the pre-tax profit. Similar to earlier methodology, the operating cash flow is scaled by operating assets at the beginning of the year to make comparison across time and across firms. Operating asset is defined as book value of shareholders fund and total debt less cash and marketable securities at the beginning of the year.

Cash flow measures computed using the alternative measure of operating cash flow for 97 combined acquiring and target firms together with their respective control firms are reported in Table 11.1. The control adjusted operating performance is obtained by subtracting the control company measures of performance from the combined firm measures of performance for the respective takeover in the respective years. Similarly, the results for both medians and means are presented in the tables but emphasis is made on the former. Post acquisition performance changes for the combined firms can be observed by measuring the median change in operating performance before and after acquisitions as shown in Table 11.1.

¹⁹⁴ Murphy and Zimmerman (1993) regarded working capital accruals, defined as changes in trade debtors, stocks and prepayments less changes in creditors and other current liabilities, as the portion of profits over which manager can exercise the most discretion.

Table 11.1

Operating performance for 97 combined acquiring and target firms in years surrounding acquisitions completed in the period 1988-1992¹

Year relative to acquisition	Firm		Control		Control Adjusted			Number of Observations
	Median %	Mean %	Median %	Mean %	Median %	Mean %	% Positive	
-4	5.8	7.3	4.5	4.4	0.4	2.9	51.22	41
-3	7.8	7.1	7.1	4.8	-0.1	2.3	47.95	73
-2	6.0	8.0	7.1	8.3	-1.8	-0.4	38.46	91
-1	8.8	11.7	5.9	8.5	2.4 ^a	3.2 ^b	54.64	97
Average annual performance over years -1 to -4	6.8	8.9	6.2	7.0	-0.7	1.9	47.68	
+1	8.1	11.2	7.1	7.4	1.8	3.8 ^b	54.64	97
+2	8.6	12.6	6.5	7.7	2.8 ^b	4.9 ^b	62.89	97
+3	8.4	10.8	6.9	8.8	2.6	2.0	57.73	97
+4	8.7	13.3	6.4	8.1	2.6 ^c	5.2	58.76	97
+5	8.4	10.8	6.2	9.5	1.0	1.3	56.70	97
Average annual performance over years +1 to +5	8.4	11.7^c	6.6	8.3	2.3^b	3.4^b	58.14	

Panel B: Abnormal adjusted operating performance returns

$$AP_{post,i}^c = 0.02 + 0.26 AP_{pre,i}^c$$

(1.81)^b (3.22)^a
(2.16)^b (3.46)^a

$$R^2 = 0.10 \quad F\text{-statistic} = 10.3^a \quad N=97$$

$AP_{post,i}^c$ and $AP_{pre,i}^c$ are the median annual adjusted operating performance returns in the post and prior acquisition period for firm i .

t -statistics given in the second brackets were adjusted for heteroscedasticity (White correction).

¹ Operating performance in the pre acquisition period is calculated as pre-tax operating cash flow return (profit before tax, adjusted for depreciation, interest and goodwill) on operating assets of target and bidder, weighted by the relative asset sizes of the two firms. Post acquisition performance used data of the combined firms. Pre acquisition control returns are target control and bidder control values, weighted by the relative operating asset values of the two corresponding bidder and target firms at the beginning of the years. In the post acquisition period the weights used to compute control company returns are the relative operating asset values of the acquirer and target firms in year-1. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm in the same industry during that period.

² Mann-Whitney tests are conducted on median control adjusted figures

Wilcoxon signed rank tests are used to test the significance between the pre and post acquisition median annual performance

^a Significantly different from zero at the 1% probability level, using a two-tailed test.

^b Significantly different from zero at the 5% probability level, using a two-tailed test.

^c Significantly different from zero at the 10% probability level, using a two-tailed test

The results obtained with the alternative measure are generally consistent with the findings reported earlier in Table 9.4. The results are also consistent with those reported by Healy et al (1992, 1997) and Ghosh (1998) who found that the combined firms earned significant improvements in operating cash flow returns relative to their industries in the post acquisition period. The results in Table 11.1 indicate that the combined firms continue to show higher post acquisition operating performance relative to their control firms, albeit lower than the results that include changes in working capital accruals in the calculation for operating cash flow. As seen in the table, the median annual operating performance for the combined firms and control companies over the years -4 to -1 is 6.8% and 6.2%, respectively, and neither is significantly different from zero. The median annual operating return for the combined and control companies for years $+1$ to $+5$ is 8.4% and 6.6%, respectively, but both are not significantly different from zero. The median annual control adjusted pre acquisition performance for years -4 to -1 is -0.7% as compared to 0.46% in Table 9.4. The post acquisition median annual control adjusted performance for years $+1$ to $+5$ is 2.3% , significantly different from zero, as compared to 3.0% (significant) in Table 9.4. The Wilcoxon signed rank test used to test the significance between the pre and post acquisition median annual control adjusted returns indicate that the difference is significant at the 5% level.

In order to summarise the various annual performance measures into a single measure, the median control adjusted performance over the four years of pre acquisition is calculated for each firm with a similar measure calculated for the five years of post acquisition performance. Post acquisition median control adjusted performance is then regressed on the pre acquisition median performance in order to incorporate the relation between prior and post acquisition adjusted returns. Panel B of Table 11.1 shows the results of the regression on abnormal control adjusted operating returns. The intercept, α , is 0.02 (0.04 in Table 9.4), and it is significant at

the 5% level, indicating that the combined firms obtain a significant increase of 2.0% per year in the post acquisition period after controlling for the pre acquisition performance. The alpha value of 0.02 has the same significant level of 5% after performing White's (1980) heteroscedastic adjustment in Shazam.

Thus, the evidence presented in this section indicates that the finding of post acquisition performance improvements is not sensitive to the choice of measurement of operating cash flow, that is, whether or not changes in working capital is included in the calculation. Acquisitions in Malaysia do lead to improved firm operating performance in comparison to those companies that do not merge.

11.4 Operating Cash Flow After Interest

The sensitivity of the result to the amount of interest charges is also evaluated by repeating the analysis of operating cash flow returns using an alternative measure after adjustment for interest expense. Operating cash flow performance after interest is defined as operating profit before tax and extraordinary item but after interest, adjusted for depreciation, goodwill and changes in working capital divided by operating assets. It measures operating returns to the firms shareholders and is calculated after deducting the returns (interest) to the creditors. Table 11.2 reports the results of the alternative measure of cash flow after interest in years around acquisition. In comparison with their pre acquisition performance, the median annual post acquisition performance for years +1 to +5 for the combined firm is 6.3%, which is not significantly higher than the median annual performance of 4.2% during the 4-year period prior to acquisition.

Table 11.2

Operating performance for 97 combined acquiring and target firms in years surrounding acquisitions completed in the period 1988-1992¹

Year Relative to acquisition	Firm		Control		Control Adjusted			Number of Obser- vations
	Median %	Mean %	Median %	Mean %	Median %	Mean %	% Positive	
-4	5.7	5.9	4.6	3.8	2.9	2.2	58.54	41
-3	3.1	1.1	5.9	5.6	-6.8 ^b	-4.5	43.84	73
-2	3.7	3.7	5.2	-1	-0.6	4.7	48.35	91
-1	5.1	7.4	3.3	4	-0.2	3.3	49.48	97
Average annual performance over years -1 to -4	4.2	4.6	5.1	2.9	-0.4	1.7	49.01	
+1	4.7	7.6	3.3	3	0.8	4.5	50.52	97
+2	3.4	6.8	4.9	5.1	0.5	1.8	50.52	97
+3	7.1	8.5	4.5	1.9	4.0 ^c	6.6 ^b	59.79	97
+4	7.9	10.7	4.1	3.3	3.4 ^a	7.4 ^b	63.92	97
+5	7.9	10.2	3.8	3.2	4.3 ^a	0.07 ^b	65.98	97
Average annual performance over years +1 to +5	6.3	9.7^a	4.3	3.3	2.5^b	5.5^b	58.14	

Panel B: Abnormal adjusted operating performance returns

$$AP_{post,i}^c = 0.04 + 0.15 AP_{pre,i}^c$$

(3.14)^a (2.32)^b

(3.16)^a (1.99)^b

$R^2 = 0.05$ $F\text{-statistic} = 5.4^b$ $N = 97$

$AP_{post,i}^c$ and $AP_{pre,i}^c$ are the median annual adjusted operating performance returns in the post and prior acquisition period for firm i .

t -statistics given in the second brackets were adjusted for heteroscedasticity (White correction).

¹ Operating performance in the pre acquisition period is calculated as pre-tax operating cash flow return (profit before tax, depreciation and goodwill, but after interest and changes in working capital) on operating assets of target and bidder, weighted by the relative asset sizes of the two firms. Post acquisition performance used data of the combined firms. Pre acquisition control returns are target control and bidder control values, weighted by the relative operating asset values of the two corresponding bidder and target firms at the beginning of the years. In the post acquisition period the weights used to compute control company returns are the relative operating asset values of the acquirer and target firms in year-1. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm in the same industry during that period.

² Mann-Whitney tests are conducted on median control adjusted figures

Wilcoxon signed rank tests are used to test the significance between the pre and post acquisition median annual performance

^a Significantly different from zero at the 1% probability level, using a two-tailed test.

^b Significantly different from zero at the 5% probability level, using a two-tailed test.

^c Significantly different from zero at the 10% probability level, using a two-tailed test

Similarly, there is no significant change in performance of the control companies from the period before to that after the acquisition. The median annual performance of the control companies during the 4-year period prior to acquisition is 5.1% and in the 5-year post acquisition period is 4.3%. The median annual control adjusted returns in the pre acquisition period [-4 to -1] is -0.4% and it is not significantly different from zero. However, consistent with the evidence reported earlier, the combined firms show higher performance than their control companies in the post acquisition period. The median control adjusted performance for the combined firms are 4.0% in year 3, 3.4% in year 4, and 4.3% in year 5, all significantly different from zero. More than 50% of median control adjusted returns are positive in all five years post acquisition period. Overall, the median annual control adjusted performance improves from -0.4% in pre acquisition to 2.5% in post acquisition period, and the increase is significant at the 5% level using Wilcoxon signed rank test. During the period, 58.14% of the combined firms had annual performance higher than that of their control companies. The benefits of the acquisition as a spur to performance improvement are thus supported.

Similarly, the median value over the four years of pre acquisition adjusted performance is calculated for each firm with a similar measure calculated for the post acquisition performance. Post acquisition median performance is then regressed on the pre acquisition performance. As revealed in panel B of Table 11.2, the intercept α in the cross-sectional regression of post acquisition adjusted performance is 0.04, and it is significantly different from zero at the 1% level. A similar significant level of 1% level is observed in the intercept α after adjusting for heteroscedasticity using White's (1980) heteroscedastic adjustment in Shazam. The evidence in the current study indicates that there is a significant improvement in the combined firm's performance in the post acquisition period. Thus, interest charges have not swallowed up operating benefits of the combined firms after acquisition.

11.5 Net Profit Returns

Similar to previous empirical work that used accounting data (example Ravenscraft and Scherer, 1987, Utton, 1974 and Meeks, 1977), the current section focused explicitly on net profit margin, rather than operating profit, as an indicator of possible changes in performance following acquisitions. The results summarised in Chapter 4 on accounting based studies found little encouragement for the hypothesis that acquisitions actually enhance company performance. Examples of studies supporting the view that acquisitions do not result in improved performance are Mueller (1980) and Ravenscraft and Scherer (1987) in US, whilst those in UK are Singh (1971), Utton (1974), Meeks (1977) and Holl and Pickering (1988) and Dickerson et al. (1997). Only Lorie and Halpern (1970) and Lev and Mendelker (1972) in US have found that merging firms perform significantly better than non-merging firms.

Earlier accounting based studies used some variation of the rate of capital (usually total or net assets) to measure company performance. Ravenscraft and Scherer (1987) used operating income (before deducting interest, extraordinary items and taxes) divided by end of fiscal year asset, while Singh (1971), Utton (1974) and Meeks (1977) used pre-tax profit on net assets (total fixed assets plus current assets less current liabilities). Return on assets in Dickerson et al. (1997) is defined as pre-tax profits as a proportion of the average of opening and closing net assets. Return on asset in the current study is defined as net profit before tax divided by total assets at the beginning of the year. It measures the management's ability and efficiency in using the firms' assets to generate profits to all providers of capital (debt plus equity).

Similar to the methodology used earlier, pre and post acquisition profitability relative to that of the control firm is used to minimise the economic bias of comparing

the performance of firms at two different time periods. Thus, the main objective of the current section is to determine how the profit performance of the acquisition intensive firms perform after acquisition relative to the performance of firms (same size and industry) which did not merge.

The results of the analysis based on net profit returns are presented in Table 11.3. The median annual post acquisition performance for the combined firms for year +1 to +5 is 4.8%, but it is not significantly higher than the annual median performance of 3.5% during the 4-year period prior to acquisition. Similarly, there is an insignificant increase in net profit margin of the control companies during the same period, from 3.0% in the pre acquisition period to 4.2% in the post acquisition period. The results indicate that there is no difference in performance for either the combined firms or the control companies from pre to post acquisition.

The median annual control adjusted performance prior to acquisition is 0.2%, but this is not significantly different from zero, using Mann-Whitney test. The combined firms do not earn higher accounting return than the control companies prior to acquisition. In the post acquisition period, the median control adjusted performance of the combined firms slightly increase to 0.7% but the improvement is not significantly different from zero, using Wilcoxon signed-rank test. Thus, there is no indication that the takeover intensive firms have performed significantly better than companies that have not undertaken acquisitions in the post acquisition period.

