MERGERS AND ACQUISITIONS AS AN EFFECTIVE RESTRUCTURING TOOL

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ก้าวไกล สุมิตรเหมาะ : การควบรวมกิจการและการเข้าซื้อกิจการในฐานะเป็นการปรับโครงสร้างองค์กรที่มีประสิทธิภาพ (MERGERS AND ACQUISITIONS AS AN EFFECTIVE RESTRUCTURING TOOL) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: ผศ. ดร. มนพล เอกโยคยะ, 125 หน้า.

งานวิจัยชิ้นนี้แสดงให้เห็นถึงผลการทดลองเชิงประจักษ์ของผลการดำเนินงานของบริษัทที่เป็นผู้ซื้อกิจการภายหลังการควบรวมกิจการและการเข้าซื้อกิจการ โดยจุดมุ่งหมายของงานวิจัยชิ้นคือการตอบคำถามสำคัญๆต่างๆที่เกี่ยวข้องกับแรงจูงใจในการควบรวมกิจการและการเข้าซื้อกิจการ รวมถึงการสร้างมูลค่าจากการควบรวมกิจการ

กลุ่มตัวอย่างที่ใช้ในงานวิจัยนี้เป็นบริษัทในประเทศสหรัฐอเมริกาและสหราชอาณาจักรที่ได้ทำการควบรวมกิจการในช่วงปี ค.ศ. 1992 ถึง 2008 ผลการดำเนินงานของบริษัทสามารถวัดได้โดยใช้กระแสเงินสดหารด้วยสินทรัพย์ทางบัญชีโดยพิจารณาถึงผลการดำเนินงานของบริษัทในช่วงก่อนทำการควบรวมกิจการและบริษัทอื่นในอุตสาหกรรมเดียวกันด้วย

จากการศึกษาพบว่าผลการดำเนินงานของบริษัททั้งในสหรัฐอเมริกาและสหราชอาณาจักรลดลงหลังการควบรวมกิจการ โดยพบว่าบริษัทที่มีการเปลี่ยนแปลงของยอดขายอย่างมากในช่วงก่อนการควบรวมกิจการมีผลการดำเนินงานที่ดีกว่าบริษัทที่ไม่มีการเปลี่ยนแปลงของยอดขายในช่วงก่อนการควบรวมกิจการเล็กน้อย จากการแบ่งกลุ่มตัวอย่างบริษัทออกเป็นบริษัทที่มีการเปลี่ยนแปลงของยอดขายในทางบวกก่อนการควบรวมกิจการและบริษัทที่มีการเปลี่ยนแปลงของยอดขายในทางลบก่อนการควบรวมกิจการผลการศึกษาแสดงให้เห็นถึงการลดลงของผลการดำเนินงานของบริษัททั้งสองกลุ่มภายหลังการควบรวมกิจการ ยิ่งไปกว่านั้นผลการศึกษากลุ่มตัวอย่างบริษัทที่ทำการควบรวมกิจการในประเทศและบริษัทที่ทำการควบรวมกิจการในต่างประเทศก็แสดงให้เห็นว่ามีการลดลงของผลการดำเนินงานของบริษัททั้งสองกลุ่มภายหลังการควบรวมกิจการ โดยพบว่าผลการดำเนินงานของบริษัทที่ทำการควบรวมกิจการในประเทศดีกว่าบริษัทที่ทำการควบรวมกิจการในต่างประเทศเล็กน้อย ซึ่งในภาพรวมของงานวิจัยชิ้นนี้แสดงให้เห็นว่าโดยส่วนใหญ่แล้วการควบรวมกิจการและการเข้าซื้อกิจการไม่ได้ทำให้ผลการดำเนินงานดีขึ้น

ภาควิชา	การธนาคารและการเงิน	ลายมือชื่อนิสิต	_____
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This paper provides the empirical evidence on the operating performance of acquirers after merger and acquisition. The purpose of this study is to answer the important questions in relation to the motive of mergers and acquisitions and its value creation.

The data, including mergers and acquisitions sample from the U.S. and the U.K. during 1992 – 2008. The operating performance is measured by the accounting numbers, which are operating cash flow scaled by book value and also adjusted by industry, and pre-performance.

The study found the decreasing in operating performance after mergers and acquisitions for both U.S. and U.K. The results show that shock firms tend to have better abnormal operating performance than non-shock firms. There are the evidences that merger and acquisition activities decrease the operating performance of both positive and negative shock acquirers. In addition, the operating performance of acquirers in post-merger decrease for both domestic and cross-border acquisition. The results also show that domestic acquisitions are associated with better operating performance than cross-border acquisitions. The results in this study indicates that, in most cases, merger and acquisition do not create the economic value to the acquirers.

Department: Banking and Finance   Student's Signature ....

Field of Study: Finance   Advisor's Signature ....

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter I

Introduction

1.1 Background and Significance of the problem

Corporate restructuring is the process involved in changing the organization structure. Restructuring process may be implemented based on different strategies such as management restructuring, operational restructuring, financial restructuring, and asset restructuring. Restructuring is often necessary for sustainable growth of firms in the case that original structure can no longer serve the general interest of firms.

However, restructuring may take place in response to the firms that experienced with the recession in performance due to economics-wide shocks or internal operational mistake. Firm specific factors such as capital structure, size, age, and technology can lead to the different kind of restructuring activities (Ashta and Tolle, 2004). Among the various ways of restructuring, one of the most common ways is merger and acquisition.

Merger and acquisition activities are unique in their nature and also have different in strategic rational motive. Merger and acquisition motives can be explained by many

hypotheses such as neoclassical hypothesis or behavioral hypothesis. The neoclassical

hypothesis from Gort (1969) and Mitchell and Mulherin (1996), explained that when

there are economic, regulatory, or technological shocks. The market will efficiently

reallocate and reorganize assets through mergers and acquisitions. In behavioral

hypothesis, Shleifer and Vishny (2003) and Rhode-Kropf and Viswanathan (2004)

pointed out that merger activities are the result of acquirers taking the advantage of

mispricing in security by using the overvalue security to acquire the asset of targets

which are less overvalued or undervalued. Roll (1986) also suggested that merger

activities can be motivated by the over-estimating of gain from merger and acquisition

activities due to systematic errors in valuation of the target, mispricing in security, and

also over-confidence of manager. However, the result of Harford (2005) showed that

the starts of merger waves can be better explained by neoclassical hypothesis rather

than behavioral hypothesis, i.e. economic, regulatory, and technological shocks are the

key motivator to drive industry merger waves.

The reasons behind merger activities can also explained by many ideas such as synergies, or agency driven. For the synergies driven merger, firms expect the synergies to be realized for improving firm's overall performance, e.g. increase economies of scale and scope, increase debt capacity, increase market power (Eckbo, 1983; Chatterjee, 1986; DePamphlis, 2001; Gaughan, 2007). For the agency driven merger, the fundamental idea is that managers try to optimize their own utility. Jensen (1986) documented that managers have the incentive to expand the firm's size to increase resource under their control and also increase their compensation. Amihud and Lev (1981) also pointed out that, managers diversified firm in order to reduce their employment risk. Therefore, Merger and acquisition might be a reasonable choice to reallocate the resource for those who have the good economic reason to reallocate the resource; but might not be reasonable for those who do merger and acquisition with some conflicts of interest and regardless firms' benefits.

Moreover, mergers and acquisitions can be driven by firm specific factors (Internal) and/or environmental factors (External). The examples of firm specific factor

are capital structure, productivity, unique growth opportunities, and firm's technology, the implication of restructuring is to address the specific organizational issues. The examples of environmental factors are industry-wide factor, economic condition, change in regulation and technological development. These factors could influence the firm to do merger and acquisition, the implication is to respond to changes in macro-level e.g. survival form declining industry through diversifying to the other industry or expand cross-border (Gort, 1969; Mitchell and Mulherin, 1996; Andrade and Stafford, 2004).

The result of Mitchell and Mulherin (1996) showed that both large positive and large negative sales growth contribute to above-average takeover activity at industry level. This implies that firms use merger and acquisition as a restructuring tool in response to both growing and declining in performance and expect the effect of takeover synergies to be realized in both periods. Many literatures also point out the benefits of merger and acquisition as the sustainable growth and turnaround strategy (Trautwein, 1990; Sudarsanam and Lai, 2001; Gaughan, 2007; Gopalan and Xie, 2011).

However, positive and negative shock firms might have the difference in motivation

to do merger and acquisition and also difference in firm's conditions. The positive

shock firms are the firms who experienced with rapidly growth in sales in pre-merger

year, while the negative shock firms are the firms who experienced with rapidly

decline in sales in pre-merger year. The positive shock firms, who have the growth

opportunity, should use merger and acquisition as a tool for sustaining their growth,

while the negative shock firms, who have decreased in performance and also have

limitation in a growth opportunity, should use merger and acquisition as a tool for

turnaround.

Moreover, managers of negative shock firms are motivated to work harder and

more careful than positive shock firms when making the decision to do merger and

acquisition (Grossman and Hart, 1982; Jensen, 1986). This is because managers of

negative shock firms are more likely to lose their job if the acquisition result

is bad. Consequently, they have more incentive to do their best in order to achieve a

good acquisition result. Furthermore, Grossman and Hart (1982) documented that if

the benefits that managers receive from the firm are lost in the event of bankruptcy,

manager may prefer to maximize profits or come close to it rather than risk sacrificing

their perquisites. Thus, negative shock firms should have a stronger reduction in the

inefficient use of firm's asset and may produce more efficient acquisition results than

positive shock firms.

Furthermore, in post-merger period, negative shock firms, who are more likely to

have excess capacity due to inefficient used of the resource during the decline period,

might try to reallocate the resource to the places that they can maximize their

efficiency. The easiest way is the cost cutting process, e.g. shutdown the excess

production lines to lean the production process. However, positive shock firms, who

expand via merger and acquisition, may not be possible to shut down the overlapping

production process if they operate in the full capacity. Therefore, positive shock firms

might have the production constraint in short to medium term due to the difficulty to

integrate the production process (Copeland, Koller, and Murrin, 1996). Because of

negative shock firms can reduce the inefficient use of firm's asset (Grossman and Hart,

1982; Jensen, 1986) and may produce more efficient acquisition results and the

production constraint of positive shock firms, there might be the difference between

the operating performance of positive and negative shock firms.

Furthermore, Moeller and Schlingemann (2005) documented that according to

more integrated market around the world, cross-border acquisition becomes more

popular among the firms during the past decade. It is plausible that the increased

integration of global economies has changed the relative costs and benefits of cross-

border acquisition. Globalization strategies can also create more investment

opportunities for firms. However, many of researchers have found the negative or zero

return of cross-border acquisitions on shareholder wealth (Denis, Denis, and Yost, 2002;

Conn, Cosh, Guest, and Hughes, 2005; Moeller and Schlingemann, 2005).

Erel, Liao, and Weibach (2012) also suggested that cross-border acquisitions have

an additional frictions compare to domestic acquisitions. The example of such

additional frictions is that cross-border acquisitions are more costly than domestic

acquisitions due to cultural and geographical difference. Therefore, it is more difficult

to integrate a foreign target than a domestic target. Because of the higher cost of combining between two firms and the additional frictions in cross-border acquisitions (Erel, Liao, and Weibach, 2012), cross-border acquisitions might be associated with worse operating performance than domestic acquisitions. Especially, for shock firms, who use mergers and acquisitions as the profit-maximizing response to shock, i.e. managers expect the improvement in operating efficiency, allocative efficiency to promote overall economic gains for the company, rather than their personal utility maximization (Gort, 1969).

From the literatures, these are indicated that firms use merger and acquisition as a tool for restructuring in response to both positive and negative shocks such as rapid growth or decline in performance. Firms can choose to apply different merger and acquisition strategies based on their specific reasons. However, the literatures showed the mixed evidences in the abnormal operating performance of firms after merger and mostly have found negative or zero return, even the key motivator of merger is based

on the improved in operating efficiency by efficiently reallocation and reorganization

of asset (Gort, 1969; Mitchell and Mulherin, 1996; Harford, 2005).

The plausible explanation is that, in one viewpoint, merger and acquisition is a

rational response to market condition and reallocation of resource, but in another

view, the merger can be used by manager without regard to any economic value

creation. Accordingly, one can predict that combined firm with no operational motive

to do merger and acquisition would produce poor post-merger operating performance.

There might be the case that the result of the abnormal operating performance might

be distorted by the different motives of merger and acquisition activities because the

samples of merger and acquisition activities are collected regardless of the motive to

do mergers and acquisitions.

Therefore, this study focuses on the merger and acquisition activities that are

used in response to shocks in which the motives of merger and acquisition activities

are clearly for responding to market conditions and reallocation of resources.

1.2 Objective of this study

In this proposed study, I examine the operating performance of acquirers to observe whether merger and acquisition can be used as the restructuring tool for the firms that experienced with shock, when the reallocation, reorganization, and the operating efficiency of asset are needed to be improved. To do this, I separate whether firms do merger and acquisition after experiencing a shock or not, and also classified shock as positive or negative shock. I also separate merger and acquisition strategies such as cross-border or domestic acquisition to review the ability of each merger and acquisition strategies in response to shocks.

I compare the post-merger operating performance between the groups of shock and non-shock firms that engaged in merger and acquisition activities to see whether the performance of shocked and non-shocked firms are different after merger. This is because, there are the evidences that firms with no operational motive to do merger and acquisition may be forced by an agency problem driven or behavioral driven and would produce poor post-merger operating performance. Moreover, I also compare the abnormal operating performance of positive and negative shock firms and also the

operating performance of cross-border and domestic acquisition. This is because, the

literatures also suggest the difference in motivation behind each strategy and

difference in post-merger operating performance among those firms (Grossman and

Hart, 1982; Copeland, Koller, and Murrin, 1996; Erel, Liao, and Weisbach, 2012).

I use adjusted cash flow return as a proxy of operating performance. The benefit

of cash flow return is that, it is unlikely to be distorted by the particular accounting

accruals process adopted by the firms. Therefore, I can observe the ability of mergers

and acquisitions as the profit-maximizing strategy for shock firms. If mergers and

acquisitions are worked well, the positive gain in operating performances should be

observed, indicating that there is the improvement of operating performance of the

acquirer. The difference of my study from the previous studies is that, I examine the

effect of merger and acquisition on the samples that do the mergers and acquisitions

in response to shocks. I separate whether the merger activity is to respond to positive

or negative shocks, cross-border or domestic and also separate that the shocks are

coming from internal or external factors to see whether the mergers and acquisitions

create value to the firms.

1.3 Contribution

My proposed study can shed the light on the merger and acquisition study by

reviewing the ability of each merger and acquisition strategy such as cross-border, and

domestic merger in response to shocks. Furthermore, the practical participants who

consider taking the merger and acquisition activities also benefit because the results

of this study can guide their decision to do merger and acquisition during both good

and bad times

1.4 Research Hypothesis

The mixed evidences in the abnormal operating performance of firms after

merger might be influenced by the difference between the motivations to do merger

and acquisition of each firm. In one viewpoint, merger and acquisition is a rational

response to market condition and reallocation of resources. But in another view, the

merger and acquisition can be used by a manager without regards to any economic

value creation. Accordingly, one can predict that combined firm with no operational

motive to do merger and acquisition would produce poor post-merger operating performance. There might be the case that the results of the abnormal operating performance might be different due to the difference in motivation to do merger and acquisition. Based on the literature, (Gort, 1969; Mitchell and Mulherin, 1996; Harford, 2005) it is reasonable to say that, firms who experienced with shock have the better economic reason to do merger and acquisition. Therefore, **the first hypothesis predicts that "the shock acquirers will have better improvement in operating performance than the non-shock acquirers in post-merger period".**

Focusing on merger and acquisition that response to shocks, there are the evidences that mergers and acquisitions are used as a tool for sustainable growth and also turnaround strategy. However, there is the difference in motivation to do merger and acquisition and also differences in firm's conditions. The positive shock firms, who have growth opportunity, use merger and acquisition as a tool for sustaining their growth, while the negative shock firms, who have decreased in performance and also

have limitation in a growth opportunity, use merger and acquisition as a tool for turnaround.