Table 11.3

Performance for 97 combined acquiring and target firms in years surrounding acquisitions completed in the period 1988-1992¹

Year Relative to acqui- sition	Firm		Control		Control Adjusted			Number of Obser- vations
	Median %	Mean %	Median %	Mean %	Median %	Mean %	% Positive	
-4	3.1	3.4	1.8	3.4	-0.02	-0.01	48.78	41
-3	0.039	2.3	3.1	-1.3	-0.3	3.6	47.95	73
-2	3.1	3.0	3.5	-4.2	-0.9	7.2	46.15	91
-1	4.1	6.4	3.2	4.3	1.5	2.0	56.70	97
Average annual Performance over Years -1 to -4	3.5	3.9	3.0	0.3	0.2	3.7	50.33	
+1	4.33	7.0	3.5	5.0	0.2	2.0	51.55	97
+2	4.8	7.0	3.4	4.5	1.77 ^a	2.5 ^a	58.76	97
+3	4.7	6.2	5.1	5.5	0.04	0.6	50.52	97
+4	5.3	7.4	4.8	4.4	1.0	3.0 ^a	58.76	97
+5	5.1	6.4	3.7	5.5	1.7	0.9	55.67	97
Average annual performance over years +1 to +5	4.8	6.8^a	4.2	4.9	0.7	1.8	55.05	

Panel B: Abnormal adjusted net profit returns

$$AP_{post,i}^c = 0.01 + 0.02 AP_{pre,i}^c$$

(1.23) (0.66)
(1.24) (0.89)

$$R^2 = 0.005 \quad F\text{-statistic} = 0.443 \quad N=97$$

$AP_{post,i}^c$ and $AP_{pre,i}^c$ are the median annual adjusted net profit returns in the post and prior acquisition period for firm i .

t -statistics given in the second brackets were adjusted for heteroscedasticity (White correction).

¹ Performance in the pre acquisition period is calculated as profit before tax on total assets of target and bidder, weighted by the relative asset sizes of the two firms. Post acquisition performance used data of the combined firms. Pre acquisition control returns are target control and bidder control values, weighted by the relative asset values of the two corresponding bidder and target firms at the beginning of the years. In the post acquisition period the weights used to compute control company returns are the relative asset values of the acquirer and target firms in year-1. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm in the same industry during that period.

² Mann-Whitney tests are conducted on median control adjusted figures

Wilcoxon signed rank tests are used to test the significance between the pre and post acquisition median annual performance

^a Significantly different from zero at the 10% probability level, using a two-tailed test.

Panel B of Table 11.3 shows the results of the regression on abnormal control adjusted net profit returns. The intercept, α , is 0.01 and it is not significantly different from zero and the result remains insignificant after performing White's (1980) heteroscedastic adjustment in Shazam. Thus, there is no significant change in the combined firms' net profit returns in the post acquisition years relative to the pre acquisition performance.

The results in the current study are inconsistent with those reported by previous studies in UK and US using accounting data measurement (example, Singh, 1971, Meeks, 1977, Cosh, Hughes and Singh, 1980 and Ravenscraft and Scherer, 1987) who found that profitability performance of the combined companies decline in post acquisition period relative to their control firms. Even after using different rate of return measures, Dickerson et al. (1997) found that acquisitions are detrimental to company performance¹⁹⁵. The results found in this section are also inconsistent with that of the earlier measures reported in the current study. The only difference between the measure for net profit returns in this section and the earlier measure of operating profit return in Section 11.3 are depreciation charges and amortisation of goodwill. The insignificant result on net profit returns maybe due to the increase in depreciation and amortisation charges after the acquisition. Examining the latter expenses reveals that there is an increase in both expenses after acquisition relative to the year prior to acquisition (year -1). The depreciation charges for the combined firm increase on average by 87%, 136%, 187%, 234% and 325% in year +1, year +2, year +3, year +4, and year +5, respectively relative to year -1¹⁹⁶. During the same period, the mean of amortisation charges for the combined firm increase by 501%,

¹⁹⁵ In addition to pre-tax profits as a percentage of average net assets, Dickerson et al. (1997) also used pre-tax profits less interest provision divided by average net assets and operating profits as a percentage of average net assets in measuring their rate of returns.

¹⁹⁶ The rate of growth of depreciation (depreciation expenses divided by operating assets) for the combined firm also increase on average by 18%, 18%, 12%, 14% and 6% in year +1, year +2, year +3, year +4, and year +5, respectively relative to year -1. Over the same period, the median values are 12%, 13%, 7%, 2% and 4% relative to year -1.

567%, 622%, 942%, and 981% respectively. Most companies in Malaysia carry positive goodwill as an asset and amortise it through the profit and loss account over its useful economic life as permitted by the International Accounting Standard No. 22.

11.6 Summary

The focus of the current chapter is to present some evidence on examining post acquisition performance of 97 combined firms during the period 1988-1992 by using three alternative measures of performance. The first measure uses the operating cash flow return (operating profit before tax and extraordinary item, adjusted for depreciation, interest and goodwill divided by operating assets) similar to the definition given by Healy et al. (1992, 1997), Anand and Singh (1997) and Ghosh (1998). The other measures include return on operating cash flow net of interest (operating profit before tax and extraordinary item after interest and adjusted for changes in working capital divided by operating assets), and return on assets (net profit before tax and extraordinary item divided by total assets).

Different definitions of operating cash flow performance in the current chapter produce similar results to the post acquisition operating cash flow performance found in Chapter 9, indicating that the results are not sensitive to the choice of operating cash flow performance measures. The results presented in this chapter suggest that acquisitions in Malaysia during the period 1988-1992 produced positive post acquisition operating improvements regardless whether changes in working capital are adjusted or interest deducted from pre tax operating profit before or after acquisitions. However, there is no difference in post acquisition performance of the combined firms to that of their control companies when net profit returns are used as the performance measures. The insignificant net profit returns relative to the earlier performance measure of operating profit may be due to expenses such as

depreciation and goodwill being deducted from pre tax profit. However, the insignificant post acquisition rate of return indicates that there is no deterioration in the combined firms net profit returns after allowing for goodwill. This suggests that the acquiring firms have not overpaid the targets. The premium paid to the targets is justified by the improvement in operating performance.

..

The next chapter evaluates the efficacy of the takeover mechanism on post acquisition performance of the acquiring firms using market-based measures. It specifically examines whether acquisitions produce abnormal returns around the time of the event (announcement to outcome date) are a function not only on the market's expectation of the economic impact of the acquisition on future cash flows but also for the price that is paid for the operating improvement.

Chapter 12

Share Price Performance

12.1 Chapter Description

The main emphasis of this study has been the analysis of accounting based operating performance measures. However, to assess the consistency of alternative methodologies, the current chapter focuses on examination of returns to acquiring firm shareholders through the use of event study methodology.

Despite concerns over the validity of alternative asset pricing models, it is expected that share prices should reflect the value of future cash flows. The initial tests are therefore designed to test whether abnormal returns to bidding companies reflect the capitalised value of future cash flow improvements identified in earlier chapters. Fama (1970) argued that the capital market is efficient in reflecting publicly available information in share prices. Therefore, prices ought to reflect the present value of expected future cash flow streams, and any revisions to these (as a result of acquisitions) are expected to bring about a change in share prices. Thus, the main aim of the current chapter is to test whether the share price changes around the time of the takeover (announcement to outcome date) reflects the market's expectation of the economic impact of the acquisition on future cash flows. A further objective of the current chapter is to examine if the share price changes around the time of the event is a function not only on the expectation of operating performance but also for the premium that is paid for the target. The third aim is to test whether there is any correlation between the long-term share price reaction, the change in post acquisition operating cash flow, and the premium paid for the target.

12.2 Data and Methodology

The initial wealth effects of the takeover for the acquiring firm shareholders is measured by reviewing the share performance of the acquiring firms over an observation period from 5 days prior to the announcement date to 5 days after the outcome date. The list of 97 listed acquiring and control companies, and 117 target firms (3 public listed, 1 non-public listed and 113 private firms) for the period 1988-1992 used in analysing the operating cash flow performance of companies in Chapter 9 are again used here. There are instances where an acquiring firm takes over more than one target on the same date in a year (with the same outcome date) and this is considered as one acquisition. Similar to the techniques used in measuring post acquisition cash flow performance, frequent bidders (bidders making more than 1 bid in subsequent years) are also included in the current analysis. As mentioned earlier, there is a practical problem of data availability and excluding frequent bidders would reduce the data set considerably.

The event study methodology used in the current analysis is similar to the technique developed by Fama et al. (1969). The abnormal return associated with the event, also known as the 'wealth effect', is a measure of the abnormal gain or loss to shareholders attributable to the event. This residual or abnormal return (AR) for each firm (j) and for each time period (t) is the difference between its predicted return and its actual (observed) return (capital gains plus reinvested dividends), written as:

$$AR_{jt} = R_{jt} - E(R_{jt})$$

where

AR_{jt} = abnormal return on security j for period t

R_{jt} = actual return

$E(R_{jt})$ = expected return

The actual return is the observed return on the share (share price changes and dividend payments) and the expected return is a measure of the return on the share one would have expected had no event taken place. As discussed in Chapter 4, the expected or 'normal' return may be predicted by a variety of models such as the capital asset pricing model (CAPM), the market model and the index model. Firth (1980) and Barnes (1980) based their analysis exclusively on the market model while other UK studies including Franks and Harris (1989), Limmack (1991), Gregory (1997) and Baker and Limmack (1999) used different models as benchmarks when analysing the effect of acquisitions on share price around the bid period. For example Franks and Harris (1989) examine the effects of 1800 UK acquisitions on shareholder wealth around the bid period by using the market model, simple index model and CAPM.

Similarly, studies by Franks et al. (1991), Agrawal et al. (1992), Gregory (1997) and Baker and Limmack (1999) used different models as benchmark to examine the effect of long-term share price performance of acquiring firms. For example, Gregory (1997) employed CAPM, the Dimson and Marsh (1986) risk and size adjusted model, two CAPM-type models extended for size effects, the size adjusted model of Dimson and Marsh (1986), and the Fama and French (1996) three-factor model to test for the sensitivity of the results choice of control models¹⁹⁷. Franks et al. (1991) claimed that long-term returns are sensitive to the benchmark used.

Previous studies in Malaysia (Mat Nor 1993, Md. Isa, 1994 and Mohammad, 1993) used the market model to compute abnormal returns around the announcement period where the KLSE's Composite Index is used as the proxy for market returns. The difference between previous studies in Malaysia and the current

¹⁹⁷ For example, the abnormal return in Gregory's (1997) study when the simple size control portfolio is used is measured as company's actual return less the return on size control portfolio.

study lies in the computation of expected return that employs both size controls and controls for survivorship bias. Baker and Limmack (1999) and Lyon et al. (1999) stated that some form of survivorship bias might arise when a market index is used as the benchmark in event studies of long-run abnormal returns. They argued that the effect of the bias is to compare a group of surviving acquiring firms with another group of surviving and non-surviving firms that may have been delisted, newly listed or becoming target firms themselves¹⁹⁸. Rather than using a market index, the control selected in this study is that of non-acquiring companies in the same industrial classification as those of the acquiring firms set matched by year and size. The non-acquiring companies are selected from those companies which survive for the entire period under investigation (4 years pre and 5 years post period), matched by time period and industrial classification. Controlling for size is undertaken as higher returns have been observed for the securities of smaller companies (Dimson and Marsh, 1986). Although size is of lesser importance in studies of short event periods, evidence from Dimson and Marsh (1986) and Fama and French (1992) suggest that an adjustment for firm size is important in studies measuring long run abnormal returns¹⁹⁹.

The current analysis measures abnormal returns using a buy-and-hold returns approach similar to that used by Loughran and Vijh (1997), Higson and Elliot (1998) and Lyon et al. (1999). Abnormal returns are measured by the difference between the holding period returns of sample firms and control companies (chosen to control for size and industry effects), expressed as:

¹⁹⁸ However, Baker and Limmack (1999) found that the negative post abnormal returns to acquiring firms in their study are not a function of survivorship bias.

¹⁹⁹ Dimson and Marsh (1986) used size decile control portfolios, the risk and size control model while Fama and French (1996) used the multi-factor benchmark approach. Similar to Fama and French, Gregory (1997) also used the three-factor model, where the factors are the excess returns to market, the value-weighted return between high book-to-market (BMV) firms and low BMV firms, and the difference in returns between large and small companies. However, Kennedy and Limmack (1996) and Gregory (1997) did not find size to bias their results.

$$AR_j = HPR_{B_j} - HPR_{C_j}$$

where

AR_j is the abnormal return of firm j

HPR_{B_j} is holding period returns of acquiring firm j

HPR_{C_j} is holding period returns of control firm j

As mentioned earlier, bidder controls are those having similar size and in the same industry as the bidder. Size is defined as book value of shares plus reserves plus book value of debt less cash and marketable securities²⁰⁰.

The holding period returns of acquiring (HPR_B) and control companies (HPR_C) for security j at time period t are calculated as follows:

$$HPR_{B_j \text{ or } C_j} = \left[\frac{P_{jt} + D_{jt} - P_{jt-5}}{P_{jt-5}} \right]$$

where

P_{jt} = closing price for security j at day t

P_{t-1} = closing price for security j at day $t-5$

D_t = gross of tax dividend for security j at day t

The measurement of acquisition returns in the current study is computed for each share using the daily data from the Bloomberg database at the KLSE library or obtained from the KLSE Daily Diary²⁰¹. The announcement date or day 0 is identified as the date of the first press release of the takeover bid as recorded in the

²⁰⁰ Loughran and Vijh (1997) and Lyon et al. (1999) matched acquiring firms with control firms by their size (market value of equity) and book-to-market value while control firms in the study by Higson and Elliot (1998) are matched to acquiring firms by market capitalisation and assigned by size to ten equal dollar portfolios.

²⁰¹ Healy et al. (1992) and Manson et al. (1994) also used daily data when measuring abnormal return around announcement period.

companies' file of the KLSE library. The completion or the outcome date is the date on which the offer becomes unconditional, as recorded in the company's file at the KLSE.