Moreover, managers of negative shock firms are motivated to work harder and more careful than positive shock firms when making the decision to do merger and acquisition (Grossman and Hart, 1982; Jensen, 1986). This is because managers of negative shock firms are more likely to lose their job if the acquisition result is bad. Consequently, they have more incentive to do their best in order to achieve a good acquisition result. Furthermore, Grossman and Hart (1982) documented that if the benefits that managers receive from the firm are lost in the event of bankruptcy, manager may prefer to maximize profits or come close to it rather than risk sacrificing their perquisites. Thus, negative shock firms should have a stronger reduction in the inefficient use of firm's asset and may produce more efficient acquisition results than positive shock firms.

In post-merger, combined firms have to set the integration strategies to hammer out the firm's direction. The strategies can be a reduction and combining of excess functions to reduce costs, or integrate and utilize the asset (Copeland, Koller, and Murrin, 1996). The negative shock firms, who are more likely to have excess capacity due to inefficient used of the resource during the decline period, will try to reallocate the resource after an acquisition. One of the easiest ways is the cost cutting process, e.g. shutdown the excess production lines to lean the production process. However, positive shock firms, who expand via merger and acquisition, may not be possible to shut down the overlapping production process if they operate in the full capacity (Copeland, Koller, and Murrin, 1996). Hence, positive shock firms tend to have the production constraint in short to medium term based on the difficulty to integrate the production lines.

This indicates that, the cost cutting in the production process in negative shock firms should be easier to implement and more efficient than the integration of production lines in the positive shock firms. Based on the reasons that shock firms

should have better acquisitions resource and the production constraint of positive

shock firms. ***The second hypothesis predicts that, "the negative shock firms will***

have better improvement in abnormal operating performance than positive

shock firms".

Gort (1969) documented that firms use merger and acquisition as the profit-

maximizing response to shock, i.e. managers expect the improvement in operating

efficiency, allocative efficiency to promote overall economic gains for the company,

rather than their personal utility maximization.

Furthermore, Erel, Liao, and Weisbach (2012) also suggested that cross-border

acquisitions have an additional frictions compare to domestic acquisitions. The

example of such additional frictions is that, cross-border acquisitions are more costly

than domestic acquisitions due to cultural and geographic difference. It is also more

difficult to integrate a foreign target than a domestic target. Because of the higher cost

of combining between two firms and the additional frictions in cross-border

acquisitions (Erel, Liao, and Weisbach, 2012), cross-border acquisitions might be

associated with worse operating performance than domestic acquisitions. Especially,

for shock firms, who use mergers and acquisitions as the profit-maximizing respond to

shock (Gort, 1969).

Therefore, *the third hypothesis predicts that, "shock firms with cross-border*

acquisitions will have worse improvement in abnormal operating performance

than domestic acquisitions".

Chapter II

Literature Review

2.1 Merger and Acquisitions in response to shock

Shocks are the unexpected event that can be the cause of change in firm's performance. Shocks can have both positive and negative effects on firm's performance. Positive shocks are the situations that benefit to the firms, while negative shocks are opposite. Firms can react to the shocks in many ways, this study focus on merger and acquisition activities.

Merger and acquisition is one form of the corporate restructuring. Sudarsanam and Lai (2001) classified merger and acquisition as an asset restructuring in expansion action. Kang and Shivdasani (1997) also mentioned that merger and acquisition is one of the frequently used restructuring tools. They compared the restructuring activities of Japanese firms and U.S. firms during performance decline period and pointed out that U.S firm frequently took the expansion action where merger and acquisition is the most frequent form.

From the Economics Disturbance Theory of Merger (Gort, 1969), economic shocks

such as rapid change in technology, movement in security prices, and industry growth

are the cause of the increase in a discrepancy in valuation. The discrepancy in valuation

arises from the difference in expectations about future income stream and the risk

associated with expected income between buyer and seller of the asset. The

discrepancy would be associated with a level of uncertainty in the market and the

more different of the asset's value estimate by buyers and sellers, the more likely of

the merger to occur. Overall, the theory suggests that the economic shocks increase

the discrepancy in valuation and, then the increasing of discrepancy, result in increasing

of frequency of merger activities. Harford (2005) also studied the key driver of merger

waves and showed that the starts of merger waves can be better explained by

neoclassical hypothesis rather than behavioral hypothesis, i.e. economic, regulatory,

and technological shocks are the key motivator to drive industry merger waves.

2.2 External and Internal shock

There are internal (firm-specific) and external (environmental) shocks. Both can

affect firms' performance and, then motivate the firms to engage in merger, acquisition,

and other restructuring activities. Ashta and Tolle (2004) studied on restructuring strategies for distressed or declining enterprise and suggested that firm restructuring in response to (i) firm specific factor such as capital structure, size, poor governance and technology, the implication of restructuring in this level is to address the specific organizational issues (ii) Environmental factor such as industry, economic condition, change in regulation and technological development also influence the restructuring activities, the implication is to response to change in macro-level.

Andrade and Stafford (2004) examined merger activity in 1990s and showed that merger activity is related to both firm specific and industry-wide cause. At industry level, they found that excess productive capacity due to technological shock drives industry consolidation through merger. Furthermore, industries with high q ratio and an increase in profitability are more likely to experience the intense merger activity. At the firm level, they examine the q ratio and sales growth. The result suggests that firms with high q ratio are more likely to take merger and non-merger investment. Moreover, the positive relation of sales growth on both merger and non-merger investment

indicated that firms with higher sales growth are more likely to invest in both merger

and non-merger investment which is consistent with q theory.

DePamphlis (2001) explained the strategic realignment theory that firms use

merger and acquisition as a way to rapidly adjust to changes in their external

environment such as regulatory change and technological change.

Andrade, Mitchell, and Stafford (2001) examined merger activities during period

1990s and mentioned that a significant portion of merger activity might be due to

industry level shocks, and then industries react to these shocks by restructuring mainly

via merger. The examples of shocks are technological change, supply shock, and

deregulation. They also found that deregulation was a key driver of merger activity

during 1990s.

Mitchell and Mulherin (1996) examined the impact of industry shocks on

takeover activity during period 1980s. They found that the industries with the greatest

activity of merger are sectors that are currently responding to fundamental shocks such

as deregulation, technological advancements, and other fundamental factors. They

also found that takeover and restructuring activity is positively and significantly related

to sales shocks. Shocks can have both positive and negative effects on industry growth.

This indicates that both large sales growth and decline contribute to above-average

takeover activity at industry level.

Maksimovic and Phillips (2001) found that mergers and asset sale are more likely

to occur when (i) there is the positive demand shock in economics; (ii) assets are less

productive than their industries. Above all, the literatures show that firms engage in

merger and acquisition in response to both internal and external shocks.

2.3 Sustainable growth through merger and acquisition

Due to the positive shocks, companies result in rapid growth in performance and

better financial health. To sustain the growth, merger and acquisition is one of the

choices that helping firms to use the resources more efficiently. The merger and

acquisition, which is the external expansion, is a faster way to grow than internal

expansion because acquired firms are the organizations which are already placed

(Trautwein, 1990). Growing through merger and acquisition is also cheaper in the case

that the replacement cost of assets is higher than the market value of acquired firms

(Trautwein, 1990).

Moreover, merger and acquisition can be (partly) paid with stock unlike other

internal expansion activities. Therefore, firms can still make an investment even they

do not have enough cash reserve (Gaughan, 2007). Andrade and Stafford (2004)

observed the characteristic of the acquirers firm in their sample and found that

acquirers tend to have a higher q ratio, cash flow, and lagged stock return, as well as

lower leverage and capital utilization than target firms. This indicates that firms with

good growth perspective and financial health try to meet their growth expectation via

merger and acquisition.

2.4 Survival through merger and acquisition

The negative shocks can lead to the declining in firms' performance. To recover,

firms respond to performance decline in a wide range of restructuring such as

managerial restructuring, operational restructuring, asset restructuring, and financial

restructuring (Sudarsanam and Lai, 2001). Instead of the other turnaround strategies, firms may engage in asset restructuring through merger and acquisition.

Sudarsanam and Lai (2001) compared the turnaround strategies between recovery and non-recovery firms and found that recovery firms adopt more expansionary than non-recovery firms. They also suggest that the expansion via merger and acquisition can enhance the firm's competitive advantage, e.g. achieve economies of scale by expanding its output. Takeover often followed by business failures and mergers and asset sale are more likely to occur when assets are less productive than their industries (Mitchell and Mulherin, 1996; Maksimovic and Phillips, 2001). This indicates that firms use merger and acquisition as a tool for turnaround from a recession time.

2.5 Cross-Border Acquisition

In response to shock, firms can have the choices to do domestic acquisitions or cross-border acquisitions. However, Erel, Liao, and Weisbach (2012) suggested that cross-border acquisitions have an additional frictions compare to domestic acquisitions.

The example of such additional frictions is that Cross-Border acquisitions are more costly than domestic deals due to cultural and geographic difference. That is, it is more difficult to integrate a foreign target than a domestic target.

Denis, Denis, and Yost (2002) documented that there is an increase in the extent of cross-border acquisition. They also found that 31 percent of the samples have some degree of cross-border acquisition. It is plausible that the increased integration of global economies has changed the relative costs and benefits of industrial and global diversification. The opening of new markets has increased the feasibility of global diversification, forced more firms to focus on their core business, and create more investment opportunities for firms (Moeller and Schlingemann, 2005).

Furthermore, Conn, Cosh, Guest, and Hughes (2005) documented that the value of cross-border acquisitions rose steadily, more prevalent and bigger. The value of cross-border acquisitions of U.K. companies accounts for an increasing proportion of all worldwide cross-border acquisitions. By 2000, the U.K. was the largest acquiring

country worldwide, accounting for 31% of the total value of all cross-border

acquisitions.

The theoretical arguments also suggest that global diversification can have both

value-enhancing and value-reducing effects. However, many of researchers have found

the negative or zero return of cross-border acquisitions on shareholder wealth (Denis,

Denis, and Yost, 2002; Moeller and Schlingemann, 2005; Cosh, Guest, and Hughes,

2006). The reasons behind these are that, oversea targets are more difficult to value

accurately because of imperfect information, difficulties of managing the post-merger

process because of a difficult integration, time consuming and expensive process,

hubris and agency problems (Denis, Denis, and Yost, 2002; Moeller and Schlingemann,

2005; Cosh, Guest, and Hughes, 2006). These problems clearly affect cross-border

rather than domestic acquisitions.

Moreover, Denis, Denis, and Yost (2002) suggested that there is no evidence in

increasing of shareholder wealth on average and global diversification represents a cost

of the agency relationship that exists between managers and investors. Erel, Liao, and

Weisbach (2012) also suggested that cross-border acquisitions have an additional frictions compare to domestic acquisitions. The example of such additional frictions is that, cross-border acquisitions are more costly than domestic acquisitions due to cultural and geographic difference. It is also more difficult to integrate a foreign target than a domestic target.

2.6 Existing evidence on Operation Performance

In table 1, the results of empirical finding in the performance based studies show that there is a mixed evidences in the post-merger operating performance. Furthermore, most of literatures found the zero or negative abnormal operating performance.

Table 1: Finding of the operating performance of the previous studies

Study	Nationality (Bidder)	Time period	Sample	Estimation method	Effect
Meeks (1977)	UK	1964-1971	164	ROA	Negative
Cable, Palfrey, and Runge (1980)	Germany	1962-1974	50	ROA, ROS	Zero
Jenny and Weber (1980)	France	1962-1972	40	ROA, ROS	Zero
Peer (1980)	Netherland	1962-1973	36	ROA, ROS	Zero
Ryden and Edberg (1980)	Sweden	1962-1976	40	ROA, ROS	Zero
Kump and Wtterwulghe (1980)	Belgium	1962-1974	21	ROA, ROS	Zero
Ravenscraft and Scherer (1987)	US	1950-1977	2955	ROA	Negative
Herman and Lowenstein (1988)	US	1974-1977	56	ROC	Zero
Healy, Palepu, and Ruback (1992)	US	1979-1984	50	Operating Cash flows	Positive
Dickerson, Gibson, and Tsakalotos (1997)	UK	1948-1977	2917	ROA	Positive
Linn and Switzer (2001)	US	1967-1987	413	Operating Cash flows	Positive
Ghosh (2001)	US	1981-1995	315	Operating Cash flows	Zero
Gugler, Mueller, Yurtoglu, and Zulehner (2003)	UK, Europe	1977-1985	181	ROA	Zero
Powell and Stark (2005)	UK	1985-1996	191	ROA	Positive
Cosh, Guest, and Hughes (2006)	UK	1985-1996	363	ROA	Zero
Bouwman, Fuller, and Nain (2009)	US	1979-2002	2944	ROA	Negative

Chapter III
Data and Methodology

3.1 Data and Sample

The data in this study are obtained from two main sources. The first one is a

merger and acquisition sample from SDC Platinum (Thomson Financial) and the second

one is accounting numbers from Thomson Reuter Datastream Database. The samples

include U.S. and U.K. transactions, this is because U.S. and U.K. market are the two

biggest markets for corporate control in the world (Erel, Liao, and Weisbach, 2012).

When firms do merger and acquisition they can also choose to do cross-border or

domestic based on their diversification strategies. It is very interesting to include U.K.

sample in this study to review the ability of various mergers and acquisitions strategies,

especially the cross-border, because the most active market of cross-border acquisition

is the U.K. market (Conn, Cosh, Guest, and Hughes, 2005).

The samples are collected during 1992-2008; since, the SDC database only covers

deal of any value only after 1990. Each takeover in the samples included the following

requirement and this is partly drawn from Moeller, Schlingemann and Stulz (2004).

a. The transaction status is completed or went unconditional.

b. The deal value is greater than $1 million.

c. Datastream or Sedol codes are available for acquirers.

d. Acquirer firm must control less than 5% of the target's share before the
   announcement.

e. Accounting data used for measure abnormal operating performance are
   available.

f. Target should have the size more than 5% of the acquirer

g. The sample excludes firms in banking, financial, and utility sector

Figure 1 and 2 present the number of merger and acquisition activity classified

as positive shock, negative shock, and non-shock for U.S. and U.K. respectively. The

trends of merger and acquisition in the U.S. and U.K. are likely to be the same pattern,

the merger and acquisitions activity seem to be popular during 1996 to 2000 for both

U.S. and U.K. Consistent with Harford (2005) who reported that the year 1986-1988 and

1996-1999 are the years that have high aggregate merger activity (merger wave). The

proportion of shock firms is about 45% and 40% in the U.S. and U.K. respectively.
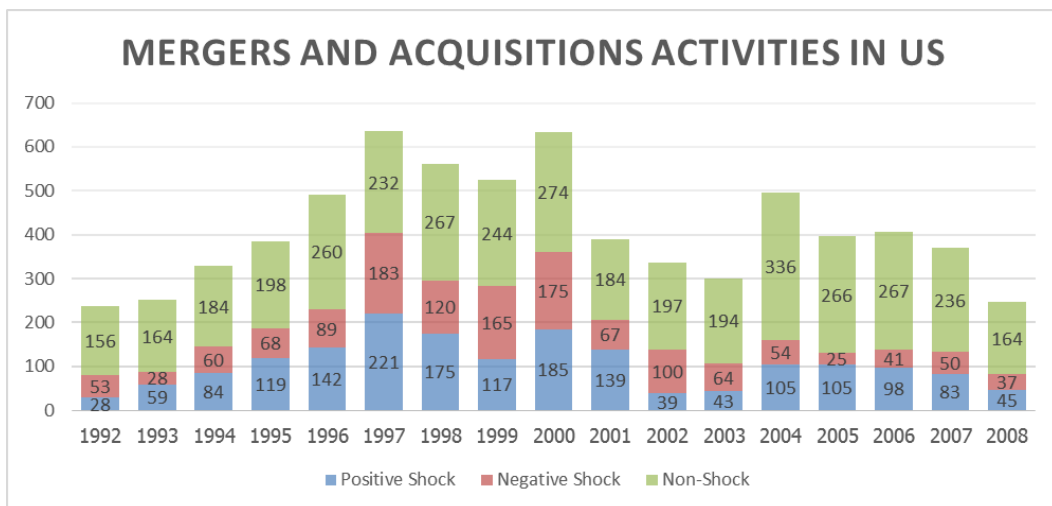
Figure 1: Merger and acquisition activity in the U.S. classified as Positive Shock,

Negative Shock, and Non-Shock during 1992-2008.
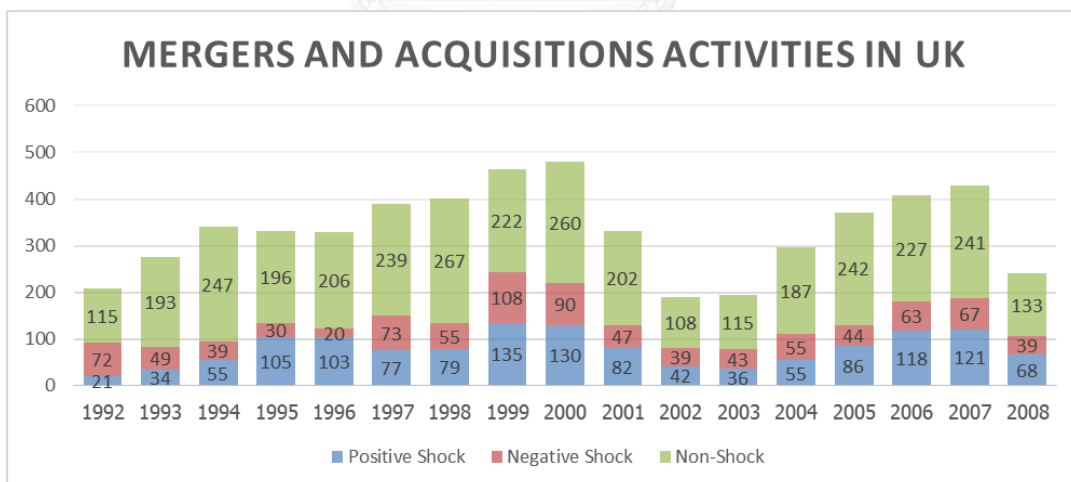
Figure 2: Merger and acquisition activity in the U.K. classified as Positive Shock,

Negative Shock, and Non-Shock during 1992-2008.

3.2 Methodology

The objective of the paper is to identify the change in post-merger operating

performance of firms who experienced with shocks and applied merger and acquisition

as a restructuring tool. Operating performance measures are based on accounting

numbers and typically scaled by deflator and adjusted by benchmarks which are

industry, size, and pre-performance. Since, the choices of measure and benchmark are

varied, this paper follows the research design suggested by Barber and Lyon (1996).

3.2.1 Operating Performance

Healy, Palepu, and Ruback (1992) argued that the stock price performance might

fail to determine whether takeover create real economic value. This is because the

increasing in equity value might come from the source of real economic gain such as

synergy and/or capital market inefficiency such as over value security. Therefore, they

seek to identify the merger gains through analyzing pre and post-merger operating

performance by using an industry-adjusted operating cash flow and found that the

operating performance of combined firms are improved.

On the other hand, the result of Ghosh (2001) showed the insignificance of improvement in the operating performance. Ghosh (2001) argued that the improvement in operating performance can be biased and suggest that pre-acquisition performance need to be taken into account. This is consistent with the research design suggested by Barber and Lyon (1996). Ghosh (2001) also recommends the use of the change model as it is less likely to be impacted by the bias of permanent factors, which are the factors that make firms out/underperform during pre-merger period and also affect to the post-merger period.

Powell and Stark (2005) also applied the matching criteria as suggested by Barber and Lyon (1996), Loughran and Ritter (1997), and Ghosh (2001) by taking into account pre-performance as well as industry and size to identify the matched-firm and found that for U.K. acquirers the operating performance of the merged firms are significantly improved.

3.2.2   Measure of Firm's Shock

Shocks are the unexpected situations that could affect the growth opportunity and performance of firms. Rapidly change in firm's performance can cause firm's shocks. Since shocks could have effects on the firm's performance and growth opportunity, this paper use sales growth to measure firm's shocks because sales can directly reflect the prospect of a firm's performance and unlikely to be forced by leverage.

There are both external and internal shocks; internal shocks are caused by firm's specific factor and less likely to be affected the whole firms in the industry, i.e. only one firm shock is less likely to cause the shocks to the whole firms in the industry. For external shocks, the whole firms in the industry are affected and these can also cause the internal shocks of firms as well.

Therefore, I measure both individual's firm shock and industry's shocks to classify that firms do merger and acquisition in response to internal or external shocks. The individual firm's shock can be measured as follows.

1. Denoted the year of merger and acquisition as the year 0.

2. For each acquirer, 4 years history of sales growth before merger and acquisition activity (year -5 to year -2) of each firm are collected and found the median and the standard deviation, the sales growth can be found as

$$\text{Sales growth }_t \quad = \quad \frac{\text{Sales }_t - \text{Sales }_{t-1}}{\text{Sales }_{t-1}} \qquad (1)$$

Where, Sales growth $_t$ is the sales growth at year t, Sales $_t$ is the sales at year t, and sales $_{t-1}$ is the sales at year t − 1.

3. Firm is defined as experienced with individual firm's shocks if Sales growth in pre-merger period (year-1) exceeds the range of

[Med $_{\text{Sales growth}}$ ± 1.65S.D. $_{\text{Sales growth}}$]

Where, Med $_{\text{Sales growth}}$ is the median of sales growth of firm and S.D. $_{\text{Sales growth}}$ is the standard deviation of sales growth of firm during year -2 to -5.

4. Positive and negative shocks can be determined by the direction that sales growth exceeds the range in step3.

I also determine industry's shocks by using the industry's sales growth. The steps to determine are as follow.

1.   Denoted the year of merger and acquisition as the year 0.

2.   For each acquirer industry (same 2 digit SIC code), 4 years history of industry's sale growth before merger and acquisition activity (year -5 to year -2) are calculated and found the median and standard deviation. The median and standard deviation that are found are the representative of acquirer's industry and defined as $Med_{\text{industry's sales growth}}$ and S.D. $_{\text{industry's sales growth}}$ respectively.

3.   Firm is defined as experienced with industry's shocks if industry's sales growth in the pre-merger period (year-1) exceeds the range of [$Med_{\text{industry's sales growth}} \pm 1.65$S.D. $_{\text{industry's sales growth}}$].

      Where, $Med_{\text{industry's sales growth}}$ is the median of industry's sales growth, and S.D. $_{\text{industry's sales growth}}$ is the standard deviation of industry's sales growth of year -2 to -5

From the steps above, three groups of firms are found which are only individual

shocked firms (Group 1), only industry shocked firms (Group 2), and both individual

and industry shocked firms (Group 3). As mentioned earlier, internal factors are less

likely to be affected the whole firms in the industry, but external can affect the whole

firms in the industry and can cause the internal shocks of firms as well. Therefore, I

define the firms that experienced with internal shocks as the firms in group 1 and

external shocks as the firms in group 2 and 3.

3.2.3 Performance Measure

There are two widely used of measures in the recent literatures, the first one is

operating income and the second is operating cash flow.

Operating income: The benefit of operating income is that operating income is

excluded interest expense, income taxes, minority interest, and special item. So that

operating income is a cleaner measure of earning of productivity of operating asset.

However, the use of operating income can lead to bias due to earning manipulation

because operating income is accrual-based measure and managers can over or understate the earning (Barber and Lyon, 1996).

Operating cash flow: By the suggestion of Barber and Lyon (1996) cash-based measure is more appropriate under the situation that manager is likely to overstate operating income such as in takeover activity. Therefore, operating cash flow can overcome the earning manipulation problem. Operating cash flow is not affected by depreciation and goodwill impairment and also comparable when firms use different method of accounting for the merger and acquisition (Healy, Palepu, and Ruback 1992). Operating cash flow is not distorted by the leverage and investment activity of firm, i.e. operating cash flow reflects the ability to generate the income by firm's operating activity. Powell and Stark (2005) suggested the pure operating cash flow measures. They argued that definition of operating cash flow defined as pre-depreciation profit by Healy, Palepu, and Ruback (1992) tend to be an accrual definition. It is likely to be distorted by the particular accounting accrual process adopted by the firm. In this study I adopt the pure operating cash flow suggested by Powell and Stark (2005) which is defined as pre-

depreciation profit adjusted for change in working capital. This is consistent with the

operating cash flow measure suggested by Barber and Lyon (1996). The operating cash

flow can be defined as

Operating Cash flow   =   Operating income before depreciation –

Change in operating current asset[1] +

Change in operating current liability[2]   (2)

3.2.4   Scaling a Performance Measure

To compare pre and post-merger operating performance, to make it comparable,

one of the most important things is to scale the measure with the appropriate deflator.

The choices of deflator are suggested in Barber and Lyon (1996).

Market value: Total market value is used by both Healy, Palepu, and Ruback (1992)

and Ghosh (2001), which is calculated by the sum of the market value of equity, book

value of debt, and book value of preferred stock of the target and the acquirer before

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[1] Change in operating current asset = (Current asset – Cash) $_t$ - (Current asset – Cash) $_{t-1}$

[2] Change in operating current liability = (Current liability – Short term debt and current portion of long term debt)$_t$
               - (Current liability – Short term debt and current portion of long term debt) $_{t-1}$

merger. This deflator is not affected by choice of accounting, method of financing, and more accurately reflects the firm's asset productivity (Healy, Palepu, and Ruback, 1992; Powell and Stark, 2005). The disadvantage of market value is that market value not only reflects potential income of assets in place, but also reflect the future income of an asset that expected to acquire, i.e. it can underestimate the performance of firms that have high growth potential after merger (Barber and Lyon, 1996).

Sales: The benefit of sales is that sales can reflect the current incomes. This can overcome the historical cost problem when accounting number in numerator part is recorded with current dollar and denominator part is recorded with historical cost as suggested above. But the drawback is that sales does not directly measure the productivity of assets (Barber and Lyon, 1996).

Book values of asset: Using of Book values of asset as the deflator reflects the ability to generate the outcome by using the asset in hand. However, Book value of asset reflect both operating and non-operating asset. Some might argue that operating cash flow reflects cash generated by operating asset; operating cash flow should be scaled

only by the value of operating asset. However, non-operating asset mostly refers to cash and firm with more cash can have more bargaining power, more opportunity to invest and also use that cash in firm's operation.

Cash adjusted asset: To overcome the non-operating asset problem, cash-adjusted asset is introduced. Cash-adjusted asset is the total asset adjusted by cash and marketable security. The benefit of this deflator is that asset used in the calculation is operating asset, however, cash is viewed as the most necessary asset for the firm's operation, with cash firms can create more investment opportunity and have a better chance to generate more income.

3.2.5 Benchmark

In this part, I describe the criteria to find the benchmark to adjust the cash flow return in order to separate the result of merger and acquisition form the other factors. Ghosh (2001) and Powell and Stark (2005) suggested that the firm performance must be adjusted for the performance of industry, pre-performance and size. This is to ensure that the return calculated is affected by merger itself, not the other factors.

Healy, Palepu, and Ruback (1992) suggested that the operating cash flow is measured period-by-period and can be affected by industry factor. Barber and Lyon (1996) also documented that the industry should be used as the benchmark to control for the industry's effect because there are good economic reasons to show that performance might be varied by industry. Furthermore, some literatures also suggested for size matching. Agrawal, Jaffe, and Mandelker (1992) referred to the work of Dimson and Marsh (1986) and suggested that an adjustment for firm size is important in studies of long-run performance of stock return and this adjustment is likely to be particularly important in a study of merger and acquisition since acquirers are usually large firm.

Based on Barber and Lyon (1996), performance matching is also important to adjust the temporary component such as manipulating of accounting numbers, non-recurring income or expense, or temporary shift in product demand. This is because the performance will revert toward the population mean over time and researcher might make the wrong conclusion about the improvement of operating performance. Ghosh (2001) also suggested that the improvement in operating performance can be

biased when acquiring firms outperformed their industry before merger because of both permanent and temporary factors. The permanent factors arise from the difference in size of acquirers. The implication is that larger firms will be more profitable than smaller firms because the factor such as return to scale. The temporary factors resulted in superior performance of firms before merger, but it leads to the bias because it is unlikely to persist into the future.

However, Barber and Lyon (1996) compared the specification and empirical power of models that use in detecting abnormal operating performance and showed that, only pre-performance adjusted model yield well-specified statistical test in all partitions of firm size and performance even in the sample that experienced with unusually poor or good performance in pre-merger period. Size also has the relation to operating performance, but the explanatory power is quite low. Overall, they suggested that size is not critical to match in tests designed to detect operating performance. Based on powerful and specification of the model, and the sample in this study is related to unusually poor or good performance in pre-merger period.

Therefore, this paper matched firms with industry and pre-performance to control for industry and pre-performance effect as suggested by Barber and Lyon (1996).

3.2.6   Abnormal Operating Performance

There are two widely used models in determining the abnormal operating performance. The first one is the intercept model, this model use post and pre-merger performance to obtain the intercept coefficient to capture the improvement in operating performance. The second one is change model which was suggested by Barber and Lyon (1996), this model finds the change in operating performance by taking the difference of post and pre-merger performance and also deducted with the corresponding change in performance of matched firm.

Ghosh (2001) compared some of econometric problems on both change and intercept models and suggested that the bias would depend on the Econometrics problem such as measurement errors, permanent factors, and temporary factors. The illustration of Ghosh (2001) showed that change model is less likely to be the biased

estimator compared with intercept model. In order to compute the abnormal

operating performance, the relevant measure (operating cash flow) is scaled by the

deflator (Book value of asset) and defined as cash flow return. This study focuses on

the effect of merger and acquisition on acquirers, not the overall synergies. Therefore,

the pre and post-merger period cash flow return can be found by the ratio of operating

cash flow and book value of asset of acquirer as shown in (3) and (4).

$$\text{CF return }_{firm, \, pre} \quad = \quad \frac{\text{OCF}_{acquirer, \, pre}}{\text{BV of Asset }_{acquirer, \, pre\text{-}1}} \tag{3}$$

$$\text{CF return }_{firm, \, post} \quad = \quad \frac{\text{OCF}_{acquirer, \, post}}{\text{BV of Asset }_{acquirer, \, post\text{-}1}} \tag{4}$$

Where, CF return $_{firm, \, pre/post}$ is the pre/post-merger cash flow return,

OCF $_{acquirer, \, pre/post}$ is the pre/post-merger operating cash flow, and

BV of Asset $_{acquirer, \, pre\text{-}1/post\text{-}1}$ is the pre/post-merger book value of asset of acquirer at 1

year prior the year of interest.