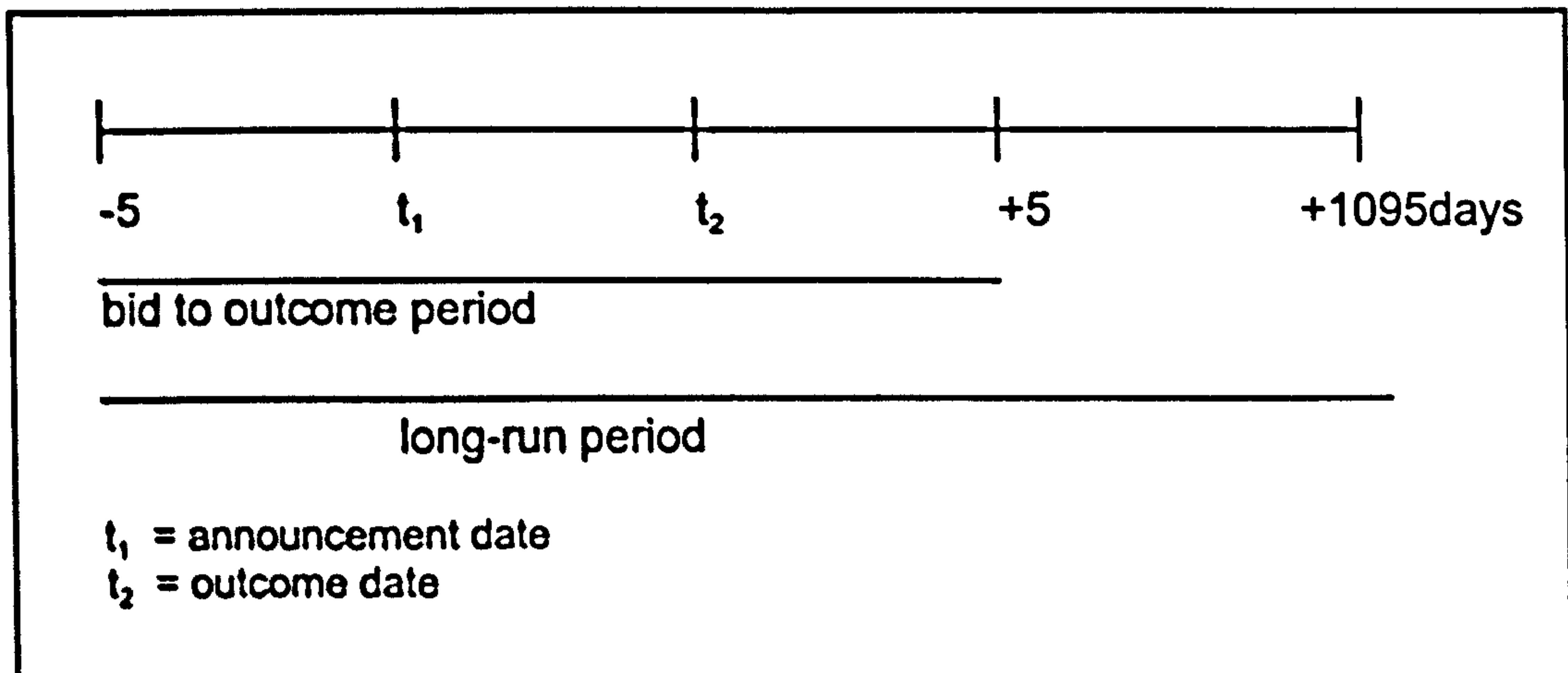
The initial analysis measures returns for the entire bid period (from the announcement to the outcome date)²⁰². Asquith (1983) and Malatesta et al. (1985) suggested that the latter practice captures more completely the wealth changes arising from acquisition activity. According to Asquith (1983) the partially anticipated event or the bid outcome is known with certainty for relatively few bids at the bid announcement date. As new information concerning the likelihood of the bid succeeding becomes available, subsequent changes in returns will occur between the announcement date and outcome date. The holding period returns over an observation period, day -5 prior to the announcement date to day +5 after the completion date (in trading days), are estimated in the current study. Inclusion of the identified announcement day and the outcome date ensures that the period under study encompasses the period of 'uncertainty' concerning the bid outcome, and is more likely to capture the wealth effects of the completed bid.

In addition to the above, the long-term share price effect of the bid is also examined by extending the analysis to include longer event windows. The holding period returns from day -5 prior to the announcement date to day +1095 days (3 years) after the completion date is estimated to test whether there is any long-run share price impact of the bid. The periods tested are illustrated by means of the diagram in Figure 12.1.

²⁰² Mat Nor (1993) used 200 days before and 200 days after the announcement date in measuring the effects of acquisitions on acquiring firms' returns in Malaysia. On the other hand, Md Isa (1994) used 50 days before and 50 days after the announcement date while Mohammad (1993) used 60 days before and 60 days after the announcement date in determining the abnormal returns for the acquiring firms.

Figure 12.1

Time diagram Identifying the relevant periods within the bid-outcome and post acquisition period



In relating the share price returns of acquiring firms around the bid period and expected future improvements in operations, a model is developed as follows:

$$\text{Abnormal return to acquiring firms shareholders} = f \text{ (change in operating performance, premium paid for the target)}$$

The above model is based on the assumption that the abnormal return to the acquiring firms shareholders are a function not only of the expected future changes in operating cash flow but also of the premium paid for the target. The premium paid is computed as a return, in the form:

$$\text{Rate of premium paid} = \frac{\text{Takeover Premium}}{B_{t-5} + T}$$

where

takeover premium is the difference between the price paid for the target and market value of target at time $t-5$,

B_{t-5} is the market value of bidders at time $t-5$, and

T is the price paid for the target.

Market value of targets are not available since the targets are non-listed. Thus, similar to the method used by Berger and Ofek (1996, 1997) and Servaes (1996), the market value of target is estimated using multiplier relationships. Two alternative valuation relationships are applied, the first based on the market value of the control company to the assets and the second compared to the sales of the control²⁰³. To test the robustness of the results, both asset and sales multipliers are used in the current study. These multipliers are then applied to the target assets and sales, respectively in the year prior to the bid. The total value of target control is defined as the market value of equity plus the book value of debt²⁰⁴. For example, consider a target firm and a target control with the following information.

	<u>Target Firm</u>	<u>Control Firm</u>
Sales	20,000	100,000
Total Assets	8,000	15,000
Total Debt	3,000	5,000
Market Value (at t-5) (market value of equity plus book value of debt)		50,000

Using the asset multiplier, the market value of the target is estimated as the target's assets multiplied by target control market value to asset ratio, that is, $8,000 \times (50,000/15,000) = 26,667$. In order to obtain market value of equity for target firms,

²⁰³ Berger and Ofek (1996, 1997) and Servaes (1996) define excess value, or the gain or loss in value from diversification as the natural logarithm of the ratio of a firm's actual value to its imputed value. Actual value is defined as market value of equity plus total book value of debt and imputed value is the sum of imputed value of the firm's segments.

²⁰⁴ The book value of debt is used since the market value of debt securities of Malaysian companies are not easily obtained.

total debt is deducted from the imputed market value of target, that is, $26,667 - 3,000 = 23,667$. Using the sales multiplier, the market value of the target is equal to the target's sales multiplied by target control market value to sales ratio, that is, $20,000 \times (50,000/100,000) = 10,000$. Similarly, the market value of equity for target firms using the sales multiplier is estimated as $10,000 - 3,000 = 7,000$.

A new set of listed target controls is selected from the set of non-target companies in the same industrial classification as those of the respective target companies, set matched by year and size (as far as possible)²⁰⁵. Similar to the technique used in selecting bidder controls, size for target control companies is computed from their respective financial statements obtained from the Kuala Lumpur Stock Exchange (KLSE) Annual Handbook. The companies are ranked each year based on size within their respective industry. The listed company that is closest in size and from the same industry as the non-listed target is identified as the target control. None of the target controls were either the subject of a bid or made a bid themselves during the period of study (1988-92). A total of 117 listed target controls are finally identified, one for each target firm in the sample.

The following regression is used to test whether the abnormal returns of acquiring firm around the bid to outcome period reflects expected improvements in future cash flows from operations:

$$AR_i = \alpha + \beta CAP^c + \varepsilon \quad (\text{Equation 14})$$

where

AR_i = abnormal return around the bid to outcome period for takeover i

²⁰⁵ Size is again measured as book value of total asset (book value of shareholders fund plus book value of debt less cash and marketable securities).

CAP^C = change in control adjusted operating performance of the newly combined firm following the acquisition

β = captures any correlation between AR_i and CAP^C .
If there is any relationship between AR_i and CAP^C , β ought to be significantly greater than 0.

The above regression is further extended by the inclusion of a variable to present the premium paid for the target, as follows:

$$AR_i = \alpha + \beta CAP^C + \phi \text{ premium paid} + \varepsilon \quad (\text{Equation 15})$$

ϕ = captures any correlation between AR_i and the premium paid.

If there is any relationship between AR_i and the premium paid, ϕ ought to be significantly greater than 0.

(The descriptions of the other symbols are as explained in equation 14 above)

Substituting (AR_i) in the regression above to ($AR_{i \text{ post}}$) tests whether there is any relationship between the abnormal return to shareholders of acquiring firm post acquisition to that of the improvement operating cash flow returns and the premium paid for the target.

$$AR_{i \text{ post}} = \alpha + \beta CAP^C + \phi \text{ premium paid} + \varepsilon \quad (\text{Equation 16})$$

Where

$AR_{i \text{ post}}$ = the long-term abnormal return for takeover i .

(Other symbols are as explained in equation 14).

12.3 Hypotheses

12.3.1 Bid Period Return

The results of market-based studies in US and UK indicate that on average shareholders of the target firms earn abnormal returns during bid period, but the evidence on the returns to the acquiring firms during the bid period is mixed. (examples include Jarrell and Poulsen, 1989, Hubbard and Palia, 1995, Harford 1999, Franks and Harris, 1989, Limmack 1991, and Sudarsanam et al., 1996). Studies undertaken in Malaysia have reported similar results in that target firm shareholders earn abnormal returns while acquiring firms do not gain as much around announcement period (Mat Nor, 1993, Md Isa, 1994 and Mohammad, 1993).

Given the reported improvement in post acquisition operating cash flow return in the current study, it is hypothesised that acquiring firms will earn significant abnormal returns around the bid to outcome period.

Hypothesis 16 – Return to acquiring firms around bid to outcome period

- H₀: There is no significant abnormal return to acquiring firm shareholders around the bid to outcome period
- H_a: There is significant abnormal return (positive or negative) accrued to acquiring firm shareholders around the bid to outcome period

As mentioned earlier, the main aim of the current chapter is to examine if the operating cash flow improvements in Chapter 9 is able to explain acquiring firm shareholders abnormal share return around the bid period. In an analysis of the post acquisition cash flows and overall performance of the 50 largest acquisitions in the

US between 1979 and 1984, Healy et al. (1992) provide evidence that the change in share market value at acquisition announcement reflects cash flow return improvements in the post acquisition period. They found that positive abnormal share returns to shareholders of combined firms around the announcement period are significantly correlated with post acquisition improvement in cash flow. Manson et al. (1994) also found that the estimates of the operating gains from takeover are significantly correlated with the market's assessment of the total gain.

Based on the above arguments, it is hypothesised that there will be a positive relationship between the abnormal return to shareholders of acquiring firms around the bid period and the change in operating cash flows.

Hypothesis 17 – Relationship between cash flow and market performance

- H_0 : There is no relationship between share price reaction of acquiring firms around the bid period and the subsequent cash flow changes
- H_1 : There is significant relationship between share price reaction of acquiring firms around the bid period and the subsequent cash flow changes

This section also tests whether the acquiring firms share returns around the bid period is a function not only of future expectation of operating performance changes but also of the premium that is paid for the target. As it is not possible to identify expected operating performance changes, the actual changes are used instead. Thus, it is hypothesised that there is a significant correlation between the share price reaction of acquiring firms around the bid period, the change in the operating cash flow, and the premium paid for the target.

**Hypothesis 18 – Relationship between cash flow, market performance
and premium paid to target**

- H₀: There is no significant relationship between the share price returns for the acquiring firms around the bid period, the subsequent cash flow changes, and the premium paid for the target
- H_a: There is significant relationship between the share price returns for acquiring firms around the bid period, the subsequent cash flow changes, and the premium paid for the target

12.3.2 Long-Run Share Return

The current study is also interested in evaluating share price returns over a long term period following the takeover²⁰⁶. Thus, the present study also measures share price returns over the period –5 days prior to announcement to + 1100 days (3 years) after the outcome date.

Event studies that focused on share price returns around the announcement period, as discussed in the previous section, have found that acquisitions are expected to improve shareholders wealth gains. However, some of the literatures on post acquisition performance show some evidence of a downward drift in share returns for acquiring companies after takeover. Franks et al. (1988), Lahey and Conn (1990), Clark and Ofek (1994) and Agrawal et al.'s (1992) are among market-based studies in US that find significantly negative abnormal returns after acquisitions. Only

²⁰⁶ Event studies in Malaysia by Mat Nor (1993), Md Isa (1994) and Mohammad (1993) found that acquiring firms earned negative returns months after the announcement date.

Franks et al. (1991) and Loderer and Martin (1992) did not find negative post acquisition returns. Studies of post acquisition returns to bidders in UK acquisitions (for example Limmack, 1991, Kennedy and Limmack, 1996, Sudarsanam et al., 1996, Gregory, 1997, and Baker and Limmack, 1999) also report long term negative post acquisition returns for the acquiring firms. Only Franks et al. (1989) find that acquiring firms in the brewery industry gain in the long run from acquisition, while Franks and Harris (1989) provides conflicting results depending on the benchmark control used²⁰⁷.

Given the reported improvement in the post acquisition operating cash flow in the current study, it is hypothesised that there will be a positive relationship between the long term share returns (-5 days prior to the announcement to 3 years after the outcome date) and the change in post acquisition operating cash flow.