Then, the improvement of performance in the Post-merger period can be found

by taking the different of post and pre-merger performance.

$$\text{CF return}_{\text{firm, pre-performance adjusted}} = \text{CF return}_{\text{firm, post}} - \text{CF return}_{\text{firm, pre}} \quad (5)$$

Where, CF return $_{\text{firm, pre-performance adjusted}}$ is the pre-merger performance adjusted cash flow return of acquirer firm.

However, the cash flow return also need to adjust by matched-firms to extract the difference between the firms who applied and did not apply merger and acquisition activities. Moreover, matched firms are also used to control for the industry effects and pre-performance effects as follows.

1. To control for industry and pre-performance, at year 0 (the year that a merger occurs) firms with the same 2-digit SIC codes as acquirers and the status (positive shock, or negative shock, or non-shock) of pre-merger (year -1) operating performance are the same as acquirer are chosen as the matched-firms and obtained their cash flow return in both pre and post-period.

2. The matched-firms also the firms that have not made the acquisition during six years window (year -3 to year 3).

3. Find the improvement of operating performance of matched-firms

$$\text{CF return}_{\text{Matched, pre-performance adjusted}} = \text{CF return}_{\text{post, Matched}} - \text{CF return}_{\text{pre, Matched}} \quad (6)$$

Where, CF return $_{\text{Matched, pre-performance adjusted}}$ is the cash flow return of matched-firm after adjusted for pre-performance and CF return $_{\text{pre/post, Matched}}$ is the cash flow return of matched-firm at pre/post-merger

4. The industry cash flow return is defined as the median of cash flow return of matched-firms after adjusting for pre-performance.

$$\text{Industry CF return} = \text{Median (CF return}_{\text{Matched, pre-performance adjusted}}) \quad (7)$$

Then, the abnormal cash flow return adjusted by pre-performance and industry can be found as in (8) and defined as abnormal operating performance.

$$\text{Abnormal CF return} = \text{CF return}_{\text{firm, pre-performance adjusted}} - \text{Industry CF return} \quad (8)$$

Where, Abnormal CF return is the abnormal cash flow return adjusted by pre-performance and industry, CF return $_{\text{pre-performance adjusted}}$ is from (5), and Industry CF return is from (7).

3.2.7   The Comparison of Abnormal Operating Performance

The abnormal operating performance between the groups of shock and non-shock firms, positive and negative shock, and cross-border and domestic acquisition are compared by using the Wilcoxon rank sum test to see whether the abnormal operating performance are different. To provide the difference between the abnormal operating performances of two groups of firms, the median of abnormal operating performance of two groups of firms are compared. Therefore, abnormal operating performance of 2 groups of firms can be found by (9) and (10) respectively.

$$\text{Performance}_{Group1} = \text{Median (abnormal operating performance}_{Group1}) \quad (9)$$

$$\text{Performance}_{Group2} = \text{Median (abnormal operating performance}_{Group2}) \quad (10)$$

Where, Performance $_{Group1/ Group2}$ represent the median of abnormal operating performance of group1/group2, abnormal operating performance $_{Group1/ Group2}$, are calculated from equation (8).

3.2.8   Regression Analysis on Abnormal Operating Performance

The relationship between abnormal operating performance (dependent variable) and the other independent variables which are dummy variable shock, positive shock, negative shock, and cross-border can be observed by using the multivariate regression. I also control for firm's characteristics including dummy variable of listed target, leverage (Total debt to total asset), acquirers' size (Book value of asset), relative size (Market value of target firm to market value of acquirer firm), and Tobin Q's ratio (market value to book value). The model also controls for industry, year, listed/unlisted target. The purpose of the multivariate regression is to see whether the results of the previous parts also robust when all of the key dummy variable, which are positive shock, negative shock, and cross-border acquisition, are included together and when controlling for the firm's characteristics.

$$\text{Operating Performance} \quad = \beta_0 + \sum_{j=1}^{5} \beta_j x_{ij} + \beta_6 \text{ Acquirer's size}_i +$$

$$\beta_7 \text{ Relative size}_i + \beta_8 \text{Leverage}_i + \beta_9 \text{Tobin Q}_i + \varepsilon_i \quad (11)$$

x_{ij} represents a vector of dummy variables in this study, the multivariate regression equation is separated into 10 sub-equations based on the combination of

each dummy variable in each equation. β_1 is dummy variable, which takes the value

of one if firm is classified as shock. β_2 is dummy variable, which takes the value of one

if firm is classified as positive shock. β_3 is dummy variable, which takes the value of

one if firm is classified as negative shock. β_4 is dummy variable, which takes the value

of one if firm do cross-border acquisition. β_5 is dummy variable, which takes the value

of one if firm acquired listed target. β_6 to β_9 are the coefficient of control variables. ε

is the regression error term.

Chapter IV

Empirical Results and Results Discussion

Based on the theory of merger (Gort, 1969), merger and acquisition is more likely

to occur when the firms experienced with shocks such as rapidly change in technology,

movement in security prices, and industry growth. Moreover, the evidence in Harford

(2005) also shows that the key driver of merger wave can be better explained by the

neoclassical hypothesis (Gort, 1969) i.e. Economic, regulatory, and technological shocks

are the key motivator to drive industry merger waves. However, there are the evidences

that firms with no operational motive to do merger may be forced by an agency

problem or behavioral driven and would produce poor post-merger operating

performance. Based on the good economic reasons to do merger and acquisition of

shock firms as suggested in Gort (1969),

I expect to see a better operating performance of shock firms than non-shock

firms. Therefore, I examine the difference between operating performance of shock

and non-shock firms to see whether firms that experienced with shock, who have

better economic reason to do merger and acquisition, will have better operating performance after merger or not.

Furthermore, many literatures suggested the advantage of using merger and acquisition as the restructuring tool for both positive and negative shock firms (Trautwein, 1990; Sudarsanam and Lai, 2001; Gaughan, 2007; Gopalan and Xie, 2011). However, there is the difference in motivation to do merger and acquisition and also difference in firm's conditions. The positive shock firms, who have the growth opportunity, use merger and acquisition as a tool for sustaining their growth, while the negative shock firms, who have decreased in performance and also have limitation in a growth opportunity, use merger and acquisition as a tool for turnaround.

Moreover, managers of negative shock firms are motivated to work harder and more careful than positive shock firms when making the decision to do merger and acquisition (Grossman and Hart, 1982; Jensen, 1986). This is because managers of negative shock firms are more likely to lose their job if the acquisition result is bad. Consequently, they have more incentive to do their best in order to achieve a

good acquisition result. Furthermore, Grossman and Hart (1982) documented that if

the benefits that managers receive from the firm are lost in the event of bankruptcy,

manager may prefer to maximize profits or come close to it rather than risk sacrificing

their perquisites. Thus, negative shock firms should have a stronger reduction in the

inefficient use of firm's asset and may produce more efficient acquisition results than

positive shock firms.

Furthermore, in post-merger period, negative shock firms, who are more likely

to have excess capacity due to inefficient used of the resource during the decline

period, might try to reallocate the resource to the places that they can maximize

their efficiency. The easiest way is the cost cutting process, e.g. shutdown or combine

the excess production lines to lean the production process. However, positive shock

firms, who expand via merger and acquisition, may not be possible to shut down the

overlapping production process if they operate in the full capacity.

Therefore, positive shock firms might have the production constraint in short to

medium term due to the difficulty to integrate the production process (Copeland,

Koller, and Murrin, 1996). Based on these evidences, I expect to see better improvement in operating performance of negative shock firms than positive shock firms.

Finally, I examine the operating performance of cross-border and domestic acquisition. Erel, Liao, and Weisbach (2012) suggested that cross-border acquisitions have an additional frictions compare to domestic acquisitions. The example of such additional frictions is that cross-border acquisitions are more costly than domestic acquisitions due to cultural and geographical difference, thus, more difficult to integrate a foreign target than a domestic target. Because of the higher cost of combining between two firms and the additional frictions in cross-border acquisitions (Erel, Liao, and Weisbach, 2012), cross-border acquisitions might be associated with worse operating performance than domestic acquisitions. Especially, for shock firms, who use mergers and acquisitions as the profit-maximizing respond to shock (Gort, 1969).

4.1 Operating Performance of Shock and Non-shock Firm

The neoclassical hypothesis suggested that the market will efficiently reallocate and reorganize assets through mergers and acquisitions when there are economic, regulatory, or technological shocks. Merger and acquisition might be a reasonable choice to reallocate the resource for those who have the good economic reasons. But, it might not be reasonable for those who do merger and acquisition with some conflicts of interest and regardless firms' benefits. In this part, I examine the difference between operating performance of shock and non-shock firms to see whether firms that experienced with shock, who have better economic reason to do merger and acquisition, will have better in operating performance after merger or not.

Table 2 panel A shows the operating performance of all U.S. and U.K. acquirers. In the pre-merger period, the operating performance (operating cash flow scale by book value of assets) is about 13.47% and 15.24% for the U.S. and U.K. respectively. The operating performance in the post-merger period becomes 10.43% for U.S. acquirers and 12.15% for U.K. acquirers. When adjusting with pre-merger performance and matched firms, which is defined as abnormal operating performance, the abnormal

operating performance is significantly decreased by -2.78% for U.S. acquirers and -3.08% for U.K. acquirers.

Panel B shows the operating performance of shock firms which are the firms that experienced with dramatic change in sales growth in the year before merger and acquisition. In the pre-merger year, the median of operating performance of acquirers are about 12.42% and 15.03% for U.S. and U.K. acquirers respectively, and become lower in the post-merger period at 9.61% for U.S. acquirers and 11.28% for U.K. acquirers. The difference in operating performance of post and pre-merger period after adjusting by matched firms shows that abnormal operating performance is about -2.52% for U.S. acquirers and -3.33% for U.K. acquirers with 1% significance level. The results indicate that merger and acquisition does not improve the operating performance of shock firms, even there are the evidences that the key driver of merger wave can be better explained by the neoclassical hypothesis (Gort, 1969) i.e. Economic, regulatory, and technological shocks are the key motivator to drive industry merger waves (Harford, 2005).

Panel C shows the operating performance of non-shock firms, the median of operating performance of non-shock acquirers in the pre-merger period are about 13.93% for U.S. acquirers and 15.35% for U.K. acquirers. The operating performance in the post-merger period is about 10.96% and 12.61% for U.S. and U.K. acquirers respectively. By comparison between post and pre-merger period after adjusting by matched firms, the abnormal operating performance decreased significantly at -2.91% for U.S. acquirers and -2.99% for U.K. acquirers.

Overall, the results in table 2 suggested that the operating performance of acquirers is decreased after the merger and acquisition activity for both shock and non-shock firms. The results are inconsistent with the literatures which suggested that merger and acquisition is the effective way of resource allocation (Trautwein, 1990; Sudarsanam and Lai, 2001; Gaughan, 2007; Gopalan and Xie, 2011). However the result in this paper is consistent with Meeks (1977) who reported the decrease in profitability of acquirers in the five subsequent years, Bouwman, Fuller, and Nain (2009) who observed the effect of merger and acquisition on firms' performance and found the

negative return, especially during on high value market. They also found that the underperformance of acquirers is caused by the firms that buy later in the merger wave (herding by manager).

Finally, we can see that merger and acquisition does not create the economic value to the shock firms, who are expected to have the improvement in operating performance based on the neoclassical view (Gort, 1969). The operating performance of non-shock firms also decrease after merger and acquisition, however, I do not expect the improvement of operating performance of non-shock firms. This is because non-shock firms are more likely to do merger and acquisition without any economic reasons and might contain more firms with agency driven merger.

Therefore, one of the plausible explanations about the decreasing in operating performance for both shock and non-shock firms is that, the acquirers with agency driven merger dominated the acquirers with synergy driven, thus result in the negative sign of the median of acquires operating performance.

In table 3 and 4, the statistical comparison between shock and non-shock firms

is made. Based on the evidences of previous literatures, merger and acquisition is the

appropriate response for those who experienced with change in economic conditions

such as change in regulation, technological development, change in sales, etc. (Gort,

1969; Mitchell and Mulherin, 1996; DePamphlis, 2001; Maksimovic and Phillips, 2001;

Ashta and Tolle, 2004; Harford, 2005). Therefore, to clarify whether shock firms, who

have a good economic reason to do merger and acquisition, will have better operating

performance than non-shock firms after merger, the operating performance after

adjusting by matched firms (Matched-adjusted operating performance) of shock and

non-shock firms are compared by using the Wilcoxon rank sum test.

Table 3 shows the comparative statistics between shock and non-shock firms in

U.S., shock firms are also classified into positive and negative shock, since, the

literatures documented that merger and acquisition are used by both positive and

negative shock firms and those firms expect the effect of takeover synergies to be

realized (Trautwein, 1990; Sudarsanam and Lai, 2001; Gaughan, 2007; Gopalan and Xie, 2011).

In table 3 panel A, the abnormal operating performance of shock firms is less negative than non-shock firms by 0.39% at 5% significance level. After classifying shock firms into positive and negative shock as shown in panel B and C, the abnormal operating performance of the positive shock firm is insignificantly different from non-shock firms, while the abnormal operating performance of negative shock firms is less negative than non-shock firms by 0.45% at 5% significance level.

Table 4 shows the comparative statistics between shock and non-shock U.K. firms, I also classified shock into positive and negative shock as in U.S. sample. In panel A, the result shows the insignificant difference in the abnormal operating performance of shock and non-shock firms. In panel B the results show that in the post-merger period, positive shock has significantly less negative in abnormal operating performance than non-shock by 1.24%, while panel C shows that the negative shock firms have more negative in abnormal operating performance than non-shock firms by

2.08%. It is very interesting to observe that the decrease in operating performance of the U.K. shock firms is dominated by the group of negative shock firms who have the median of abnormal operating performance about -5.07%, while only -1.75% for positive shock firms. This indicates that loss in merger and acquisition affect more in negative shock firms. This might be because the turnaround strategy for U.K. acquirers is less successful than the U.S. due to smaller size of market make more difficult to diversify geographically.

Overall, the results for U.S. firms show the difference between operating performance of shock and non-shock firms. This indicates that, U.S.'s shock firms, who have better economic reason to do merger and acquisition, have lower decrease in operating performance after the merger. However, the evidence is weaker for U.S. positive shock firms. The U.K.'s results are obviously seen that, the positive shock firms have significantly less negative in abnormal operating performance than non-shock firms, while the negative shock firms have more negative as reported in table 4 panel C. Even though the results tend to be consistent with hypothesis 1, the abnormal

operating performance of both shock and non-shock firms after the merger are

decreased as shown in table 2. Thus, the result might not be economically meaningful

because both shock and non-shock firms lose after merger and acquisition.