Hypothesis 19 – Relationship between cash flow and share price performance

H₀: There is no significant relationship between long-run share returns and the change in post acquisition operating performance

H_a: There is significant relationship between long-run share returns and the change in post acquisition operating performance

It is also hypothesised that there is a significant correlation between the long-run abnormal share returns of acquiring firms, the change in post acquisition operating cash flow and the premium paid for the target.

²⁰⁷ Franks and Harris (1989) showed significant negative post acquisition returns when the market model is used, but a significant positive post acquisition returns when the capital asset pricing model (CAPM) is used as a benchmark.

Hypothesis 20 – Relationship between cash flow and share price performance plus premium paid

H₀: There is no significant relationship between the long-run share price reaction of acquiring firms, the subsequent cash flow changes and the premium paid for the target

H_a: There is significant relationship between the long-run share price reaction of acquiring firms, the subsequent cash flow changes and the premium paid for the target

12.4 Findings

Both median and mean buy-and-hold returns are reported although emphasis is made on medians since the returns, especially long-term returns are subject to problems of positive skewness which may lead to negative biased *t*-statistics (Barber and Lyon, 1997 and Lyon et al., 1999). Non-parametric tests (Mann-Whitney) are used to test for the difference in median returns while the Student *t*-tests are used to test the mean returns. The results in Table 12.1 report the abnormal returns of acquiring firms and control companies for all samples, single and multiple acquisitions over an observation period of day –5 prior to the announcement date to day +5 after the completion date. The table also reports the median and mean difference between the returns for acquirer and matching firms over the same period. As shown in Table 12.1 (for all sample), the acquiring firms have a median holding period return of 11.5% (73.1% of bidders earn positive returns) over an observation period of day –5 prior to the announcement date to day +5 after the completion date while the corresponding figure for their matching firms is 3.8% (59.8% of control bidders earn positive returns). The mean buy-and-hold return for acquiring and control companies is 21.3% and 10.1%, respectively. The abnormal return is measured as the difference between the holding period returns of the bidder firms and the control companies.

Table 12.1**Abnormal returns around the bid period^a
(t-values and z-values in parenthesis)**

	<i>All Samples</i>			<i>Single Acquisitions</i>			<i>Multiple Acquisitions</i>		
	<i>Median</i>	<i>Mean</i>	<i>Percentage</i>	<i>Median</i>	<i>Mean</i>	<i>Percentage</i>	<i>Median</i>	<i>Mean</i>	<i>Percentage</i>
	<i>%</i>	<i>%</i>	<i>Positive</i>	<i>%</i>	<i>%</i>	<i>Positive</i>	<i>%</i>	<i>%</i>	<i>Positive</i>
1. Acquiring firms	11.5	21.3	73.1 ^b	8.2	13.6	76.3	11.8	20.2	71.1
2. Bidder controls	3.8	10.1	59.8 ^c	2.6	6.3	55.3	7.9	12.4	62.7
3. Difference 1-2	9.4 (1.86) ^c	11.2 (2.1) ^b	60.8 ^b	8.3 (1.86) ^c	7.2 (1.83) ^b	57.9 ^c	9.7 (1.72) ^c	13.8 (2.1) ^b	62.7 ^b
4. No. of observations	97	97		38	38		59	59	

^a The table describes the holding period returns of 97 acquiring firms and 97 control firms during the period from day -5 prior to the announcement date to day +5 after the completion date for all samples, single acquisitions and multiple acquisitions. Multiple acquisitions are those companies that made more than one bid during the investigation period 1988-1992. Abnormal return is defined as the difference between the holding period returns of sample firms and bidder controls. Bidder controls are those having similar size and in the same industry as the bidder.

^b Significantly different from zero at the 5% probability level, using a two-tailed test.

^c Significantly different from zero at the 10% probability level, using a two-tailed test.

Row 3 in Table 12.1 shows that the median and mean difference between the acquiring and control companies (all samples) is 9.4% and 11.2%, respectively, over the bid period. Both are significantly different from zero (at the 10% and 5% level, respectively). The proportion of acquiring firms with returns that are significantly higher than that of their control companies during the observed period is 60.8%, and this is significant at the 5% level.

The sample is subdivided into single and multiple acquisitions and the results are consistent to those found for all samples. The results indicate that acquiring firm shareholders in Malaysia achieve a significant positive abnormal return over the announcement to outcome period. The finding differs from those reported in earlier Malaysian studies by Mat Nor (1993), Md Isa (1994) and Mohammad (1993), possibly because the analysis in the current study included both the period surrounding announcement and outcome date whereas the former studies confined analysis to the period surrounding the announcement date²⁰⁸. Thus, the null hypothesis 16 ($H_{0,16}$) of no significant abnormal return to acquiring firm shareholders around bid to outcome period is rejected.

The next section tests whether the abnormal returns of acquiring firms around the bid period are a function of future expectation of operating cash flow performance and the premium paid for the target. The results are summarised in Table 12.2. Regression 1 in column 1 of Table 12.2 reports that the slope coefficient β on the change in control adjusted operating performance is 0.429 (significantly different from zero at the 5% level). The coefficient remain significant (at the 5% level) after White's (1980) adjustment for heteroscedasticity. The results indicate that the market seems to anticipate that acquiring firms are likely to improve their future cash flows. Thus, the null hypothesis 17 ($H_{0,17}$) of no significant relationship between the share price reaction of acquiring firms around the bid period and the expectation of cash flow improvements is rejected. The capitalisation of expected future improvements in operations around the bid period is consistent with the cash flow analysis reported in Chapter 9.

²⁰⁸ The earlier Malaysian studies reported that acquiring firms earned insignificant returns during the announcement date, either measured as [day -1 to 0] or [day -5 to +5].

Table 12.2

Relationship between the abnormal returns around bid to outcome period, the change in control adjusted operating performance, and the premium paid for the target¹.

(t-value in parentheses)

	<i>Reg 1</i>	<i>Reg 2</i>	<i>Reg 3</i>
Constant	0.103 (2.27) ^b (2.41) ^b	0.098 (2.17) ^b (2.34) ^b	0.117 (2.61) ^b (2.80) ^a
Change in control adjusted operating performance	0.429 (2.05) ^b (2.42) ^b	0.403 (1.94) ^c (2.41) ^b	0.46 (2.23) ^b (2.72) ^a
Premium (asset multiplier)		0.07 (1.67) ^c (2.32) ^b	
Premium (sales multiplier)			0.008 (2.15) ^b (6.64) ^a
R²	0.042	0.07	0.09
F-statistics	4.192 ^a	3.53 ^a	4.49 ^a
No. of observations	97	97	97

¹ Abnormal return is the difference between the holding period returns of sample firms and bidder controls. Holding period is measured from day -5 prior to the announcement date to day +5 after the completion date. Bidder controls are those having similar size and in the same industry as the bidder. Change in control adjusted operating performance is measured as the change of post acquisition control adjusted operating performance from pre acquisition period. Operating performance is defined as operating cash flow deflated by the book value of operating assets (book value of equity plus debt less cash and marketable securities) at the beginning of the year. Premium return is measured as the difference between the price paid for the target and market value of target divided by the market value of bidders at day -5 prior to the announcement date plus the price paid for the target. Using asset multiplier, the market value of the target is estimated as the target's assets multiplied by target control market value to asset ratio. Using sales multiplier, the market value of the target is estimated as the target's sales multiplied by target control market value to sales ratio.

t-statistics given in the second brackets were adjusted for heteroscedasticity (White correction).

^a Significantly different from zero at the 1% probability level, using a two-tailed test.

^b Significantly different from zero at the 5% probability level, using a two-tailed test.

^c Significantly different from zero at the 10% probability level, using a two-tailed test.

The findings in the current study is also consistent to that found by Healy et al. (1992) and Manson et al. (1994) who provide evidence of significant correlation between abnormal returns of combined firms around acquisitions and acquisition induced changes in cash flows.

Regressions 2 and 3 in column 2 and 3 of Table 12.2 includes the two version of the variable representing the premium paid for the target using asset and sales multipliers, respectively. The results in column 2 of Table 12.2 report that the slope coefficient on the change in operating cash flow is 0.403 and the coefficient on premium paid using asset multiplier is 0.07, and that both are statistically significant at the 10% level. Both the coefficients remain significant (at the 5% level) after White's (1980) adjustment for heteroscedasticity. Similarly, the results in column 3 show that, when sales multiplier is used in measuring market value of target, both the coefficient on the change in operating performance and the premium paid are statistically significant²⁰⁹. Thus, the null hypothesis 18 ($H_{0,18}$) of no significant relationship between the share returns and the subsequent cash flow changes and the premium paid for the target is rejected. The results imply that the share price reaction of the acquiring firms over the bid to outcome period reflects both the expected future improvement in operating cash flow and the premium paid for the target.

The long-run abnormal returns to acquiring firms over the period -5 days prior to announcement date to +1100 days (3 years) after the outcome date are summarised in Table 12.3. The overall sample of 97 acquiring firms (column A) has a median buy-and-hold return of 57.8% (78.4% of the bidders earn positive returns) compared to 66.8% (86.6% positive abnormal returns) for their control companies

²⁰⁹ An insignificant result is observed when the change in operating cash flow improvement is regressed on the premium paid to the targets indicating that the two variables are not related.

over the same period, and both are not significantly different from zero. The mean buy-and-hold return over the same period is 99.0% and 96.2% for acquiring firms and control companies, respectively.

Table 12.3

Abnormal returns in post acquisition period^a
(t-values and z-values in parenthesis)

	COLUMN A All Samples			COLUMN B Single Acquisitions			COLUMN C Multiple Acquisitions		
	Median %	Mean %	Perce- -tage Posi- -tive	Median %	Mean %	Perce- -tage Posi- -tive	Median %	Mean %	Perce- -tage Posi- -tive
1. Acquiring firms	57.8	99.0	78.4 ^b	53.5	94.2	81.1	66.4	95.8	79.7 ^b
2. Bidder controls	66.8	96.2	86.6 ^b	81.3	95.8	89.1	66.8	86.7	84.7 ^b
3. Difference 1-2	-10.4 (-0.86)	2.9 (0.39)	46.4	1.8 (0.416)	-1.7 (-0.62)	51.1	-9.6 (-0.48)	6.1 (0.52)	45.8
4. No. of observations	97	97		38	38		59	59	

^a The table describes the holding period returns of 97 acquiring firms and 97 control firms during the period from day -5 prior to the announcement date to day +1100 after the completion date. Multiple acquisitions are those companies that made more than one bid during the investigation period 1988-1992. Abnormal return is the difference between the holding period returns of sample firms and bidder controls. Bidder controls are those having similar size and in the same industry as the bidder.

^b Significantly different from zero at the 10% probability level, using a two-tailed test.

The long-run abnormal return of the acquiring firms is measured as the difference between the holding period returns of acquiring firms and control companies. The median return difference between the acquiring and control firms is -10.4%, and it is not significantly different from zero. Only 46.4% of acquiring firms earn a higher return than the relevant control. The single acquisition sample (Column B) and multiple acquisition sample (Column C) also report insignificant long-run abnormal returns for the acquiring firms. The results indicate that the acquiring firms in Malaysia experience no difference in abnormal returns to that of control companies

in post acquisition period. The results are inconsistent with those of UK studies (example, Firth, 1980, Franks and Harris, 1989, Limmack, 1991, Gregory, 1997, and Baker and Limmack, 1999) and in US (Franks and Harris, 1989 and Agrawal et al., 1992) that document a pattern of long-run negative post bid returns to shareholders of acquiring firms.

Table 12.4

Relationship between the long-run abnormal returns, the change in control adjusted operating cash flow performance, and the premium paid for the target¹.

(t-value in parentheses)

	<i>Regression 1</i>	<i>Regression 2</i>
Constant	0.098 (0.384) (0.391)	0.171 (0.669) (0.667)
Change in control adjusted operating performance	-0.245 (-0.209) (-0.401)	-0.038 (-0.033) (-0.075)
Premium (asset multiplier)	0.236 (0.991) (1.481)	
Premium (sales multiplier)		0.031 (1.48) (1.78)
R²	0.011	0.023
F-statistics	0.501	1.107
No. of observations	97	97

¹ Abnormal return is the difference between the holding period returns of sample firms and bidder controls. Holding period is measured from day -5 prior to the announcement date to day +1100 after the completion date. Bidder controls are those having similar size and in the same industry as the bidder. Change in control adjusted operating performance is measured as the change of post acquisition control adjusted operating performance from pre acquisition period. Operating performance is defined as operating cash flow deflated by the book value of operating assets (book value of equity plus debt less cash and marketable securities) at the beginning of the year.

Premium return is measured as the difference between the price paid for the target and market value of target divided by the market value of bidders at day -5 prior to the announcement date plus the price paid for the target. Using asset multiplier, the market value of the target is estimated as the target's assets multiplied by target control market value to asset ratio. Using sales multiplier, the market value of the target is estimated as the target's sales multiplied by target control market value to sales ratio.

t-statistics given in the second brackets were adjusted for heteroscedasticity (White correction).

Examination of the relationship between the share price reaction of acquiring firms post acquisition, the change in post acquisition operating cash flow, and the premium paid for the target produce the results as shown in Table 12.4. The results in column 2 and 3 of the table indicate that there is no significant relationship between the post acquisition abnormal returns, the change in post acquisition operating cash flow returns, and the premium paid for the target. The results in column 1 of Table 12.4 show that the slope coefficient on the change in operating cash flow (-0.245) and the coefficient on premium paid (0.236), but neither are statistically significant when asset multiplier is used in measuring market value of target. Similarly when using sales multiplier in measuring market value of target, the results in column 2 show that the coefficients on the change in operating performance and on the premium paid are not statistically significant. Thus, the null hypothesis H_{020} of no significant relationship between long-run abnormal returns, the change in operating performance, and the premium paid for the target is accepted.