Table 2: Operating Performance of acquirers compared to Matched Firms. The operating performance can be found by using the operating cash flow scales by total asset. The median post-performance in column 1 is the median of operating performance of year 1, 2, and 3. The post less pre matched firms adjusted is the difference in different between operating performance of acquirer and matched firms in the post-merger period with operating performance of acquirer and matched firms in the pre-merger period; It can be written in mathematical form as $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$. Column 2 shows the operating performance of acquirers, while column 3 shows the operating performance of acquirers adjusting by matched firms. Statistical significance is examined with Wilcoxon rank-sum test for Acquirer-Matched (independent samples) and Wilcoxon sign-rank for $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$ (dependent samples): *, **, or *** indicates that the number is significantly different from zero at the 10%, 5%, or 1% level, respectively.

Panel A: All Acquirers				
	U.S.		U.K.	
Year	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	13.47*** (6487)	4.33*** (6453)	15.24*** (5395)	6.59*** (5973)
1	10.64*** (5970)	1.49*** (5939)	13.24*** (5079)	4.01*** (4613)
2	10.63*** (5479)	1.10*** (5428)	12.26*** (4711)	3.03*** (4216)
3	10.83*** (5023)	1.19*** (4951)	11.85*** (4297)	2.26*** (3771)
Median Post-performance	10.43*** (6157)	1.04*** (6124)	12.15*** (5151)	2.78*** (4695)
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$		-2.78*** (5756)		-3.08*** (4554)

Panel B: Shock Firms

Year	U.S.		U.K.	
	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	12.42[***] (2885)	4.22[***] (2853)	15.03[***] (2125)	8.04[***] (1884)
1	9.92[***] (2627)	1.71[***] (2598)	12.70[***] (2033)	3.89[***] (1693)
2	9.65[***] (2383)	1.54[***] (2334)	11.34[***] (1854)	3.49[***] (1509)
3	10.33[***] (2172)	1.59[***] (2104)	10.74[***] (1663)	2.24[***] (1301)
Median Post-performance	9.61[***] (2718)	1.34[**] (2687)	11.28[***] (2068)	3.30[***] (1733)
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post}$ - $(ACQ - MAT)_{pre}$		-2.52[***] (2484)		-3.33[***] (1647)

Panel C: Non-Shock Firms

Year	U.S.		U.K.	
	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	13.93[***] (3602)	4.54[***] (3600)	15.35[***] (3270)	6.18[***] (3189)
1	11.29[***] (3343)	1.41[***] (3341)	13.53[***] (3046)	4.05[***] (2920)
2	11.21[***] (3096)	0.85[***] (3094)	12.76[***] (2856)	2.83[***] (2707)
3	11.28[***] (2851)	0.98[***] (2847)	12.25[***] (2634)	2.26[***] (2470)
Median Post-performance	10.96[***] (3439)	0.89[***] (3437)	12.61[***] (3083)	2.70[***] (2962)
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post}$ - $(ACQ - MAT)_{pre}$		-2.91[***] (3272)		-2.99[***] (2907)

Table 3: Comparison of Operating Performance of Shock and Non-Shock in U.S. Firms (Wilcoxon Rank Sum Test). Column 2 and 3 show the operating performance of shock and non-shock firms after adjusting by matched firms respectively. Column 4 shows the different between operating performance after adjusting by matched firms of shock and non-shock firms. Statistical significance is examined with Wilcoxon rank-sum test for Acquirer-Matched (independent samples) and Wilcoxon sign-rank for $(ACQ - MAT)_{post}$ - $(ACQ - MAT)_{pre}$ (dependent samples): *, **, or *** indicates that the number is significantly different from zero at the 10%, 5%, or 1% level, respectively.

Panel A: Operating Performance of Shock VS Non-Shock Firms After Adjusting By Matched Firms			
Year	Shock (%)	Non-Shock (%)	Difference (%)
-1	4.22***	4.54***	-0.31*
1	1.71***	1.41***	0.30*
2	1.54***	0.85***	0.69**
3	1.59***	0.98***	0.61
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post}$ - $(ACQ - MAT)_{pre}$	-2.52***	-2.91***	0.39**
Panel B: Operating Performance of Positive Shock VS Non-Shock Firms After Adjusted By Matched Firms			
Year	Shock (%)	Non-Shock (%)	Different (%)
-1	4.61***	4.54***	0.08*
1	1.43**	1.41***	0.02
2	1.95***	0.85***	1.09**
3	2.23***	0.98***	1.25*
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post}$ - $(ACQ - MAT)_{pre}$	-2.83***	-2.91***	0.08
Panel C: Operating Performance of Negative Shock VS Non-Shock Firms After Adjusted By Matched Firms			
Year	Shock (%)	Non-Shock (%)	Different (%)
-1	3.39***	4.54***	-1.15***
1	2.18***	1.41***	0.78**
2	0.70***	0.85***	-0.15
3	0.60***	0.98***	-0.38
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post}$ - $(ACQ - MAT)_{pre}$	-2.46***	-2.91***	0.45***

Table 4: Comparison of Operating Performance of Shock and Non-Shock in U.K. Firms (Wilcoxon Rank Sum Test). Column 2 and 3 show the operating performance of shock and non-shock firms after adjusting by matched firms respectively. Column 4 shows the different between operating performance after adjusting by matched firms of shock and non-shock firms. Statistical significance is examined with Wilcoxon rank-sum test for Acquirer-Matched (independent samples) and Wilcoxon sign-rank for $(ACQ - MAT)_{post}$ - $(ACQ - MAT)_{pre}$ (dependent samples): *, **, or *** indicates that the number is significantly different from zero at the 10%, 5%, or 1% level, respectively.

Panel A: Operating Performance of Shock VS Non-Shock Firms After Adjusted By Matched Firms			
Year	Shock (%)	Non-Shock (%)	Different (%)
-1	8.04***	6.18***	1.86***
1	3.89***	4.05***	-0.16
2	3.49***	2.83***	0.66**
3	2.24***	2.26***	-0.02
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post}$ - $(ACQ - MAT)_{pre}$	-3.33***	-2.99***	-0.34
Panel B: Operating Performance of Positive Shock VS Non-Shock Firms After Adjusted By Matched Firms			
Year	Shock (%)	Non-Shock (%)	Different (%)
-1	7.81***	6.18***	1.63***
1	4.56***	4.05***	0.51
2	3.99***	2.83***	1.16***
3	2.42***	2.26***	0.16
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post}$ - $(ACQ - MAT)_{pre}$	-1.75***	-2.99***	1.24*
Panel C: Operating Performance of Negative Shock VS Non-Shock Firms After Adjusted By Matched Firms			
Year	Shock (%)	Non-Shock (%)	Different (%)
-1	8.05***	6.18***	1.87***
1	2.81***	4.05***	-1.24
2	2.67***	2.83***	-0.17
3	2.14***	2.26***	-0.12
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post}$ - $(ACQ - MAT)_{pre}$	-5.07***	-2.99***	-2.08*

4.2 Operating Performance of Positive and Negative Shock Firm

In this part shows the effect of merger and acquisition in the operating performance of positive and negative shock firms and also compares the operating performance of positive and negative shock firms. Many literatures documented that firms use merger and acquisition as a restructuring tool in response to both growing and declining in performance and expected the effect of takeover synergies to be realized in both periods. I also separate the shock into internal and external shock to observe the operating performance of each type of firms. This is because the literatures (Gort, 1969; Mitchell and Mulherin, 1996; Andrade and Stafford, 2004) documented that both internal and external shocks can motivate the merger and acquisition activity.

However, the key motivation to do merger and acquisition of internal and external shock firms may be different. In internal shock, merger and acquisition are usually driven by firms' specific organizational issues, while the external shock firms do merger and acquisition in response to changes in macro-level such as industry, economic condition, change in regulation and technological development.

There is the difference in motivation to do merger and acquisition and also difference in firm's conditions between positive and negative shock firms. The positive shock firms, who have growth opportunity, use merger and acquisition as a tool for sustaining their growth, while the negative shock firms, who have decreased in performance and also have limitation in a growth opportunity, use merger and acquisition as a tool for turnaround. Moreover, it is possible that, positive shock firms, who have better in performance and also have excess in cash, tend to have less carefulness than negative shock firms, whose manager are motivated to work harder and more careful when making the decision.

Furthermore, after merger and acquisition activities, negative shock firms, who are more likely to have excess capacity due to inefficient used of the resource during the decline period, will reallocate the resource to the places that they can maximize their efficiency. One of the easiest ways is the cost cutting process, e.g. shutdown or combine the excess production lines to lean the production process. However, positive shock firms, who expand via merger and acquisition, may not be possible to shut down

the overlapping production process if they operate in the full capacity (Copeland, Koller, and Murrin, 1996). Hence, positive shock firms tend to have the production constraint in short to medium term based on the difficulty to integrate the production lines. Therefore, the cost cutting in the production process in negative shock firms should be easier to implement and more efficient than the integration of production lines in the positive shock firms.

Therefore, I also examine the difference between the abnormal operating performance of positive and negative shock firms. The abnormal operating performance can be found by comparing the operating performance of post-merger and pre-merger period and also adjusted with matched firms (firms with the same characteristics as acquirer, but did not do the merger and acquisition) to exact the effect of operating performance out of the other factors.

Table 5 panel A shows the operating performance of U.S. and U.K. positive shock firms. For U.S. acquirers, the pre-merger operating performance of positive shock firms is about 13.25% and become 10.08% in the post-merger period. The abnormal

operating performance of the U.S. positive shock firm is decreased about -2.83% with 1% significance level. For U.K. acquirers, the pre-merger operating performance of positive shock firms is about 16.05% and become 11.88% in the post-merger period. The abnormal operating performance of the U.K. positive shock firm is decreased significantly about -1.75%

Panel B shows the operating performance of internal positive shock. The results show that the U.S. internal positive shock firms have pre-merger operating performance about 13.04% and decrease to 9.59% in the Post-merger period. The abnormal operating performance is decreased significantly about -2.78%. For U.K. internal positive shock firms, the pre-merger operating performance is about 14.86% and decrease to 11.71% in the post-merger period. The abnormal operating performance also decreases significantly about -1.76%.

In panel C, the operating performance of external positive shock are presented, the operating performance of U.S. external positive shock is about 14.41% in pre-merger period and also decrease to 12.95% in post-merger. The abnormal operating

performance also decreases significantly at -3.15%. The results in the U.K. have the

same trend as in the U.S. sample, i.e. the operating performance in pre-merger is about

19.87% and decrease to 12.43% in post-merger. The abnormal operating performance

also decreases by -1.74%

In table 6, the operating performance of the U.S. and U.K. negative shock firms

is presented. The results have the same trend as in the positive shock samples. For

U.S. acquirers, operating performance of negative shock firms are about 11.96% in pre-

merger and decrease to 9.16% in the post-merger period as shown in panel A. The

abnormal operating performance of U.S. negative shock firms is about -2.46%. After

classifying into internal and external shock, the abnormal operating performance is

about -2.21% and -3.96% respectively with 1% significance level. Notice that, the

decreasing in operating performance of U.S. negative shock is dominated by the

external shock.

For U.K. acquirers, panel A shows that the operating performance of negative

shock firms are about 13.88% in pre-merger and decrease to 10.64% in the post-merger

period. The abnormal operating performance of U.K. negative shock firms is about -5.07%. After classifying into internal and external shock, the abnormal operating performance is about -6.06% and -3.31% respectively with 1% significance level. It is obviously seen that the decreasing of operating performance in U.K. negative shock firms is dominated by the internal negative shock firms which is about -6.06%.

The plausible explanation for the decreasing in operating performance after the merger and acquisition is that the mergers and acquisitions are motivated by the self-interest of acquirers' management rather than maximizing shareholder wealth. There are the evidences that managements use merger and acquisition to diversify their personal portfolio or increase their managed asset to increase management dependency (Jensen, 1986; Sharma and Ho, 2002; Shleifer and Vishny, 2003).

I also compare the operating performance of positive and negative shock firms as shown in table 7 to test for the second hypothesis. Table 7 panel A shows the difference in the abnormal operating performance of positive and negative shock firms. The table shows that, the abnormal operating performance of negative shock firms is

less negative than positive shock firms by 0.37% for U.S. acquirers. However, the difference might not be economically meaningful because of the difference is very small. Panel B shows the comparison of operating performance for U.K. acquirers. The results suggest that after merger and acquisition, the operating performance of positive shock firms is less negative than negative shock firms by 3.32% and the result is inconsistent with the U.S. sample.

Therefore, based on the inconclusive results between U.S. and U.K. sample, we cannot clarify that the cost cutting in the production process in negative shock firms is more profitable than the integration of production lines in the positive shock firms. Therefore, the result of the test for hypothesis 2 is inconclusive. It is obviously seen that the decreasing in operating performance of U.K. acquirers is dominated by negative shock firms. Meaning that the turnaround strategy of the U.K. negative shock firms is less successful than the U.S. firms, thus result in a substantial decrease in operating performance of negative shock firms than positive shock firms for the U.K. acquirers. The plausible explanation is that, because of the smaller size of economy

in the U.K., it is more difficult to turnaround geographically than the U.S. firms, who

have a bigger size of economy, i.e. the acquirers in a bigger size of economy tend to

have more chance to have the successful turnaround than the acquirers in a smaller

size of economy.

Overall, the results suggest that for the firms that experienced with shock in both

positive and negative ways, merger and acquisition activities decrease the operating

performance of firms and the evidences also robust across the country. This study

finds no evidence to support the synergies gain form the merger and acquisition. It is

obviously seen that the merger and acquisition do not generate synergies, which is

proxied by operating performance indicators.

The results are inconsistent with the previous study who suggested that merger

and acquisition is one of the choices that can help firms using the resource more

efficiently and can be used for both sustainable growth and turnaround strategy

(Trautwein, 1990; Sudarsanam and Lai, 2001; Andrade and Stafford, 2004; Gaughan,

2007). However, the results in this paper are consistent with Meeks (1977), Cable,

Palfrey, and Runge (1980), Jenny and Weber (1980), Peer (1980), Ryden and Edberg

(1980), Kump and Wtterwulghe (1980), Herman and Lowenstein (1988), Ghosh (2001),

Gugler, Mueller, Yurtoglu, and Zulehner (2003), Cosh, Guest, and Hughes (2006), and

Bouwman, Fuller, and Nain (2009) who observe the effect of merger and acquisition

on firms' performance and found that there is the negative return for acquirers after

merger.

Table 5: Operating Performance of Positive Shock Firms. The operating performance can be found by using the operating cash flow scales by total asset. The median post-performance in column 1 is the median of operating performance of year 1, 2, and 3. The post less pre matched firms adjusted is the difference in different between operating performance of acquirer and matched firms in the post-merger period with operating performance of acquirer and matched firms in the pre-merger period; It can be written in mathematical form as $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$. Column 2 shows the operating performance of acquirers, while column 3 shows the operating performance of acquirers adjusting by matched firms. Panel A represents the operating performance of positive shock firms, while panel B and C classified the positive shock into internal and external positive shock respectively. Firms that are classified as internal positive shock are the firms that have sales growth in the pre-merger year higher than their past 4 years median plus 1.65 of standard deviation, while the median of their industry's sales growth are not exceed the range. External positive shock firms are the firms that have both firms' sales growth and industry's sales growth in the pre-merger year higher than their past 4 years median plus 1.65 of standard deviation. Statistical significance is examined with Wilcoxon rank-sum test for Acquirer-Matched (independent samples) and Wilcoxon sign-rank for $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$ (dependent samples): *, **, or *** indicates that the number is significantly different from zero at the 10%, 5%, or 1% level, respectively.