The insignificant post acquisition abnormal returns 3 years after the outcome date is similar to the results found using the accounting rate of return in Chapter 11, but is inconsistent with the improvement in operating cash flows reported in Chapter 9. The post acquisition abnormal return is regressed on the change in the control adjusted accounting rate of return with the results summarised in Table 12.5. The coefficient on the change in net profit is 0.682 and it is significantly different from zero at the 5% level. The result indicates that there is a positive relationship between the post acquisition abnormal returns and the accounting rate of return.

Table 12.5

Relationship between the abnormal returns post acquisition period and the change in control adjusted net profit performance¹.

The regression equation used is:

$$AR_{i,post} = \alpha + \beta \text{ Change in net profit return} + \varepsilon$$

(t-value in parentheses)

	<i>Regression</i>
Constant	0.104 (0.67) (0.44)
Change in control adjusted operating performance	0.682 (2.01) ^a (2.61) ^a
R²	0.041
F-statistics	4.033 ^a
No. of observations	97

¹ Abnormal return is the difference between the holding period returns of sample firms and bidder controls. Holding period is measured from day -5 prior to the announcement date to day +1100 after the completion date. Bidder controls are those having similar size and in the same industry as the bidder. Change in control adjusted net profit return is measured as the change of post acquisition control adjusted net profit from pre acquisition period. Net profit return is defined as profit before tax deflated by the total assets at the beginning of the year.

t-statistics given in the second brackets were adjusted for heteroscedasticity (White correction).

^a Significantly different from zero at the 5% probability level, using a two-tailed test.

12.5 Summary

The current chapter examines whether the acquiring firm shareholder wealth changes over the announcement to outcome period is a function on expectation of operating performance and the premium paid for the target. Acquiring firm abnormal return is measured as the excess of the buy-and-hold return to the acquiring firm over that of its control firms (matched by similar size and industry). The results provide evidence that acquiring firms earn significant positive returns relative to their control companies over an observation period of day -5 prior to the announcement date to

day +5 after the completion date. There is also a significant positive correlation between the share price returns of the acquiring firms around acquisitions, the change in post acquisition cash flow and the premium paid for the target. The results indicate that the share price changes at the announcement period are not only related to the expectations of subsequent cash flow improvement but also to the premium paid to the targets. Essentially, there is a greater likelihood for bidders to pay higher premium to the targets if they expect higher returns from the increased opportunities to share resources and activities as a result of the acquisitions. The significant positive coefficient on the premium paid to the targets found in the study is consistent with this view.

In analysing the long-run share price returns, the result show that there is an insignificant post acquisition returns to acquiring firms in Malaysian acquisitions over the period -5 days prior to announcement date to +1100 days (3 years) after the bid completion. The insignificant post abnormal returns 3 years after the outcome date is inconsistent with some studies reported in UK and US that found long-run negative returns for the acquiring firms. However, the result found in this study is consistent with the efficient market hypothesis. There is also no significant correlation between the share price reaction of acquiring firms in the post acquisition period, the change in operating cash flow, and the premium paid for the target. However, there is a significant positive correlation between the share price reaction of acquiring firms in the post acquisition period, and the change in the accounting rate of return. Since returns are aggregated over long periods, observed post acquisition abnormal returns may have been caused by omitted factors in the experimental design as claimed by a number of previous studies (for example Loughran and Vijh, 1997, Gregory, 1997, Lyon et al., 1999 and Baker and Limmack, 2000).

Based on the impression made when examining returns around the bid to outcome period, the overall results suggest that acquisitions are positive net present value investment decisions in Malaysia. The acquiring firms have not overpaid for targets and the premium paid to the targets is justified by the improvement in operating performance.

The following chapter provides the summary and conclusion to the thesis.

Chapter 13

Summary and Conclusions

13.1 Chapter Description

This final chapter contains an overall view of the thesis and summarises the main empirical findings in this study. Implications of the study will then be presented. Lastly, the limitations of the research and some areas for further research will also be identified.

13.2 Study Overview

It is important to identify whether acquisition activity provides economic benefits, as suggested by value maximising theory, or economic losses as suggested by managerial theories. From the point of view of individual shareholder it is also important to identify whether actions taken by directors are likely to be in the best interest of the owners rather than serving the interest of the manager. Jensen (1984) argued that shareholders wealth increases in takeover situations are derived from improved operating performance and increased efficiency. As a result of the redeployment of capital to more efficient use through takeover activity, gains would be observed *ex post* (Manson et al., 1994).

Recent research observed in a number of countries with developed capital markets, including the US and the UK, have produced inconclusive evidence on the presence of gains to bidding company shareholders and indeed to the existence of net wealth gains. Thus, the thesis is more concerned with identifying whether takeovers in Malaysia lead to an improvement in corporate performance rather than with identifying the distribution of wealth changes, if any. The specific method of

analysis selected is to assess whether operational gains arise, using operating cash flow to measure operating performance of Malaysian companies involved in takeover activity between 1988-1992.

Before undertaking any empirical investigation, it is first important to provide an understanding of the Malaysian environment that may influence corporate acquisitions in the country. Factors such as the history and economic background of the country, the financial market, the regulatory policies and agencies and the development of acquisition activities in the country that may affect acquisition activity are discussed in Chapter 2. The next stage involves reviewing the theoretical analysis of motives on acquisitions including shareholder wealth maximisation and management wealth maximisation theories, which are presented in Chapter 3. These theories are used to explain why companies make corporate acquisitions and also to predict possible outcome in terms of post acquisition performance. Chapter 4 and 5 discussed the methods for evaluating the impact of corporate acquisitions on shareholder wealth, namely the market-based and accounting-based studies, respectively. This step is vital in providing a framework for the empirical investigation, identifying the main research findings in previous studies as well as deciding on the appropriate research methodology and procedure to be undertaken in this study.

Chapter 6 explicitly outlines the variables use in calculating the operating cash flow performance and the sources of cash flow returns together with the detailed methodology and hypotheses to achieve the objectives set out in the study. Operating cash flow returns on book value of assets (book value of shareholders fund and total debts less cash and marketable securities) are employed in the current study to estimate changes in asset productivity and the realised economic benefits from acquisitions in Malaysia. The measure of operating cash flow is profit before tax, depreciation and interest adjusted for changes in working capital. Chapter 7 focuses

on the methodology and hypotheses of the bid characteristics and their effect on post acquisition operating performance while Chapter 8 describes the data selection procedure.

The findings of the thesis are found in Chapters 9-12. Chapter 9 presents results on changes in operating cash flow and some of its components including return on sales, asset turnover, capital expenditure and cash flow from operating expenses. The empirical evidences on the effect of acquisition characteristics on post acquisition operating performance are provided in Chapter 10. Chapter 11 presents some evidence on examining post acquisition performance of Malaysian companies involved in takeovers by using alternative measures of performance. Empirical evidence on whether the acquiring firms wealth changes around announcement to outcome period is a function on expectation of the change in operating performance improvement and the premium paid for the improvement are provided in Chapter 12. Finally, the current chapter (Chapter 13) concludes the whole thesis where summaries of the overall write-ups, the major findings, the limitations of this thesis, and the direction of future research are provided.

13.3 Findings

This section summarises the major findings of the research based on the specific objectives outlined in Chapter 1. Both univariate and multivariate analyses were undertaken to test the developed null hypotheses. The former involves both parametric and non-parametric tests but emphasis is given on the non-parametric tests to reduce the impact of outliers. The parametric related sample t-test and its non-parametric version, the Wilcoxon signed rank tests are used to test for matched sample probability distributions. For independently drawn samples, the parametric

two independent sample t-test and the non-parametric Mann-Whitney U test are used.

13.3.1 Pre Acquisition Performance

The first objective of the thesis is to analyse the level of pre acquisition operating performance of bidders, targets and their respective controls and the results are discussed at length in Section 9.3. The empirical evidence in Malaysia during the period 1988-1992 indicates that target companies perform significantly better than non-acquired companies over the 4-year period prior to acquisition. The result contradicts the traditional economic view of Manne (1965), Fama and Jensen (1983) and Jensen (1988) that target firms, which had performed poorly prior to acquisition, will be taken over. During the same period there was no evidence of superior performance by bidders relative to their control companies prior to the acquisition. The median annual control adjusted performance (the difference between the firm value and the value of the control firm in the same industry) is significantly negative over the 4-year period prior to acquisition, indicating that bidders are performing poorly relative to their control companies. Again the results contradict traditional economic theory which suggests that takeover bids are likely to be initiated by companies from the more efficient sectors of an economy. Section 9.3 also provides evidence that the operating performance of bidders is not significantly different to that of targets over the 4-year period prior to acquisition. The result is again inconsistent with Manne's (1965) concept of market for corporate control which suggest that more capable and competent executive teams tend to replace those that are less capable and competent. Based on the results in the current study, acquisitions in Malaysia appear to be non-disciplinary in nature, consistent with the characteristics of private acquisitions in the sample.

13.3.2 Post Acquisition Performance

The second objective of the thesis is to determine if there is any improvement in post acquisition cash flow performance of Malaysian acquiring firms five (5) years after acquisition as compared to their four (4) years pre acquisition performance. The results in Section 9.2 demonstrate that the combined firms have significantly higher rate of growth in cash flows than their industry counterparts. However, the rate of increase in cash flows does not of itself indicate that the combined firms operating performance improved in the post acquisition period. The rates of growth in operating assets are also found to be significantly positive in the post acquisition period. The period of time covered in the current study was one of a high rate of growth in the Malaysian economy. The results suggest that firms involved in takeovers were at the forefront of this growth. The results also provide evidence that these takeovers produced outcomes that have been identified as potentially related to management interests. In examining the post acquisition operating cash flow returns, the results suggest that takeovers in Malaysia also provided opportunities for shareholders to benefit. Despite the non-disciplinary motives, the results in Section 9.4 provide evidence that acquisitions in Malaysia during the period 1988-1992 lead to operating cash flow improvements in the long run. The post acquisition median control adjusted operating performance for the combined firms is significantly higher than their performance during the 4-year period prior to acquisition. Post acquisition median control adjusted operating performance is then regressed on the pre acquisition operating performance and the intercept indicates that the combined firms obtain a significant increase of 4.0% per year in post acquisition period. The improvement in post acquisition operating cash flow returns are consistent with the results reported by Healy et al. (1992) and Ghosh (1998) for US acquisitions, and by Manson et al. (1994) for UK acquisitions.

To test the robustness of the results, Chapter 11 pursue the implications of acquisition activity for performance improvement by exploring different definitions for measuring accounting performance. The first measure uses the operating cash flow return (operating profit before tax and extraordinary item, adjusted for depreciation, interest and goodwill divided by operating assets) similar to the definition given by Healy et al. (1992, 1997) and Ghosh (1998) who make no adjustments for changes in working accruals. The second measure includes return on operating cash flow net of interest (operating profit before tax and extraordinary item adjusted for interest and changes in working capital divided by operating assets). The third measure is based on return on assets (net profit before tax and extraordinary item divided by total assets), similar to the conventional accruals accounting based measures of performance used in earlier studies in UK and US (example Muller, 1980, Singh, 1971, Meeks, 1977 and Dickerson et al., 1977). The different definition of operating cash flow performance measures produce similar results, that is, acquisitions in Malaysia during the period 1988-1992 earn positive post acquisition operating improvements regardless whether changes in working capital are adjusted for or interest deducted from pre tax operating profit before or after acquisitions. However, when net profit returns are used as the performance measures, there is no evidence that the acquiring firms perform significantly better than companies that have not undertaken acquisitions in the post acquisition period. The insignificant post acquisition rate of return indicates that there is no deterioration in the combined firms net profit returns after allowing for goodwill and additional depreciation. The acquiring firms have not overpaid for the targets. The premium paid to the targets is justified in producing improvement in operating performance.

13.3.3 Sources of Operating Cash Flow Performance

The third objective is to explore the sources of operating cash flow that might offer explanation for the changes in the operating returns after acquisition and the results are discussed in Section 9.5. Analysis of the components of operating cash flow indicates that improvements in post takeover performance are driven both by an increase in asset productivity and also by the higher level of operating cash flow per unit of sales. Changes in the operating margin ratio or the operating return on sales (operating cash flow divided by sales) improved post acquisition. The combined firms earn 8.1 cents more in cash flow than their control companies for each dollar of sales they make. Similarly, the median annual control adjusted asset turnover (sales divided by total assets) significantly increased over the 5 year period relative to 4 years prior to acquisition. The overall result on asset sale rate (cash receipts from asset sales divided by the book value of assets) shows that there is no significant change in the cash proceeds from disposal of assets after acquisition. The result indicates that the high asset turnover after acquisition is not due to the sale of assets. Thus, acquiring firms in Malaysia appear to make more efficient use of the higher level of resources available in the post acquisition period. Capital expenditure rate (capital expenditure divided by book value of assets) is also significantly higher than that of the control companies in the post acquisition period, indicating that the combined firm has not sacrificed its long term investments for the sake of short term profitability. The average increase in post operating cash flow also does not appear to be driven by cost-cutting strategies of reducing cash expenses. There was no significant increase in cash operating expenses ratio (cash flow minus cash receipts from sales divided by book value of assets) in the post acquisition period.

13.3.4 Effect of Bid Characteristics on Post Acquisition Performance

To accomplish the fourth objective of the thesis, Chapter 10 focused on analysing the effect of acquisition characteristics on post acquisition operating performance for 83 bids consisting of 83 public listed bidders acquiring 80 private, 2 public listed and 1 non-public listed targets in Malaysia during the period 1988-1992²¹⁰. The specific bid characteristics analysed are business relatedness, management turnover, the relative size of targets to bidders, the method of payment offered and board of directors ownership.