Panel A: Positive Shock				
	U.S.		U.K.	
Year	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	13.25*** (1623)	4.61*** (1599)	16.04*** (1236)	7.81*** (1055)
1	10.20*** (1508)	1.43*** (1487)	13.02*** (1206)	4.56*** (956)
2	9.73*** (1363)	1.94*** (1338)	11.53*** (1085)	3.99*** (842)
3	11.00*** (1236)	2.23*** (1203)	10.65*** (990)	2.42*** (738)
Median Post-performance	10.08*** (1551)	1.37*** (1530)	11.88*** (1227)	3.92*** (981)
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$		-2.83*** (1421)		-1.75*** (915)

Panel B: Internal Positive Shock

Year	U.S.		U.K.	
	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	13.04*** (1327)	5.14*** (1303)	14.86*** (983)	6.45*** (817)
1	9.98*** (1236)	1.67*** (1216)	12.73*** (945)	4.64*** (718)
2	9.08*** (1123)	2.17*** (1099)	11.57*** (849)	3.36*** (628)
3	10.51*** (1020)	2.39*** (987)	10.68*** (776)	1.58*** (544)
Median Post-performance	9.59*** (1269)	1.37** (1248)	11.71*** (964)	3.68*** (735)
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$		-2.78*** (1160)		-1.76** (682)

Panel C: External Positive Shock

Year	U.S.		U.K.	
	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	14.41*** (204)	3.04** (203)	19.87*** (253)	12.07*** (238)
1	11.72*** (272)	0.50 (271)	14.65*** (261)	4.35*** (238)
2	12.95*** (240)	1.76* (239)	11.06*** (236)	7.54*** (214)
3	14.07*** (216)	1.85* (216)	9.82*** (214)	2.75*** (194)
Median Post-performance	12.95*** (282)	1.32** (282)	12.43*** (262)	4.42*** (245)
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$		-3.15*** (261)		-1.74*** (233)

Table 6: Operating Performance of Negative Shock Firms. The operating performance can be found by using the operating cash flow scales by total asset. The median post-performance in column 1 is the median of operating performance of year 1, 2, and 3. The post less pre matched firms adjusted is the difference in different between operating performance of acquirer and matched firms in the post-merger period with operating performance of acquirer and matched firms in the pre-merger period; It can be written in mathematical form as $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$. Column 2 shows the operating performance of acquirers, while column 3 shows the operating performance of acquirers adjusting by matched firms. Panel A represents the operating performance of negative shock firms, while panel B and C classified the negative shock into internal and external negative shock respectively. Firms that are classified as internal negative shock are the firms that have sales growth in the pre-merger year lower than their past 4 years median minus 1.65 of standard deviation, while the median of their industry's sales growth are not below the range. External negative shock firms are the firms that have both firms' sales growth and industry's sales growth in the pre-merger year lower than their past 4 years median minus 1.65 of standard deviation. Statistical significance is examined with Wilcoxon rank-sum test for Acquirer-Matched (independent samples) and Wilcoxon sign-rank for $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$ (dependent samples): *, **, or *** indicates that the number is significantly different from zero at the 10%, 5%, or 1% level, respectively.

Panel A: Negative Shock				
	U.S.		U.K.	
Year	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	11.96*** (1262)	3.38*** (1254)	13.88*** (889)	8.05*** (829)
1	9.27*** (1119)	2.18*** (1111)	12.03*** (827)	2.81*** (737)
2	9.63*** (1020)	0.70*** (996)	11.23*** (769)	2.67*** (667)
3	9.48*** (936)	0.60*** (901)	11.09*** (673)	2.14** (563)
Median Post-performance	9.16*** (1167)	1.21*** (1157)	10.64*** (841)	2.52*** (752)
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$		-2.46*** (1063)		-5.07*** (753)

Panel B: Internal Negative Shock				
	U.S.		U.K.	
Year	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	11.55*** (950)	3.13*** (946)	13.79*** (637)	9.19*** (586)
1	8.58*** (845)	1.89*** (840)	11.65*** (592)	4.53*** (519)
2	9.29*** (768)	0.21** (746)	9.88*** (549)	2.23*** (469)
3	9.02*** (707)	0.03 (674)	10.31*** (475)	2.11*** (387)
Median Post-performance	8.62*** (885)	0.66 (877)	9.86*** (604)	2.13*** (532)
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$		-2.21*** (801)		-6.06*** (515)

Panel C: External Negative Shock				
	U.S.		U.K.	
Year	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	12.63*** (239)	4.70*** (309)	13.97*** (252)	5.39*** (243)
1	10.59*** (273)	3.10*** (272)	12.95*** (235)	1.89** (218)
2	11.25*** (251)	1.59*** (250)	13.15*** (220)	2.95*** (198)
3	11.01*** (228)	2.20*** (227)	12.81*** (197)	2.65** (176)
Median Post-performance	10.49*** (281)	1.96*** (280)	12.11*** (237)	2.65** (220)
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$		-3.96*** (262)		-3.31*** (217)

Table 7: The Difference in Operating Performance of Positive and Negative Shock Firms

Panel A: Operating Performance of Positive VS Negative Shock Firms After Adjusted By Matched Firms for U.S.

Year	Positive (%)	Negative (%)	Different (%)
-1	4.61***	3.39***	1.23*
1	1.43***	2.18***	-0.76
2	1.95***	0.70***	1.25
3	2.23***	0.60***	1.63
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$	-2.83***	-2.46***	-0.37*

Panel B: Operating Performance of Positive VS Negative Shock Firms After Adjusted By Matched Firms for U.K.

Year	Positive (%)	Negative (%)	Different (%)
-1	7.81***	8.05***	-0.23
1	4.56***	2.81***	1.76
2	3.99***	2.67***	1.32***
3	2.42***	2.14**	0.27
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$	-1.75***	-5.07***	3.32***

4.3 Cross-border Acquisition and Firm's Performance

Gort (1969) documented that firms use merger and acquisition as the profit-maximizing response to shock i.e. managers expect the improvement in operating efficiency, allocative efficiency to promote overall economic gains for the company, rather than their personal utility maximization. Furthermore, Erel, Liao, and Weisbach (2012) suggested that cross-border acquisitions have an additional frictions compare to domestic acquisitions. The example of such additional frictions is that cross-border deals are more costly than domestic deals due to cultural and geographic difference. Therefore, assuming that acquisitions are a profit-maximizing response to shocks, frequency of cross-border acquisitions should be lower for acquirers experiencing shocks than acquirers not experiencing shocks because of additional frictions.

Table 8 shows the number of cross-border and domestic acquisitions classified as shock and non-shock acquirers in the U.S. and U.K. The results of the Chi-square test in panel A table 8 shows that, in the U.S., shock or non-shock are not related to the cross-border strategy of the firms (p-value = 0.3321), i.e. most of U.S. firms tend to

acquire domestic rather than cross-border targets regardless shock or non-shock conditions.

However, Panel B shows that, in the U.K., shock or non-shock relate to the cross-border strategy of the firms (p-value = 0.0316), i.e. the decision of firms to do cross-border or domestic acquisitions can be driven by firm's status (shock or non-shock).

Therefore, it can be seen that the difference between the proportion of cross-border and domestic acquisitions of shock and non-shock firms are more pronounced in the U.K. Thus, the frictions to acquire cross-border targets in the U.K. may be lower than U.S. Based on these evidences, we can see that in the environment that has lower frictions to do cross-border acquisition such as in the U.K., firms acquire more frequently in cross-border targets and firm's conditions (shock or non-shock) have more effect on the acquirer's decision to do cross-border or domestic acquisitions.

However, even the proportion of cross-border acquisition in non-shock acquirers are significantly higher than shock acquirers in the U.K., the proportion is not economically different (There is 33.5% of shock firms with cross-border acquisition and

36.3% of non-shock firms with cross-border acquisition). This might be because oversea targets are more difficult to value accurately because of imperfect information, difficulties of managing the post-merger process when cultural differences make integration a difficult, time consuming and expensive process, and these problems clearly affect cross-border rather than domestic acquisitions (Denis, Denis, and Yost 2002; Conn, Cosh, Guest, and Hughes, 2005; Moeller and Schlingemann 2005; Erel, Liao, and Weisbach, 2012).

More importantly, because of the higher cost of combining between two firms and the additional frictions in cross-border acquisitions (Erel, Liao, and Weisbach, 2012). I predict that the cross-border acquisitions should be associated with worse operating performance than domestic acquisitions. Especially, for shock firms who use mergers and acquisitions as the profit-maximizing respond to shock (Gort 1969). Therefore, in this part I classified merger and acquisition into cross-border and domestic acquisition to observe the operating performance of each merger type.

Table 9 panel A shows the operating performance of U.S. shock firms. In cross-border acquirers, the operating performance of acquirers adjusted by matched firm decrease from 2.39% in the pre-merger period to 1.51% in the post-merger period. The abnormal operating performance is about -2.74% with 1% significance level. For domestic acquisitions, the operating performance of acquirers adjusted by matched firm also decrease from 4.34% in the Pre-merger period to 1.33% in the Post-merger period. The abnormal operating performance also decreases significantly about -2.52%.

Panel B presents the operating performance of U.S. non-shock firms. In cross-border acquirers, the operating performance of acquirers adjusted by matched firm decrease from 3.84% in the pre-merger period to 0.85% in the post-merger period. The abnormal operating performance is about -3.45% with 1% significance level. For domestic acquisitions, the operating performance of acquirers adjusted by matched firm also decrease from 4.62% in the Pre-merger period to 0.89% in the Post-merger period. The abnormal operating performance also decreases significantly about -3.15%.

Panel C presents the difference in operating performance of U.S. cross-border and domestic acquisition. The results suggest that, in both shock and non-shock acquirers, there is no statistically difference in abnormal operating performance between cross-border and domestic deals.

Table 10 panel A shows the operating performance of U.S. positive shock firms classified into cross-border and domestic acquisition. In cross-border acquirers, the operating performance of acquirers adjusted by matched firm decrease from 4.57% in the pre-merger period to 0.47% in the post-merger period. The abnormal operating performance is about -4.40% with 1% significance level. For domestic acquisitions, the operating performance of acquirers adjusted by matched firm also decrease from 4.61% in the pre-merger period to 1.46% in the post-merger period. The abnormal operating performance also decreases significantly about -2.73%.

Panel B presents the operating performance of U.S. negative shock firms. In cross-border acquirers, the operating performance of acquirers adjusted by matched firm significantly decrease from 3.23% in the pre-merger period to 1.89% in the post-merger

period. The abnormal operating performance is about -1.34%. For domestic acquisitions, the operating performance of acquirers adjusted by matched firm also decrease from 4.17% in the pre-merger period to 0.88% in the post-merger period. The abnormal operating performance also decreases significantly about -2.93%.

Panel C presents the difference in operating performance of U.S. cross-border and domestic acquisition classified as positive and negative shock. The results suggest that, in positive shock acquirers, the abnormal operating performance of domestic acquisition is statistically less negative than cross-border acquisition about 1.67%. However, in negative shock firms, the result shows that the abnormal operating performance of cross-border acquisition is less negative than domestic acquisition about 1.44%.

Table 11 panel A shows the operating performance of U.K. shock firms. In cross-border acquirers, the operating performance of acquirers adjusted by matched firm decrease from 10.28% in the pre-merger period to 5.60% in the post-merger period. The abnormal operating performance is about -3.39% with 1% significance level. For

domestic acquisitions, the operating performance of acquirers adjusted by matched firm also decrease from 6.59% in the Pre-merger period to 2.12% in the Post-merger period. The abnormal operating performance also decreases significantly about -3.05%.

Panel B presents the operating performance of U.K. non-shock firms. In cross-border acquirers, the operating performance of acquirers adjusted by matched firm decrease from 7.38% in the pre-merger period to 3.46% in the post-merger period. The abnormal operating performance is about -3.13% with 1% significance level. For domestic acquisitions, the operating performance of acquirers adjusted by matched firm also decrease from 5.60% in the pre-merger period to 2.43% in the post-merger period. The abnormal operating performance also decreases significantly about -2.90%.

Panel C presents the difference in operating performance of U.K. cross-border and domestic acquisition. The results suggest that, the operating performance of domestic acquirers is less negative than cross-border acquirers for both shock and non-shock group.

Table 12 panel A shows the operating performance of U.K. positive shock firms classified into cross-border and domestic acquisition. In cross-border acquirers, the operating performance of acquirers adjusted by matched firm decrease from 9.61% in the pre-merger period to 6.17% in the post-merger period. The abnormal operating performance is decreased significantly about -1.77%. For domestic acquisitions, the operating performance of acquirers adjusted by matched firm also decrease from 6.70% in the pre-merger period to 2.65% in the post-merger period. The abnormal operating performance also decreases significantly about -1.31% with 1% significance level.

Panel B presents the operating performance of U.K. negative shock firms. In cross-border acquirers, the operating performance of acquirers adjusted by matched firm insignificantly increase from 10.66% in the pre-merger period to 4.73% in the post-merger period. The abnormal operating performance decreases significantly about -6.70%. For domestic acquisitions, the operating performance of acquirers adjusted by matched firm also decrease from 6.52% in the pre-merger period to 0.77% in the post-

merger period. The abnormal operating performance also decreases significantly about

-6.19%.

Panel C presents the difference in operating performance of U.K. cross-border

and domestic acquisition classified as positive and negative shock. The results suggest

that, in positive shock acquirers, the abnormal operating performance of domestic

acquisition is less negative than cross-border acquisition about 0.47%. In negative shock

firms, the result also shows that the abnormal operating performance of domestic

acquisition is less negative than cross-border acquisition about 0.51%.

Overall, the results suggest that, in the U.S., the operating performance of

acquirers after merger and acquisition is decreased for both domestic and cross-border

acquisition which is in the same direction with the previous parts. When classified the

acquirers into the groups of shock and non-shock and compare the operating

performance of cross-border and domestic, the results show that the operating

performance of cross-border and domestic are not statistically different for both shock

and non-shock firms. Nevertheless, when classified shock into positive and negative

shock, the results show that positive shock acquirers who acquired domestic target

have less negative in abnormal operating performance than cross-border targets after

merger. However, the negative shock acquirers who acquired cross-border targets have

less negative in abnormal operating performance than domestic targets, indicating that

negative shock firms in the U.S. are better off when diversify across the country.

In the U.K., the operating performance also decreases in post-merger as in the

U.S. firms. When classified acquirers to shock and non-shock and compare the

operating performance of cross-border and domestic, the results show that the

operating performance of domestic acquirers is less negative than cross-border

acquirers in both shock and non-shock firms. After classifying shock into positive and

negative shock, the results also show that the operating performance of both positive

and negative shock acquirers who acquired domestic targets are less negative than

cross-border targets.