Since the specific feature of the current sample is that it consists mainly of privately owned targets, the characteristics of disciplinary bids found in acquisitions of public listed targets were not expected in agreed bids between the bidders and targets in the current study. Section 10.3 investigates whether changes in senior management of the target company following the acquisition have any impact on post acquisition performance. The increase in performance is significantly higher in the sub-sample in which all target directors were retained than in the sub-sample of acquisitions in which the target directors were replaced. As the results indicate the expected relationship between replacement of senior management and performance improvements, relating to disciplinary takeovers as identified in early studies (example Denis and Denis, 1995, Martin and McConell and Kennedy and Limmack, 1996), is not observed in the current sample. Rather it appears that, if anything, retention of existing management is more likely to lead to performance improvement. Further analysis shows that replacement of target management has no impact on post acquisition performance regardless of the relatedness line of business. The

²¹⁰ 14 bidders made multiple acquisitions in the same financial year, thus, analysing bid characteristics of 117 bids (97 acquiring and 117 targets) might bias the results since the performance of acquiring more than one target in the same year is counted more than once.

results contradicts the findings by Shelton (1988) and Walsh (1988) who suggested that superior post acquisition performance is likely to result when top management are replaced in related acquisitions. The latter findings in the thesis reinforce the unique characteristics of the data set used in the current analysis of acquisitions of privately owned Malaysian companies in which unique skills of previous directors may often be retained post acquisition regardless of the business relatedness.

Acquisitions between target and acquiring firms in the thesis are classified as those with high, medium and low (or no) business overlap based on product markets. The results in Section 10.2 indicate that highly related acquisitions have a significant effect on post acquisition performance while there is no association between firms with no or medium business overlap and changes in post acquisition performance.

The results of examining if relative size of target to bidders have any impact on post acquisition performance are provided in Section 10.4. The relative size in the thesis is identified as the target size divided by bidder size. The size of target and bidder is measured as the book value of the companies (equity plus reserves, plus debt less cash and marketable securities) at the end of the financial year prior to the bid year (year -1). The results in Section 10.4 indicate that the relative size of target to bidders have significant impact on post acquisition performance, indicating that the larger the relative size of target to bidder, the greater the post acquisition performance.

Section 10.5 provides the results on the inter-relationship effects of the method of payment on post acquisition performance. Cash offers in the thesis are defined as cash or debt exchanges, and share offers include shares and where a combination of cash and shares is paid. Consistent to the results found by Chang (1998) who examined bidder returns at the announcement date when the target is

privately held, the current study also find evidence that acquiring firms using shares to finance the acquisitions perform significantly better than those who use cash financing. The results in the current study contradict those found in previous market based studies (for example Agrawal et al., 1992 and Lughran and Vijh, 1997) when the target are public listed companies.

Section 10.6 examines whether directors with significant shareholding play a role in monitoring the actions of the bidding firm's management in producing positive post acquisition performance. Directors' ownership positions of their company's ordinary shares are measured as shares held directly by the directors and his or her immediate family one-year prior to acquisition. The results in the current study do not support the hypothesis that the level of directors ownership has any effect on the post acquisition performance. The findings in the current study also contradict with those reported by Stulz (1988), Hubbard and Palia (1995) and Holl and Kyriazis (1997) that there is a non-monotonic relationship between directors ownership and improvement in post acquisition performance, where the performance of the firm first increases, then declines, as ownership of the board of directors rises.

In summary, acquisitions of highly related business between target and acquiring firm, large relative size of target to bidders and payment for the acquisition by shares have a significant positive impact on post acquisition control adjusted performance. The target directors turnover and the directors share ownership do not have a significant effect on the post acquisition performance. In fact, acquirers who make no immediate change to the management team of the target company following the acquisition achieve a greater increase in post acquisition performance, reinforcing the view that this sample does not consist of disciplinary acquisitions. However, highly related business between target and bidder and payment by shares are the only

significant acquisition characteristics that have a significant positive impact on the post acquisition control adjusted performance when multiple regression is used.

13.3.5 Share Price Performance

Fama (1970) argued that the capital market is efficient in reflecting publicly available information in share prices, that is, prices ought to reflect the present value of expected future cash flow streams. Thus, Chapter 12 examines whether the share price changes around the time of the takeover (announcement to outcome date) reflects the market's expectation of changes in operating performance and also the premium that is paid to target firms. Acquiring firm abnormal return is measured as the excess of the buy-and-hold return to the acquiring firm over its control firms (matched by similar size and industry). Actual changes in operating performance is used to proxy expected changes as it is impossible to identify the latter.

The results in Section 12.4 indicate that acquiring firms earn significant positive returns relative to their control companies over an observation period of day – 5 prior to the announcement date to day +5 after the completion date. The Section also provides empirical evidence that there is a significant positive correlation between the share price market improvement around acquisitions, the change in post acquisition cash flows, and the premium paid for the target. However, the current study finds that there is insignificant post acquisition return to acquiring firms over the period ending 3 years after the bid completion. There is also no significant correlation between the post acquisition abnormal returns, the change in post acquisition cash flows, and the premium paid for the operating improvement. There is, however, a significant positive correlation between the post acquisition abnormal returns and the change in accounting rate of return.

13.4 Implications of the Study

The findings obtained in this paper have obvious implications not only to management and shareholders but also to policy makers, as to whether acquisitions should be actively encouraged or discouraged. Acquisition activity is beneficial to the economy if corporate managers act in the best interests of the firm's shareholders to maximise value, that is, maximisation of the net present value of future cash flow. The findings in the thesis not only show that there are improvements in post acquisition operating cash flow but also offer explanation as to what components causes the cash flow improvements. The improvements in the post acquisition operating performance in the current thesis are primarily a result of increased asset productivity. These improvements are not achieved at the expense of the long term viability of the combined firms, as they are also accompanied by an increase in the level of capital investment. Neither is the improvement in post acquisition performance a result of a reduced asset base in the combined firm following disposal of unnecessary assets, as seen by the insignificant results for the change in asset sale rate and disposal of asset rate in the year of acquisition. The average increase in post acquisition operating cash flow also does not appear to be driven by cost-cutting strategies of reducing cash expenses. In addition, the median growth in total assets and sales (managerial interests) and post acquisition cash flow performance are higher for the combined firms relative to their control counterparts. The results demonstrate superior performance with respect to both managerial and shareholders interest in Malaysian acquisitions.

The empirical evidence in the thesis indicates that the major source of operating gains is the acquisition of companies with a high overlap of product market relatedness between the bidder and target firms. The improved post acquisition performance in transactions with a high business overlap but not in other types of

acquisitions is explicitly the result of an operational gain due to increased opportunities for each acquired business to share resources and activities in the acquiring firm. In addition, acquisitions paid by shares are more likely to achieve improved post acquisition performance. It may be that target owners are 'tied' to the acquiring firms for the future. Acquirers who make no immediate change to the management team of the target company following the acquisition also achieve a greater increase in post acquisition performance.

Managers who anticipate the cash flow improvements will pay a premium to acquire the targets. The significant positive correlation between the share price market revaluation of acquiring firms around acquisitions, the change in post acquisition cash flows, and the premium paid for the operating improvement found in the results is consistent with this view. The findings can also be viewed as evidence that cash flow data and market value data can capture real economic phenomena which explain a substantial proportion of the market's reaction to takeovers around the announcement period.

Analysis of the change in accounting earnings following the acquisition suggests that there is no increase in control adjusted profitability. Any improvement in operating cash flows appears to have been offset by the high level of accruals, including the charge for goodwill amortisation. Amortisation of goodwill reflects the premium paid for the target. Taken together with the absence of a significant pattern of long-run abnormal security returns, this result is consistent with the view that the premium paid for the target reflects (or anticipates) the improved operating cash flows achieved following acquisition. The net wealth benefits from the improved performance however, are obtained by the target company shareholders.

The majority of target companies that are included in the sample are private companies and are therefore much more likely to be entering into voluntary combinations with their acquirer than is often the case in other countries. As such the results found are not necessarily similar to those of the relative performance hypothesised for companies involved in disciplinary takeovers. Despite the non-disciplinary motives, the current thesis provides evidence that 97 quoted acquiring and 117 target Malaysian companies involved in acquisitions over the period January 1, 1988 to December 31, 1992 produce significant operating cash flow improvements following acquisitions. Generally, there seem to be reasonable grounds for arguing that acquisition activities in Malaysia should be encouraged, as evidence from the present study that acquisitions lead to maximisation of shareholders wealth. However, as the majority of target companies in the thesis were previously privately owned businesses, researchers and policy makers should be wary before generalising from these results.

13.5 Limitations of the Study

The results of this study should be considered with knowledge of its limitation. Collecting full information on listed acquiring and private target firms and their controls were relatively time consuming, and was found to be the most difficult task in conducting this research. Data availability especially for non-listed targets and their controls proved to be a problem. Annual reports for the non-listed companies are kept on microfiche at the Kuala Lumpur Registrar of Companies (ROC). Since the annual reports kept at the ROC were available only from December 31, 1986, some of these companies did not have pre bid cash flow and asset data as far as three years prior to acquisition. The period of study covered under the current study (1988-1992) was one of a high rate of growth in the Malaysian economy. If the study had been extended to several years prior to 1988, the number of companies involved in the

sample could have been greater and would have involved years of economic slowdown during 1985 to 1987. Such data was not, however, available.

Another limitation to the present study is the matching procedure adopted to select control companies that have not engaged in acquisition during the period under study. In theory, the matching procedures used seem efficient in selecting the 'same size' controls as the sample firms. However, it is not always possible to obtain the appropriate matched firms that have exactly the same size as the sample firms.

13.6 Suggestions for Further Research

To obtain a greater understanding of the findings presented in the thesis, several areas of future research can be conducted. One approach is to use case analysis by examining a few of the companies in greater detail to have better insights to the actual motives of acquisitions. In the current thesis, operating cash flow performance improves on average. A number of the sample firms experience negative post acquisition returns. Business techniques and managerial reasons may have caused the differences in results among these companies. The findings of these case studies might explain these variations in post acquisition cash flow changes and should compliment the results found in the current thesis.

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Appendices

Appendix 1 Descriptions of the acquiring and target firms involved in takeover activity over the period 1988-1992

BIDDER	INDUSTRY	TARGET	SECTOR	ANNOUNCEMENT DATE	COMPLETION DATE	PURCHASE PRICE (RM)	METHOD PAYMENT	BUSINESS RELATEDNESS
1 Ayer Hitam Tin Dredging Msia Bhd	Tin	Daimaju Enterprise Sdn Bhd	Property	01/07/88	01/09/88	52,000,000	cash	unrelated
2 Benta Plantation Bhd	Oil Palm	Komplek Mutiara Sdn Bhd	Property	10/10/87	02/03/88	5,522,000	cash	unrelated
3 Berjaya Corp. (M) Bhd (manufacture and sale of wires. Insurance, property, high Purchase)	Industrial	Federal Oil Palm S B Sports Toto Malaysia	oil palm cultivation toto betting operation	10/10/87 11/05/88	02/03/88 03/08/88	54,054,000 153,853,500	cash cash	highly related unrelated
4 Duff Bhd	Rubber	Hutan Melintang Plantations S B	oil palm plantation	01/03/88	04/08/88	2,300,000	cash	medium
5 Granite Industries Bhd (Quarry operation, property)	Property	Prai Malaysia Rattan & Wood Industries S B	manufacture furniture	10/02/88	01/11/88	500,000	cash	unrelated
6 Hong Leong Industries Bhd (manufacture carbon papers, ceramic, tiles)	Industrial	Far Eastern Industries (M) Sdn Bhd	ceramic	30/08/88	01/12/88	15,750,000	cash	highly related
7 IGB Corporation Bhd	Property	Prima Condominium Sdn Bhd	property	31/11/87	02/05/88	1,119,003	cash	highly related

BIDDER	INDUSTRY	TARGET	SECTOR	ANNOUNCE- MENT DATE	COMPLE- TION DATE	PURCHASE PRICE (RM)	METHOD PAYMENT	BUSINESS RELATED- NESS
8 Innovest Bhd (fast food business)	Industrial	Grossvent Sdn Bhd	restaurant operation	05/02/88	08/08/88	25,500,000	cash	highly related
9 Inter-Pacific Industrial	Industrial	Berjaya Corporation Bhd	Industrial	11/05/88	09/11/88	181,993,600	cash	highly related
10 Kuala Lumpur Kepong Bhd (processing of rubber, palm products, cocoa)	Rubber	Uni-Agro Multi Plantation Sdn Bhd	oil palm products	16/03/88	02/08/88	3,819,155	cash	highly related
11 Kulim (M) Bhd	Oil Palm	Selai Sdn Bhd	oil palm plantation	04/02/88	04/10/88	12,166,000	shares	highly related
12 Perlis Plantation Bhd (sugar cane cultivation, rubber and oil palm)	Industrial	Vita Tenggara Fruit Industries Sdn Bhd	cultivation of fruits	22/11/88	15/12/88	1,710,721	cash	highly related
13 TDM Bhd (resort operation, and oil palm cultivation)	Oil Palm	A & W Malaysia S B	restaurant operation	10/08/88	01/11/88	1,320,000	cash	medium
14 Amalgamated Steel Mills Bhd (operation steel mill)	Industrial	Lion Fastemers Sdn Bhd	manufacture nuts and bolts	25/11/88	04/05/88	5,200,000	cash	medium
15 Antah Hldgs Bhd (property development, food and beverages)	Industrial	Cherating Holiday Villa Sdn Bhd	Hotels	28/07/89	01/12/89	9,000,000	cash	medium

BIDDER	INDUSTRY	TARGET	SECTOR	ANNOUNCE- MENT DATE	COMPLE- TION DATE	PURCHASE PRICE (RM)	METHOD PAYMENT	BUSINESS RELATED- NESS
16 Aokam Tin Bhd (tin and mining gold)	Industrial	Monepile Sdn Bhd	General Trading	24/10/88	24/03/89	27,524,000	cash	unrelated
17 Bandar Raya Dev. Bhd	Property	BRD Construction Sdn Bhd	Property	09/08/89	16/11/89	6,505,593	cash	highly related
18 Boustead Holdings Bhd (rubber, oil palm plantation)	Industrial	Asrisan Plantation Sdn Bhd	oil palm cultivation	14/04/89	07/12/89	21,500,000	cash	highly related
19 Dayapi Industries (M) Bhd (granite and limestone quarry)	Industrial	Imperon Holdings	housing development	09/12/88	01/02/89	2,228,000	cash	medium
20 Emtex Corporation Bhd	Oil Palm	Konstanto	property	23/12/88	03/05/89	700,000	cash	unrelated
21 General Lumber Holdings (manufacture of timber products)	Industrial	Linbar Estate Sdn B UMW Industries S B	oil palm furniture	23/12/88	03/05/89	7,500,000	cash	highly related
22 Glenealy Plantations (Malaya) Bhd (rubber and cocoa plantation)	Rubber	Gunung Pertanian Sdn Bhd	oil palm plantation	01/11/88	01/02/89	18,899,810	cash	medium
23 Harrisons Malaysian Plantations Bhd (rubber and cocoa operation)	Oil Palm Plantation	Tegas Setia Sdn Bhd	m'ture rubber products	10/11/88	10/01/89	23,000,000	cash	highly related

BIDDER	INDUSTRY	TARGET	SECTOR	ANNOUNCE- MENT DATE	COMPLE- TION DATE	PURCHASE PRICE (RM)	METHOD PAYMENT	BUSINESS RELATED- NESS
24 IJM Engineering & Construction Bhd (construction)	Industrial	Torsco Sdn Bhd	construction	20/01/89	01/11/89	16,000,000	shares	highly related
25 Inter-Pacific Industrial Group Bhd (manufacture bicycles, property development)	Industrial	South Island Plastic Sdn Bhd	manufacture plastic materials	09/03/90	27/07/90	4,701,000	shares	unrelated
		South Island Packaging Sdn Bhd	packaging	09/03/90	27/07/90	4,765,000	shares	unrelated
26 Malaysian Mosaic B (cocoa, rubber palntation)	Industrial	Jeroco Plantation Sdn Bhd	oil palm cultivation	03/02/89	01/11/89	86,000,000	cash	medium
27 Malaysian Pacific Industries Bhd (manufacture polypropylene)	Industrial	Innovative Poly Sdn Bhd	m'ture polypropy- lene product	17/10/89	01/12/89	27,765,950	cash	highly related
28 Menang Corporation (M) Bhd	Property	Maztri Padu	property	03/02/89	01/09/89	9,800,000	cash	highly related
		AEK Rubber Product Sdn Bhd	Manufacture Latex	03/02/89	01/09/89	3,900,000	cash	unrelated
29 Mun Long Bhd (Departmental store)	Industrial	Hankyu Jaya Shopping (Ampang) Sdn Bhd	Departmental Store	04/05/89	01/09/89	12,025,000	cash	highly related

BIDDER	INDUSTRY	TARGET	SECTOR	ANNOUNCE- MENT DATE	COMPLE- TION DATE	PURCHASE PRICE (RM)	METHOD PAYMENT	BUSINESS RELATED- NESS
30 MWE Bhd (timber trading, heavy machine)	Industrial	Tahan Traktor Sdn Bhd	marketing heavy machine	10/01/89	28/03/89	4,000,000	cash	highly related
		MWE Eanell (M) Sdn Bhd	timber related activities	10/01/89	28/03/89	4,000,000	cash	highly related
31 Petaling Garden Bhd (sale of oil palm and rubber produce)	Property	Yong Peng Realty Sdn Bhd	oil palm cultivation	10/01/89	30/06/89	5,000,000	shares	medium
32 Renong Bhd	Property	Teck Hwa Knitting Industries Sdn Bhd	m'ture of garment	11/08/89	01/12/89	7,000,000	shares	unrelated
		Hing Yiap Fibermakers Sdn Bhd	m'ture of yarns	11/08/89	01/12/89	9,000,000	shares	unrelated
33 Sateras Resources (M) B (property, pvc resins)	Industrial	Norsan Fishing Net Industries Sdn Bhd	m'ture of nets, ropes	17/08/88	01/02/89	6,750,000	cash	unrelated
34 Technology Resources Industrial Bhd (property development)	Industrial	Tegas Consolidated Sdn Bhd	property development	6/02/89	15/05/89	14,984,382	cash	highly related
35 Timah Langat Bhd	Tin	Delima Industrial Sdn Bhd	Manufacture and marketing of furniture	21/01/89	02/10/89	3,650,000	cash	unrelated

BIDDER	INDUSTRY	TARGET	SECTOR	ANNOUNCE- MENT DATE	COMPLE- TION DATE	PURCHASE PRICE (RM)	METHOD PAYMENT	BUSINESS RELATED- NESS
36 United Engineers (M) Bhd (project design, management and contracting civil)	Industrial	Cement Industries Malaysia Bhd	sale of cement	15/08/89	01/11/89	546,600,000	shares	medium
37 Amalgamated Properties & Indust Bhd	Property	Heavy Industries Valley Sdn Bhd	property development	13/10/89	01/02/90	70,000,000	shares	highly related
38 Amalgamated Steel Bhd (operation of steel mill, assembly and sale of motor vehicles)	Industrial	Silverstone Marketing Sdn Bhd	manufacture tyres	11/10/89	08/03/90	5,000,000	cash	medium
39 Antah Hldgs Bhd (property, food and beverages)	Industrial	Rolnic Ceramic Sdn Bhd	manufacture ceramic tiles	07/11/89	01/08/90	25,100,000	cash	unrelated
40 Aokam Tin Bhd (tin and mining gold)	Industrial	Pembangunan Papan Lapis Sdn Bhd	manufacture timber	16/03/90	01/08/90	130,000,000	shares	unrelated

BIDDER	INDUSTRY	TARGET	SECTOR	ANNOUNCE- MENT DATE	COMPLE- TION DATE	PURCHASE PRICE (RM)	METHOD PAYMENT	BUSINESS RELATED- NESS
41 Bedford Bhd	Property	HL Group Properties Sdn Bhd	property	18/08/89	03/05/90	32,000,000	shares	highly related
		Hume Development Sdn Bhd	property	18/08/89	03/05/90	42,500,000	shares	highly related
		Pembinaan Sri Jati Bhd	property	18/08/89	03/05/90	14,000,000	shares	highly related
42 Berjaya Corporation (M) Bhd (property)	Industrial	Kota Raya Sdn Bhd	property	04/06/90	03/09/90	10,540,898	cash	highly related
		Indra Ehsan Sdn Bhd	property	04/06/90	03/09/90	7,022,400	cash	highly related
		Sri Panglima Sdn Bhd	property	04/06/90	03/09/90	7,700,000	cash	highly related
		Perangasang Recreation Bhd	Recreation club	04/06/90	03/09/90	6,540,000	cash	unrelated
43 Bolton Properties Bhd	Property	Bolton-LYL Sdn Bhd	Property	10/04/90	08/10/90	7,400,000	cash	highly related
44 Emtex Corporation Bhd (property, oil palm)	Oil Palm	Olympic cable Co. Sdn Bhd	cable manufacturing	22/01/90	22/05/90	10,198,000	cash	unrelated
45 Far East Asset Bhd	Oil Palm	Hunza-Land Corp. Sdn Bhd	Property	02/05/90	01/10/90	9,288,000	cash	highly related

BIDDER	INDUSTRY	TARGET	SECTOR	ANNOUNCE- MENT DATE	COMPLE- TION DATE	PURCHASE PRICE (RM)	METHOD PAYMENT	BUSINESS RELATED- NESS
46 General Lumber Hldgs Bhd (manufacture of timber products, property)	Industrial	Anglo American Corporation Sdn Bhd	manufacture timber mouldings	07/06/90	01/11/90	8,800,000	shares	highly related
		Syarikat Trimal Sdn B	property	07/06/90	01/11/90	85,000,000	shares	highly related
		Sri Damansara S B	property	07/06/90	01/11/90	200,000,000	shares	highly related
47 Kuala Lumpur Kepong Bhd (rubber, cocoa, and oil palm products)	Rubber	Sykt Swee Keong (S) Sdn Bhd	oil palm & cocoa products	16/02/90	27/07/90	11,100,000	cash	highly related
48 Kumpulan Emas Bhd (cultivation of oil palm, cocoa)	Industrial	Sykt. Perusahaan Kelapa Sawit Sdn Bhd	processing oil palm	27/02/90	01/08/90	16,526,300	cash	highly related
49 Lien Hoe Corporation	Property	Holiday Plaza Sdn Bhd	property	29/06/90	12/10/90	65,000,000	cash	highly related
50 Malaysian Mosaics Bhd (trading and servicing of heavy equipment)	Industrial	Zarah Sdn Bhd	commercial trailers	17/05/90	03/12/90	12,000,000	cash	highly related
51 Malaysian Pacific Industries Bhd (packaging semiconductor)	Industrial	Carter Semiconductor (M) Sdn Bhd	m'ture semi- conductor	04/06/90	03/12/90	10,500,000	cash	highly related

BIDDER	INDUSTRY	TARGET	SECTOR	ANNOUNCE- MENT DATE	COMPLE- TION DATE	PURCHASE PRICE (RM)	METHOD PAYMENT	BUSINESS RELATED- NESS
52 Mechmar Corporation (M) Bhd (contracting works)	Industrial	Spark Enterprise Sdn Bhd	men's fashion wear	28/05/90	28/08/90	3,000,000	cash	unrelated
53 MWE Hldgs Bhd (property, marketing of heavy machinery)	Industrial	Eastrade Electronics (M) Sdn Bhd	manufacture electronic products	04/05/89	01/02/90	10,979,280	shares	unrelated
54 Mycom Bhd (manufacture of electrical, consumer products, property rental)	Industrial	Lotteries Corporation (Sabah) Sdn Bhd	organising public lotteries	16/02/90	01/10/90	140,741,000	shares	unrelated
55 Pegi Malaysia Bhd (plantaion, insurance)	Industrial	Formis Computer Services Sdn Bhd	Computer trading	02/01/90	30/08/90	70,200,000	shares	unrelated
56 Renong Bhd	Property	Fleet Group Sdn Bhd	Investment	30/04/90	01/10/90	9,794,925	cash	highly related
57 Sateras Resort (M) Bhd	Property	Berkat Hasil S Bhd	property	31/03/89	01/10/90	19,500,000	shares	highly related
58 Selangor Dredging Bhd	Property	Oriental Metal (M) Sdn Bhd	steel manufacturing	13/02/90	01/11/90	48,160,000	shares	unrelated
59 Time Engineering Bhd (construction, manufacture and fabrication of components, electrical)	Industrial	Perindustrian Salam	railway construction	15/03/90	26/10/90	864,398	cash	highly related

BIDDER	INDUSTRY	TARGET	SECTOR	ANNOUNCE- MENT DATE	COMPLE- TION DATE	PURCHASE PRICE (RM)	METHOD PAYMENT	BUSINESS RELATED- NESS
		Electrical Power Engineering Sdn Bhd	electrical power	15/03/90	26/10/90	870,731	cash	highly related
		Eternaland Sdn Bhd	plantation	15/03/90	26/10/90	1,033,951	cash	unrelated
60 Timuran Holdings Bhd (Arus Murni Corporation Bhd) (consumer products)	Industrial	Champion Motors Sdn Bhd	letting of properties	12/01/90	15/06/90	6,400,000	cash	unrelated
61 Tongkah Hldgs Bhd (plantation)	Industrial	Rusju Sdn Bhd	property	24/01/90	01/05/90	4,500,000	cash	unrelated
62 United Engineering (M) Bhd (contracting, civil and electrical engineering)	Industrial	Mudajaya Construction Sdn Bhd	civil engineering & building contracting	29/10/90	04/12/90	12,000,000	cash	highly related
63 Acidchem (M) Bhd (manufacture of fatty acids and glycerine)	Industrial	Palmchem (M) Sdn Bhd	manufacture fatty acids & glycerine	13/08/91	01/11/91	29,580,000	cash	highly related
64 Amalgamated Steel Mills Bhd (operation of steel mill)	Industrial	Steel Industry Sarawak Sdn Bhd	operating steel mill	14/11/90	01/02/91	22,950,000	cash	highly related

BIDDER	INDUSTRY	TARGET	SECTOR	ANNOUNCE- MENT DATE	COMPLE- TION DATE	PURCHASE PRICE (RM)	METHOD PAYMENT	BUSINESS RELATED- NESS
65 Asiatic Development Bhd	Rubber plantation	Sabah Development Co. Sdn Bhd	plantation	26/01/90	25/11/91	50,121,693	cash	highly related
66 Batu Lintang Rubber Co.	property	Ausborn Sawmill S B	sawmilling	16/03/90	26/08/91	25,000,000	cash	unrelated
67 Dunlop Estates Bhd	Rubber	Jayalah Cemerlang Realty Sdn Bhd	property	10/10/90	04/01/91	11,000,000	cash	unrelated
68 IGB Corporation Bhd	Property	Magnum Corporation	Industrial	10/10/90	01/01/91	5,000,000	cash	unrelated
69 Inchcape Timuran Bhd (consumer products)	Industrial	Penang Garden S Bhd	property	07/01/91	01/04/91	2,710,000	cash	highly related
70 Kemayan Oil Palm Bhd	Oil palm	Kontrak Manufacturing Services Sdn Bhd	pharmaceutical products	11/01/91	01/08/91	5,000,000	cash	medium
71 KL Kepog Bhd	Rubber Plantation	Guang Ming Riboa Sdn Bhd	newspaper publication	09/10/90	01/02/91	4,360,000	cash	unrelated
		Ladang Finari Sdn Bhd	plantation	31/01/91	01/08/91			highly related
		Golden Yield Sdn Bhd	plantation	31/01/91	01/08/91	} 22,000,000	cash	highly related
		Golden Peak Dev. Sdn Bhd	Plantation	31/01/91	01/08/91			highly related
72 Metroplex Bhd (property, materials)	Property construction	Metroplex Project Management Sdn Bhd	property	27/12/90	01/04/91	11,000,000	cash	highly related