Therefore, the results tend to be concluded that domestic acquisitions are

associated with better operating performance than cross-border acquisitions, which is

consistent with the hypothesis 3 and previous studies (Denis, Denis, and Yost, 2002;

Shimizu, Hitt, Vaidyanath, and Pisano, 2004; Conn, Cosh, Guest, and Hughes, 2005;

Moeller and Schlingemann, 2005) who suggested that firms with cross-border

acquisition perform relatively worse than firms with domestic acquisition. The plausible

explanations are that, the overseas targets are more difficult to manage the post-

merger process when cultural differences make integration a difficult, time consuming

and expensive process, cross-border acquirers may encounter significant information

asymmetries and are more likely to overestimate synergies and overpay for foreign

targets than domestic acquirers.
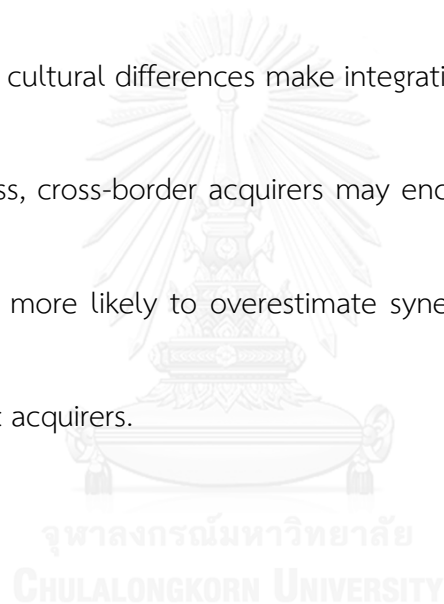
Table 8: The Number of Cross-Border and Domestic acquisitions. The group of shock and non-shock firms are classified as cross-border and domestic acquisition. The Chi-square test is used to test whether the choice of firm to do cross-border or domestic acquisition depends on the firm's condition (Shock or Non-shock).			
Panel A: U.S. Acquisitions			
Status	Cross-Border (% proportion)	Domestic (% proportion)	Total (% proportion)
Shock	465 (14.7%)	2704 (85.3%)	3169 (100%)
Non-Shock	594 (15.5%)	3229 (84.5%)	3823 (100%)
Chi-sq	0.9406		
P-Value	0.3321		
DF	1		
Panel B: U.K. Acquisitions			
Status	Cross-Border (% proportion)	Domestic (% proportion)	Total (% proportion)
Shock	764 (33.5%)	1516 (66.5%)	2280 (100%)
Non-Shock	1235 (36.3%)	2165 (63.7%)	3400 (100%)
Chi-sq	4.6183		
P-Value	0.03163		
DF	1		

Table 9: Operating Performance of U.S. Cross-Border and Domestic Acquisition classified as Shock and Non-Shock Firms. The operating performance can be found by using the operating cash flow scales by total asset. The median post-performance in column 1 is the median of operating performance of year 1, 2, and 3. The post less pre matched firms adjusted is the difference in different between operating performance of acquirer and matched firms in the post-merger period with operating performance of acquirer and matched firms in the pre-merger period; It can be written in mathematical form as $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$. Column 2 shows the operating performance of acquirers, while column 3 shows the operating performance of acquirers adjusting by matched firms. In panel C, difference of cross-border and domestic acquisition is the difference between the value of post less pre matched firms adjusted of cross-border and domestic. Statistical significance is examined with Wilcoxon rank-sum test for Acquirer-Matched (independent samples) and Wilcoxon sign-rank for $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$ (dependent samples): *, **, or *** indicates that the number is significantly different from zero at the 10%, 5%, or 1% level, respectively.

Panel A: Shock Firms				
	Cross-Border		Domestic	
Year	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	9.73*** (414)	2.39** (266)	12.96*** (2,471)	4.34*** (2,442)
1	7.39*** (367)	1.04 (362)	10.21*** (2,260)	1.81*** (2,237)
2	7.22*** (337)	1.76 (326)	9.94*** (2,046)	1.51*** (2,008)
3	8.48*** (310)	0.46 (294)	10.68*** (1,862)	1.70*** (1,810)
Median Post-performance	7.30*** (379)	1.51 (373)	9.91*** (2,339)	1.33*** (2,314)
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$		-2.74*** (344)		-2.52*** (2,140)

Panel B: Non-Shock Firms				
	Cross-Border		Domestic	
Year	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	12.82*** (554)	3.84*** (554)	14.18*** (3,048)	4.62*** (3,047)
1	10.77*** (523)	1.16** (523)	11.36*** (2,820)	1.41*** (2,819)
2	10.85*** (482)	0.23 (482)	11.27*** (2,614)	0.96*** (2,613)
3	10.83*** (444)	1.02** (444)	11.37*** (2,407)	0.98*** (2,404)
Median Post-performance	10.64*** (536)	0.85 (535)	11.04*** (2,903)	0.89*** (2,902)
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$		-3.45*** (509)		-3.15*** (2,763)
Panel C: Difference of Cross-Border and Domestic Acquisition				
	Shock Firms		Non-Shock Firms	
Year	Acquirer-Matched (%) (Sample Size)		Acquirer-Matched (%) (Sample Size)	
-1	-1.95		-0.78	
1	-0.77		-0.25	
2	0.25		-0.73	
3	-1.24		0.04	
Median Post-performance	0.17		-0.04	
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$	-0.22		-0.30	

Table 10: Operating Performance of U.S. Cross-Border and Domestic Acquisition classified as Positive and Negative Shock Firms. The operating performance can be found by using the operating cash flow scales by total asset. The median post-performance in column 1 is the median of operating performance of year 1, 2, and 3. The post less pre matched firms adjusted is the difference in different between operating performance of acquirer and matched firms in the post-merger period with operating performance of acquirer and matched firms in the pre-merger period; It can be written in mathematical form as $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$. Column 2 shows the operating performance of acquirers, while column 3 shows the operating performance of acquirers adjusting by matched firms. In panel C, difference of cross-border and domestic acquisition is the difference between the value of post less pre matched firms adjusted of cross-border and domestic. Statistical significance is examined with Wilcoxon rank-sum test for Acquirer-Matched (independent samples) and Wilcoxon sign-rank for $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$ (dependent samples): *, **, or *** indicates that the number is significantly different from zero at the 10%, 5%, or 1% level, respectively.

Panel A: Positive Shock Firms				
	Cross-Border		Domestic	
Year	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	10.93*** (227)	4.57*** (226)	13.73*** (1,396)	4.61*** (1,373)
1	7.58*** (207)	-1.01 (203)	10.49*** (1,301)	1.66*** (1,284)
2	7.71*** (188)	1.76 (184)	9.97*** (1,175)	2.31*** (1,154)
3	8.35*** (170)	-0.03 (164)	11.56*** (1,066)	2.53*** (1,039)
Median Post-performance	7.36*** (212)	0.47 (208)	10.48*** (1,339)	1.46*** (1,322)
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$		-4.40*** (191)		-2.73*** (1,230)

Panel B: Negative-Shock Firms				
	Cross-Border		Domestic	
Year	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	7.11*** (187)	3.23** (185)	12.37*** (1,075)	3.47*** (1,069)
1	7.23*** (160)	1.60* (158)	9.81*** (958)	2.11 (953)
2	6.49*** (149)	1.70* (142)	9.75*** (871)	0.67*** (854)
3	8.54*** (140)	1.46** (130)	9.67*** (796)	0.29*** (771)
Median Post-performance	7.30*** (167)	1.89* (165)	9.32*** (1,000)	0.88** (992)
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$		-1.34* (152)		-2.93*** (910)
Panel C: Difference of Cross-Border and Domestic Acquisition				
	Positive Shock Firms		Negative Shock Firms	
Year	Acquirer-Matched (%) (Sample Size)		Acquirer-Matched (%) (Sample Size)	
-1	-0.04		-2.94	
1	-2.67**		0.48	
2	-0.55		1.03	
3	-2.56		1.17	
Median Post-performance	-0.99		1.02	
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$	-1.67*		1.44**	

Table 11: Operating Performance of U.K. Cross-Border and Domestic Acquisition classified as Shock and Non-Shock Firms. The operating performance can be found by using the operating cash flow scales by total asset. The median post-performance in column 1 is the median of operating performance of year 1, 2, and 3. The post less pre matched firms adjusted is the difference in different between operating performance of acquirer and matched firms in the post-merger period with operating performance of acquirer and matched firms in the pre-merger period; It can be written in mathematical form as (ACQ – MAT)post - (ACQ – MAT)pre. Column 2 shows the operating performance of acquirers, while column 3 shows the operating performance of acquirers adjusting by matched firms. In panel C, difference of cross-border and domestic acquisition is the difference between the value of post less pre matched firms adjusted of cross-border and domestic. Statistical significance is examined with Wilcoxon rank-sum test for Acquirer-Matched (independent samples) and Wilcoxon sign-rank for $(ACQ – MAT)_{post}$ - $(ACQ – MAT)_{pre}$ (dependent samples): *, **, or *** indicates that the number is significantly different from zero at the 10%, 5%, or 1% level, respectively.

Panel A: Shock Firms				
	Cross-Border		Domestic	
Year	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	16.43*** (730)	10.28*** (619)	14.27*** (1,395)	6.59*** (1,266)
1	13.34*** (685)	6.52*** (540)	12.33*** (1,348)	2.11*** (1,153)
2	12.15*** (626)	4.63*** (479)	10.90*** (1,228)	2.88*** (1,030)
3	11.80*** (576)	5.26*** (421)	10.53*** (1,087)	1.42*** (880)
Median Post-performance	12.29*** (691)	5.60*** (547)	10.74*** (1,377)	2.12*** (1,186)
Post less Pre matched firm adjusted: $(ACQ – MAT)_{post}$ - $(ACQ – MAT)_{pre}$		-3.39*** (527)		-3.05*** (1,120)

Panel B: Non-Shock Firms				
	Cross-Border		Domestic	
Year	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	16.16[***] (1,207)	7.38[***] (1,161)	14.77[***] (2,063)	5.60[***] (2,029)
1	14.15[***] (1,108)	5.18[***] (1,039)	13.19[***] (1,938)	3.65[***] (1,883)
2	13.56[***] (1,052)	3.77[***] (967)	12.31[***] (1,805)	2.34[***] (1,742)
3	13.35[***] (979)	3.26[***] (882)	11.80[***] (1,655)	1.61[***] (1,590)
Median Post-performance	13.38[***] (119)	3.46[***] (1,053)	12.23[***] (1,964)	2.43[***] (1,909)
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$		-3.13[***] (1,035)		-2.90[***] (1,872)

Panel C: Difference of Cross-Border and Domestic Acquisition		
	Shock Firms	Non-Shock Firms
Year	Acquirer-Matched (%)	Acquirer-Matched (%)
-1	3.69[***]	1.78[***]
1	4.40[***]	1.52[***]
2	1.75[***]	1.43[***]
3	3.83[***]	1.66[***]
Median Post-performance	3.48[***]	1.03[***]
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$	-0.34[*]	-0.24*

Table 12: Operating Performance of U.K. Cross-Border and Domestic Acquisition classified as Positive and Negative Shock Firms. The operating performance can be found by using the operating cash flow scales by total asset. The median post-performance in column 1 is the median of operating performance of year 1, 2, and 3. The post less pre matched firms adjusted is the difference in different between operating performance of acquirer and matched firms in the post-merger period with operating performance of acquirer and matched firms in the pre-merger period; It can be written in mathematical form as $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$. Column 2 shows the operating performance of acquirers, while column 3 shows the operating performance of acquirers adjusting by matched firms. In panel C, difference of cross-border and domestic acquisition is the difference between the value of post less pre matched firms adjusted of cross-border and domestic. Statistical significance is examined with Wilcoxon rank-sum test for Acquirer-Matched (independent samples) and Wilcoxon sign-rank for $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$ (dependent samples): *, **, or *** indicates that the number is significantly different from zero at the 10%, 5%, or 1% level, respectively.

Panel A: Positive Shock Firms				
	Cross-Border		Domestic	
Year	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	17.45*** (420)	9.61*** (334)	15.14*** (816)	6.70*** (722)
1	13.46*** (395)	7.71*** (288)	12.83*** (811)	2.39*** (669)
2	11.49*** (358)	5.13*** (255)	11.53*** (727)	3.58*** (588)
3	10.62*** (342)	5.74*** (233)	10.68*** (648)	0.82** (506)
Median Post-performance	12.03*** (400)	6.17*** (293)	11.87*** (827)	2.65*** (688)
Post less Pre matched firm adjusted: $(ACQ - MAT)_{post} - (ACQ - MAT)_{pre}$		-1.77** (281)		-1.31*** (634)

Panel B: Negative-Shock Firms				
	Cross-Border		Domestic	
Year	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)	Acquirer (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	15.68*** (310)	10.66*** (285)	13.32*** (579)	6.52*** (545)
1	13.25*** (290)	4.69*** (252)	11.18*** (537)	1.52*** (486)
2	12.75*** (268)	4.00*** (224)	9.91*** (501)	1.12 (444)
3	12.68*** (234)	4.60** (188)	10.43*** (439)	1.86 (376)
Median Post-performance	12.41*** (291)	4.73*** (254)	9.90*** (550)	0.77* (498)
Post less Pre matched firm adjusted: (ACQ – MAT)post - (ACQ – MAT)pre		-6.70*** (246)		-6.19*** (486)

Panel C: Difference of Cross-Border and Domestic Acquisition		
	Positive Shock Firms	Negative Shock Firms
Year	Acquirer-Matched (%) (Sample Size)	Acquirer-Matched (%) (Sample Size)
-1	2.91***	4.14***
1	5.32***	3.17***
2	1.55	2.88**
3	4.92***	2.74
Median Post-performance	3.52***	3.96***
Post less Pre matched firm adjusted: (ACQ – MAT)post - (ACQ – MAT)pre	-0.47*	-0.51**

4.4 Multivariate Regression

This part, shows the relationship in the abnormal operating performance (dependent variable) and the other independent variables which are dummy variable shock, positive shock, negative shock, and cross-border. I also control for firm's characteristics including dummy variable of listed target, leverage (Total debt to total asset), acquirers' size (Book value of asset), relative size (Market value of target firm to market value of acquirer firm), and Tobin Q's ratio (market value to book value). The regression also controls for a year-specific factor and industry factor. The purpose of the multivariate regression is to see whether the results of the previous parts also robust when all of the key dummy variable, which are positive shock, negative shock, and cross-border acquisition, are included together and when controlling for the firm's characteristics.

4.4.1 Specification and Variable Definitions

Firm's characteristics also relate to shock on firms' performance, for example, large firms tend to have less fluctuation in performance than small firms, thus shock in performance tend to occur more frequently in the small firms. Moeller,

Schlingemann, and Stulz (2004) showed that the aggregate losses for shareholders comes from the losses of large firms much larger than the gains realized by small firms, i.e. small firms have significantly better abnormal return than large firms when they make an acquisition. They also provide the evidence that managers of large firms pay more for acquisitions and premium paid increases with firm size after controlling for firm and deal characteristics.

Moreover, for the firms with high growth, the performance tends to extremely high compared to their past performance, i.e. firms with high growth are more likely to experience with shock and should have better in acquisition result. Since, Tobin Q's ratio represents the growth expectation of the firms and should be related to the shock of firms. Therefore, I include Tobin Q's ratio in the regression model as a control variable.

Leverage also has the effect on the operating performance of the acquirers. The high leverage firms are less likely to do merger and acquisition because of their financial constraint. Moreover, Maloney, McCormick, and Mitchell (1993) documented that firms

with higher leverage make a better acquisition. This is because the increasing in debt can reduce manger to waste assets of the firm (Grossman and Hart, 1982; Jensen, 1986). Therefore, it is less likely for higher leverage firms to get wasteful acquisitions than lower leverage firms.

Relative size also has the effect on operating performance of shock firms as well, i.e. large target tend to have more effect in the operating performance of acquirers than small target. Moreover, the firm who acquires the large target might have a substantial change rather than the firm who acquires a small target.

Furthermore, Faccio, McConnell, Stolin (2006) documented that, acquirers of listed target earn an insignificant abnormal return, while acquirers of unlisted target earn a significant positive abnormal return. The implication is that shareholders of acquiring firms fare better when the firms they own are smaller and when the targets their firms acquire are not traded on an exchange.

Table 13: Regression Model and the descriptive statistic of control variables

Regression Model	Operating Performance $= \beta_0 + \sum_{j=1}^{5} \beta_j x_{ij} + \beta_6$ Acquirer's size$_i$ + β_7 Relative size$_i$ + β_8Leverage$_i$ + β_9Tobin Q$_i$ + ε_i x_{ij} represents a vector of dummy variables in this study, the multivariate regression equation is separated into 10 sub-equations based on the combination of each dummy variable in each equation. β_1 is dummy variable, which takes the value of one if firm is classified as shock. β_2 is dummy variable, which takes the value of one if firm is classified as positive shock. β_3 is dummy variable, which takes the value of one if firm is classified as negative shock. β_4 is dummy variable, which takes the value of one if firm do cross-border acquisition. β_5 is dummy variable, which takes the value of one if firm acquired listed target. β_6 to β_9 are the coefficient of control variables. ε is the regression error term.

U.S.								
Variable	Mean	Median	Max	Min	STDEV	Skewness	Kurtosis	Number of Observation
ln(Size)	12.24	12.23	18.05	6.41	1.92	-0.02	0.18	4840
ln(Leverage+1)	0.21	0.20	0.89	0.00	0.17	0.92	1.22	4840
ln(RelativeSize)	-2.29	-2.37	1.39	-5.29[3]	1.18	0.05	0.97	4840
ln(Tobin Q+5)	4.24	3.44	4.65	-0.03	0.57	0.55	10.61	4840

U.K.								
Variable	Mean	Median	Max	Min	STDEV	Skewness	Kurtosis	Number of Observation
ln(Size)	11.44	11.24	16.94	5.92	1.82	0.31	0.01	3097
ln(Leverage+1)	0.16	0.15	0.60	0.00	0.11	0.80	0.99	3097
ln(RelativeSize)	-1.48	-1.66	2.34	-4.81[4]	1.25	0.66	0.05	3097
ln(Tobin Q+5)	3.02	3.01	3.22	2.82	0.03	-0.21	10.98	3097

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[3]The unit of acquirer's market value is measured in million dollar, while the unit of target's market value is measured in ten million dollar. Therefore, the minimum of ln(relative size) is ln(0.005) = -5.29.

4.4.2   The Regression Result

Table 14 shows the result of multivariate regression for both U.S. and U.K. firms. There are 10 models with different control variables and country's sample, panel A shows the regression analysis of model 1 to 5 which are belong to U.S. sample. Panel B shows the regression analysis of model 6 to 10 which are belong to U.K. sample.

In model 1 and 6, the coefficients of dummy variable shock after controlling for the firm's characteristics is positive and statistically significant for both U.S. and U.K. This indicates that the operating performance of shock firms is better than non-shock firms. These are consistent with hypothesis 1 and the result in part 5.1. Even though the results suggest that the operating performance of shock firms are better than non-shock firms when control for other firm's characteristics, there is no economically meaningful to conclude that shock firms have better in abnormal operating performance. This is because the result in part 5.1 show that both shock and non-shock firms have the decrease in operating performance after merger and acquisition.

The coefficients of dummy variable positive shock are positive and significant for model 2, 3, 4, 5, 7, 8, 9, and 10, while the coefficients of dummy variable negative shock are not statistically significant. I also test for the difference in the coefficient of positive shock and negative shock dummy variables by using the linear restriction test and the results are shown in table 15. The result in table 15 show that the coefficients of dummy variable positive and negative shock are not different for U.S. acquirers (model 2 to 5) as shown in panel A, while there is the difference for U.K. acquirers (model 7 to 10) as shown in panel B. The result of table 14 and 15 for negative and positive shock dummy variables indicate that, after controlling for the firm's characteristics, the abnormal operating performance of positive shock firms are better than both non-shock and negative shock firms for U.K. acquirers. However, in the U.S., the abnormal operating performance of positive shock firms is better than non-shock firms, but it is not different from negative shock firms. The results of the U.S. are inconsistent with the results in table 7 which show that negative shock firms are better than positive shock firms by 0.37%. The results of the U.K. are consistent with the

result in table 7, who show that positive shock firms have better improvement in operating performance than negative shock firms.

However, the results of U.S. and U.K. sample are inconsistent, and lead to the inconclusive conclusion. Nevertheless, the table 5 and 6 show that the operating performance of both positive and negative shock firms decrease after merger and acquisition.

The coefficients of dummy variable cross-border are negative and significant for U.S. acquirers as shown in model 3, 4, and 5, while they are also negative for U.K. acquirers as shown in model 8, 9, and 10 but they are insignificant. Therefore, the results tend to be concluded that domestic acquisitions are associated with better operating performance than cross-border acquisitions, which is consistent with hypothesis 3, the results in part 5.3, and some previous studied (Denis, Denis, and Yost, 2002; Shimizu, Hitt, Vaidyanath, and Pisano, 2004; Conn, Cosh, Guest, and Hughes, 2005; Moeller and Schlingemann, 2005) who suggested that firms with cross-border acquisition perform relatively worse than firms with domestic acquisition.

The coefficient of leverage also positive and significant for model 1 to 10, this means that firms with higher leverage have better in operating performance after merger and acquisition, the result consistent with Maloney, McCormick, and Mitchell (1993). The plausible explanation is that in high debt firms, managers are motivated to work harder and more careful when making the decision, thus reduce inefficient using firm's asset (Grossman and Hart, 1982; Jensen, 1986).

The coefficient of acquirer's size is negative in both U.S. (model 1 to 5) and U.K. (model 6 to 10) firms, but only the U.S. firms are statistically significant. These results show that, firms with smaller size have better in operating performance after merger and acquisition, but the evidence is weaker for U.K. acquirers. This indicates that small firms, who are more likely to experience with shock due to the high fluctuation in performance, have better operating performance than large firms after merger and acquisition. The results are consistent with Moeller, Schlingemann, and Stulz (2004) who found that small firms have significantly better abnormal return than large firms when they make an acquisition. They suggested that large firms tend to offer higher

acquisition premium than small firms and managerial hubris have more role in the decisions of large firms.

The coefficient of relative size is negative in model 2, 3, 4, and 5 for U.S. acquirers as shown in table 14 but there is not statistically significant. Therefore, the evidences are too weak to conclude that, more relative in size of the acquirer and target, worse operating performance in the post-merger period. However, the result in the model 6, 7, 8, 9, and 10 show the positive and significant in the coefficients of relative size. This indicates that, U.K. acquirers who acquire larger target have better in operating performance.

The coefficient of dummy variable Tobin Q's ratio in model 1 to 5 are negative but insignificant, while in model 6 to 10 the coefficient are positive but only model 10 is statistically significant. The results tend to indicate that the growth expectation of the firms has no relationship with firm's operating performance.

The coefficients of dummy variable of listed target are positive in model 1, 2, 3, 4, and 5 but there are statistically significant only in model 4 and 5. For U.K. acquirers,

the coefficients are negative and insignificant in model 6, 7, 8, 9, and 10, this means

that when control for year and industry effect, the U.S.'s acquirers who acquired listed

target will have better in post-merger operating performance. This is inconsistent with

Faccio, Mcconnell, and Stolin (2006) who found that acquirers of listed target earn an

insignificant abnormal return in stock, while acquirers of unlisted target earn significant

positive abnormal return, but they cannot identify the factors that lead to the listing

effect.

Overall, after control for other firm's characteristic, the results of the multivariate

regression show that, the operating performance of shock firms is better than non-

shock firms and consistent with the results show in part 5.1. However, this is not

economically meaningful since, the operating performance of both shock and non-

shock firms are decreased after merger and acquisition. For the positive and negative

shock firms, the results show that the operating performance of positive shock firms

are better than negative shock firms for U.K. acquirers, but it is not statistically different

for U.S. acquirers. Therefore, the results are inconsistent with hypothesis 2. It can be

seen from the results that, the abnormal operating performance of positive shock firms are better than both non-shock and negative shock firms for U.K. acquirers, while it is only better than non-shock firms for U.S. acquirers. This might be because, the U.K. positive shock firms have some factors that make them better than their non-shock counterparts and have the ability to overcome the production constraint in short to medium term based on the difficulty to integrate the production lines. However, identifying the key success of the U.K. positive shock firms is beyond the scope of this study. Finally, the results further show that cross-border acquisitions are associated with worse operating performance than domestic acquisition. These results are consistent with part 5.3 and also consistent with hypothesis 3.

Table 14: Regression Analysis of Operating Performance					
Panel A: Regression Analysis of U.S. Firms					
Variable	1	2	3	4	5
Shock Dummy	0.064***	-	-	-	-
	(0.008)				
Positive Shock Dummy	-	0.079***	0.079***	0.090***	0.089***
		(0.008)	(0.008)	(0.006)	(0.006)
Negative Shock Dummy	-	0.044	0.044	0.063	0.055
		(0.268)	(0.267)	(0.137)	(0.188)
Cross-Border Dummy	-	-	-0.014*	-0.016*	-0.014*
			(0.097)	(0.092)	(0.073)
Listed Target Dummy	0.055	0.057	0.053	0.062*	0.076*
	(0.123)	(0.128)	(0.128)	(0.060)	(0.039)
ln (Firm's Size)	-0.056***	-0.055***	-0.056***	-0.054***	-0.059***
	(0.003)	(0.003)	(0.002)	(0.002)	(0.001)
ln (Relative Size)	-0.026	-0.025	-0.027	-0.027	-0.032
	(0.137)	(0.143)	(0.126)	(0.140)	(0.182)
ln (Leverage+1)	0.523***	0.521***	0.534***	0.528***	0.564***
	(0.003)	(0.002)	(0.003)	(0.002)	(0.002)
ln (Tobin Q+5)	-1.510	-1.451	-1.453	-1.722	-2.331
	(0.714)	(0.748)	(0.749)	(0.713)	(0.619)
C	0.451**	0.451***	0.045**	0.632**	0.747***
	(0.034)	(0.037)	(0.034)	(0.016)	(0.006)
Year	-	-	-	Yes	Yes
Industry	-	-	-	-	Yes
Adjusted R Squared	0.020	0.020	0.020	0.030	0.028
F-Statistic	17.622	15.217	13.32	6.281	3.660
Prob. (F-statistic)	0	0	0	0	0
Number of Observation	4839	4839	4839	4839	4839

Panel B: Regression Analysis of U.K. Firms					
Variable	6	7	8	9	10
Shock Dummy	0.018[*]	-	-	-	-
	(0.072)				
Positive Shock Dummy	-	0.044[***]	0.044[***]	0.052[***]	0.052[***]
		(0.002)	(0.002)	(0.003)	(0.003)
Negative Shock Dummy	-	-0.018	-0.018	-0.016	-0.017
		(0.168)	(0.167)	(0.231)	(0.215)
Cross-Border Dummy	-	-	-0.001	-0.004	-0.003
			(0.862)	(0.652)	(0.704)
Listed Target Dummy	-0.012	-0.015	-0.014	-0.016	-0.016
	(0.418)	(0.339)	(0.349)	(0.314)	(0.286)
ln (Firm's Size)	-0.003	-0.002	-0.002	-0.002	-0.003
	(0.333)	(0.565)	(0.557)	(0.945)	(0.990)
ln (Relative Size)	0.013[***]	0.014[***]	0.014[***]	0.016[***]	0.017[***]
	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)
ln (Leverage+1)	0.106[**]	0.100[**]	0.100[**]	0.098[**]	0.099[**]
	(0.019)	(0.025)	(0.027)	(0.028)	(0.027)
ln (Tobin Q+5)	0.213	0.218	0.221	0.104	0.117[**]
	(0.133)	(0.122)	(0.121)	(0.454)	(0.407)
C	-0.639	-0.666	-0.674	-0.329	-0.373
	(0.143)	(0.124)	(0.123)	(0.439)	(0.391)
Year	-	-	-	Yes	Yes
Industry	-	-	-	-	Yes
Adjusted R Squared	0.010	0.015	0.015	0.044	0.038
F-Statistic	6.464	7.915	6.928	7.003	3.204
Prob. (F-statistic)	0	0	0	0	0
Number of Observation	3097	3097	3097	3097	3097

Table 15: Test of Linear Restriction for Positive and Negative Shock					
Panel A: Comparison of Positive and Negative Shock Coefficient in U.S.					
	1	2	3	4	5
Difference of Positive and Negative Shock	-	0.035	0.035	0.026	0.033
F-Statistic	-	0.512	0.509	0.272	0.416
Prob. (F-statistic)	-	0.474	0.475	0.602	0.519
Panel B: Comparison of Positive and Negative Shock Coefficient in U.K.					
	6	7	8	9	10
Difference of Positive and Negative Shock	-	0.063***	0.063***	0.067***	0.069***
F-Statistic	-	11.644	11.639	12.88***	13.036
Prob. (F-statistic)	-	0	0	0	0

Chapter V

Conclusion

Merger and acquisition is the key activity in profit-maximizing response to shock.

However, firms with different characteristics can have the difference in motivation to

do merger and acquisition. Thus, result in different operating performance in post-

merger. Therefore, I do the empirical test to observe the operating performance of

acquirers compared to matched firms where the adjusted operating cash flow is used

as a proxy of operating performance.

For the operating performance of shock and non-shock acquirers, I document

the decreasing in operating performance for both shock and non-shock acquirers after

merger and acquisition. Meaning that, in most case merger and acquisition does not

create the economic value to the acquirers. The result also shows that, in most cases,

shock firms tend to have less negative in abnormal operating performance than non-

shock firms. However, for U.K. negative shock firms, the abnormal operating

performance is more negative than non-shock firms. It is possible that a smaller size

of U.K market makes more difficult to diversify geographically, thus, result in less

successful turnaround strategy than the U.S. acquirers. Nevertheless, the result might not be economically meaningful because both shock and non-shock firms have decreased in operating performance after merger and acquisition.

Focus on the positive and negative shock acquirers, the results show that for the firms that experienced with shock in both positive and negative ways, merger and acquisition activities decrease the operating performance of firms and the evidences also robust for both countries. The abnormal operating performance of positive shock acquirers is not economically different from negative shock acquirers for the U.S. But in the U.K., the negative shock acquirers make more substantial decline than the positive shock in post-merger, this also indicates a less successful of a turnaround strategy in the U.K. acquirers.

I also examine the abnormal operating performance of cross-border and domestic acquisitions. The results indicate that merger and acquisition does not have the economic value creation for both domestic and cross-border acquisition in post-merger. I also document that, in most cases, shock firms with domestic acquisitions

are associated with less negative in abnormal operating performance than cross-border

acquisitions. This finding supports the views that the overseas targets are more difficult

to manage the post-merger process due to cultural differences, time consuming, and

expensive process. Moreover, cross-border acquirers may encounter significant

information asymmetries and are more likely to overestimate synergies and overpay

for foreign targets than domestic acquirers.

This study finds no evidence to support the gain from the merger and acquisition

for both shock and non-shock acquirers. It is obviously seen that the merger and

acquisition do not improve the operating performance of shock firms, even they have

the better economic reasons to do merger and acquisition as suggested by Gort (1969).

For the area for future research, it is very interesting to replicate my study to

observe the long-term stock price performance, to see whether the operating

performance related to the stock price performance. Moreover, it is also interesting to

apply my study in the country with a less open economy, since, they have lower

liquidity in merger and acquisition market. This is to examine that how the firms in less

open economy use merger and acquisition as the profit-maximizing response to shock.

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