BIDDER	INDUSTRY	TARGET	SECTOR	ANNOUNCE- MENT DATE	COMPLE- TION DATE	PURCHASE PRICE (RM)	METHOD PAYMENT	BUSINESS RELATED- NESS
		Metrobilt Construction Sdn Bhd	building contractor	27/12/90	01/04/91	3,720,000	cash	medium
73 MWE Holdings Bhd (electronic products)	Industrial	Slam Atomised Metal Sdn Bhd	manufacture atomised aluminium	20/05/91	27/06/91	7,125,000	cash	unrelated
74 Mycom Bhd (electrical property)	Industrial	Oakland Holdings Sdn Bhd	property	11/02/91	01/11/91	26,600,000	cash	highly related
75 Nylex (M) Bhd (plastic products)	Industrial	Malaysian Roofing Industries Sdn Bhd	m'fure metal roofing tiles	10/12/90	07/01/91	7,500,000	cash	unrelated
76 OYL Industries Bhd (manufacture of conditioners)	Industries	Group Associated (C & L) Sdn Bhd	air conditioners	13/06/90	05/04/91	16,000,000	shares	highly related
77 Pelangi Bhd	Property	Taman Gunung Hijau Sdn Bhd	property	22/01/91	03/06/91	13,582,800	cash	highly related
78 Petaling Garden Bhd	Property	Lanjut Golf Resort Sdn Bhd	recreation & resort	09/08/91	01/11/91	41,230,000	cash	medium
79 Renong Bhd	Property	TV3	broadcasting	04/02/91	01/05/91	151,932,000	shares	unrelated
80 Talam Corporation Bhd	Property	Maxisegar Sdn Bhd	property	15/02/90	04/01/91	68,300,000	shares	highly related

BIDDER	INDUSTRY	TARGET	SECTOR	ANNOUNCE- MENT DATE	COMPLE- TION DATE	PURCHASE PRICE (RM)	METHOD PAYMENT	BUSINESS RELATED- NESS
81 Time Engineering Bhd (telecommunication, electrical products)	Industrial	Celcom Sdn Bhd	operation of mobile phones	16/04/90	15/03/91	81,500,000	cash	highly related
82 Tongkah Hldgs Bhd (rubber plantation and general trading)	Industrial	Rubberflex Sdn Bhd	manufacture latex threads	30/10/91	03/12/91	39,500,000	shares	medium
83 Austral Amalgamated Tin Bhd	Tin	Danau Kota Dev. Sdn Bhd	property	07/10/91	04/03/92	52,500,000	shares	unrelated
84 Berjaya Leisure Bhd (operation of hotels)	Industrial	Tioman Island Sdn Bhd	resort operation	26/02/92	01/07/92	82,605,000	shares	highly related
85 Boustead Hldgs Bhd (rubber, palm oil, cocoa plantation)	Industrial	S M N Food (M) S B	manufacturer food products	28/01/92	26/05/92	2,000,000	cash	highly related
86 Duta Consolidated Bhd	Industrial	Selangor Coconuts	rubber, oil palm, cocoa	28/01/92	26/05/92	66,150,000	cash	highly related
87 Far East Asset Bhd	Property	Sports Toto Malaysia Sdn Bhd	betting operation	26/09/91	30/10/92	600,000,000	cash	unrelated
88 Duta Consolidated Bhd	Industrial	Maswama Colour Coatings Sdn Bhd	industrial colours	11/06/91	03/03/92	2,160,000	shares	highly related

BIDDER	INDUSTRY	TARGET	SECTOR	ANNOUNCE- MENT DATE	COMPLE- TION DATE	PURCHASE PRICE (RM)	METHOD PAYMENT	BUSINESS RELATED- NESS
88 Hong Leong Industries Bhd (motorcycle components)	Industrial	Hong Leong Equipment Sdn Bhd	sale of heavy equipments	19/08/92	03/11/92	24,500,000	cash	medium
89 Lien Hoe Corporation Bhd	Property	Bintang Serasi Dev. Sdn Bhd	property	12/09/91	03/01/92	12,300,000	cash	highly related
90 Magnum Corporation Bhd (betting, gambling)	Industrial	Sababumi (Sandakan) Sdn B	gaming	06/12/91	04/05/92	29,820,000	cash	highly related
91 Malaysian Plantation bhd	rubber plantation	Kota Indrapura Development Corp Bhd	property	29/11/91	06/08/92	29,205,390	shares	unrelated
92 Mechmar Corporation (M) Bhd (contracting works)	Industrial	Relau Estates Sdn Bhd	property	22/04/91	24/07/92	43,000,000	shares	medium
93 Renong Bhd	Property	UB Co. Management Sdn Bhd	general trading	07/11/91	01/04/92	8,000,000	cash	highly related
94 Taiping Consolidated Bhd	Property	Punca Makmur Sdn Bhd	Property	07/01/92	01/07/92	15,056,000	cash	highly related

BIDDER	INDUSTRY	TARGET	SECTOR	ANNOUNCE- MENT DATE	COMPLE- TION DATE	PURCHASE PRICE (RM)	METHOD PAYMENT	BUSINESS RELATED- NESS
95 Technology Resources Industrial Bhd	Industrial	Celcom Sdn Bhd	cellular system	27/10/92	01/12/92	271,705,000	cash	unrelated
96 Timah Langat Bhd (property, diote leads)	Tin	Connectics (M) S B	manufacture diode leads	13/02/92	01/06/92	10,400,000	cash	highly related
97 Worldwide Holdings	Property	Central Holdings Bhd	Property	27/09/91	04/02/92	37,456,000	shares	highly related

Appendix 2

Operating cash flow returns for 117 combined acquiring and target firms in years surrounding acquisitions completed in the period 1988-1992¹

Year relative to acquisition	Firm		Control		Control Adjusted			No. of Observations
	Median %	Mean %	Median %	Mean %	Median %	Mean %	% Positive	
-4	7.46	7.86	4.78	5.52	2.28	2.34	63.27	49
-3	4.48	4.48	8.62	6.21	-1.42	-2.14	46.59	88
-2	5.41	5.25	6.40	3.75	-1.64	1.50	44.55	110
-1	6.19	8.48	4.74	5.22	0.08	3.26	50.43	117
Average annual performance over years -4 to -1	5.76	6.35	6.61	5.06	-0.30	1.30	49.45	
+1	6.83	10.51	5.78	4.58	0.26	5.93 ^b	52.14	117
+2	4.67	7.96	5.28	5.98	0.28	1.98	51.28	117
+3	7.61	9.92	5.34	3.36	5.67 ^b	6.57 ^a	63.25	117
+4	8.69	12.62	3.89	3.80	4.21 ^a	8.82 ^a	74.36	117
+5	8.86	11.89	4.32	5.57	3.89 ^a	6.32 ^b	66.67	117
Average annual performance over years +1 to +5	7.35 ^b	10.58 ^a	4.78	4.66	2.98 ^a	5.92 ^b	63.97	

Panel B: Abnormal adjusted post acquisition operating cash flow returns (t-values in parentheses)

$$AP_{post}^c = 0.04 + 0.207 AP_{pre}^c \quad R^2 = 0.094 \quad F\text{-statistic} = 11.99^a$$

(4.01)^a (3.46)^a
(4.03)^a (3.51)^a

AP_{post}^c and AP_{pre}^c are the median annual control adjusted operating returns in the post and prior acquisition period for firm i .

t -statistics given in the second brackets were adjusted for heteroscedasticity (White correction).

¹ Operating performance in the pre acquisition period are pre-tax operating cash flow return on assets of target and bidder, weighted by the relative asset sizes of the two firms. Post acquisition performance used data of the combined firms. Pre acquisition control firm returns are target control and bidder control values, weighted by the relative asset values of the two corresponding sample firms at the beginning of the years. In the post acquisition period the weights used to compute control firm returns are the relative asset values of the acquirer and target firms in year-1. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm in the same industry during that period.

² Mann-Whitney tests are conducted on median control adjusted figures

Wilcoxon signed rank tests are used to test the significance between the pre and post acquisition median annual performance

^a Significantly different from zero at the 1% probability level, using a two-tailed test.

^b Statistically different from zero at the 5% probability level, using a two-tailed t-test.

Appendix 3

Operating cash flow returns for 97 combined acquiring and target firms in years surrounding acquisition completed in the period 1988-1992 (using asset values of the control firms as weighted average)¹

Year relative to acquisition	Firm		Control		Control Adjusted			Number of Observations
	Median %	Mean %	Median %	Mean %	Median %	Mean %	% Positive	
-4	7.46	7.68	2.91	4.83	3.30	2.85	60.98	41
-3	4.08	3.54	8.39	6.57	-0.44	-3.03	47.95	73
-2	5.49	5.96	6.84	5.06	-1.13	0.90	45.05	91
-1	6.93	10.09	5.70	6.84	1.33	3.25	51.55	97
Average annual performance over years -4 to -1	5.79	6.94	6.60	5.97	-0.03	0.97	50.00	
+1	6.62	9.34	5.58	4.62	0.82	4.72	52.58	97
+2	5.47	8.75	5.87	6.50	-0.71	2.25	49.48	97
+3	7.61	10.07	5.47	3.30	4.06 ^b	6.77 ^b	60.82	97
+4	10.21	15.35	4.19	4.79	4.51 ^a	10.56 ^b	68.04	97
+5	8.86	11.73	3.85	5.47	4.08 ^a	6.26 ^b	68.04	97
Average annual performance over years +1 to +5	7.56	11.05 ^b	5.20	4.94	2.78 ^b	6.11 ^b	59.79	

Panel B: Abnormal adjusted post acquisition operating cash flow returns (t-values in parentheses)

$$AP_{post,i}^c = 0.03 + 0.26 AP_{pre,i}^c \quad R^2 = 0.13 \quad F\text{-statistic} = 14.38^a$$

(2.68)^a (3.79)^a
 (2.89)^a (3.85)^a

$AP_{post,i}^c$ and $AP_{pre,i}^c$ are the median annual control adjusted operating returns in the post and prior acquisition period for firm i .

t -statistics given in the second brackets were adjusted for heteroscedasticity (White correction).

¹ Operating performance in the pre acquisition period are pre-tax operating cash flow return on assets of target and bidder, weighted by the relative asset sizes of the two firms. Post acquisition performance used data of the combined firms. Pre acquisition control firm returns are target control and bidder control values, weighted by the relative asset values of the two corresponding sample firms at the beginning of the years. In the post acquisition period the weights used to compute control firm returns are the relative asset values of the *control firms* at the beginning of the year. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm in the same industry during that period.

² Mann-Whitney tests are conducted on median control adjusted figures

Wilcoxon signed rank tests are used to test the significance between the pre and post acquisition median annual performance

^a Significantly different from zero at the 1% probability level, using a two-tailed test.

^b Statistically different from zero at the 5% probability level, using a two-tailed t-test.

Appendix 4

Operating cash flow returns for the first acquisition of the 65 combined firms in years surrounding acquisition completed in the period 1988-1992¹

Year relative to acquisition	Firm		Control		Control Adjusted			Number of Observations
	Median %	Mean %	Median %	Mean %	Median %	Mean %	% Positive	
-4	5.72	5.82	2.70	5.09	2.71	0.73	53.85	26
-3	3.23	3.54	4.74	3.64	0.92	-0.10	52.08	48
-2	5.59	5.53	3.58	2.46	1.90	3.07	55.74	61
-1	6.93	6.81	4.99	5.82	0.38	0.99	52.31	65
Average annual performance over years -4 to -1	5.60	5.51	4.01	4.18	1.15	1.33	53.50	
+1	6.83	10.34	4.31	1.40	2.42	7.96 ^b	63.08	65
+2	5.47	9.16	4.22	4.37	2.72	4.48	56.92	65
+3	7.35	9.07	5.44	2.84	5.64 ^b	8.22 ^b	66.15	65
+4	10.30	12.04	4.03	2.83	5.63 ^a	9.20 ^a	75.38	65
+5	10.49	10.51	2.33	1.93	6.16 ^a	8.58 ^b	70.77	65
Average annual performance over years +1 to +5	7.56 ^b	10.22 ^b	4.03	3.28	4.04 ^a	7.5 ^a	64.62	

Panel B: Abnormal adjusted post acquisition operating cash flow returns (t-values in parentheses)

$$AP_{post}^c = 0.05 + 0.28 AP_{pre}^c \quad R^2 = 0.10 \quad F\text{-statistic} = 7.28^a$$

(3.11)^a (2.8)^a
(3.24)^a (2.99)^a

AP_{post}^c and AP_{pre}^c are the median annual control adjusted operating returns in the post and prior acquisition period for firm i .

t -statistics given in the second brackets were adjusted for heteroscedasticity (White correction).

¹ Operating performance in the pre acquisition period are pre-tax operating cash flow return on assets of target and bidder, weighted by the relative asset sizes of the two firms. Post acquisition performance used data of the combined firms. Pre acquisition control firm returns are target control and bidder control values, weighted by the relative asset values of the two corresponding sample firms at the beginning of the years. In the post acquisition period the weights used to compute control firm returns are the relative asset values of the acquirer and target firms in year-1. Control adjusted values are computed for each firm and year as the difference between the firm value in that year and the value of the control firm in the same industry during that period.

² Mann-Whitney tests are conducted on median control adjusted figures

Wilcoxon signed rank tests are used to test the significance between the pre and post acquisition median annual performance

^a Significantly different from zero at the 1% probability level, using a two-tailed test.

^b Statistically different from zero at the 5% probability level, using a two-tailed t-test.