

## DOCTOR OF PHILOSOPHY

### The effect of mergers and acquisitions on the dividend policy of banks

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# **The Effect of Mergers & Acquisitions on the Dividend Policy of Banks**

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*A thesis submitted in partial fulfilment of the Coventry University's  
requirements for the Degree of Doctor of Philosophy (PhD)*

**2010**

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## List of Abbreviations

**CapFnSt** = capital and finance structures measured by the Debt/Equity ratio (capital structure) while the finance structure is debt + equity/total assets;

**CIR** = Cost to income ratio

**CTSAR** = Cumulative total standardised abnormal returns

**EPS** = Earnings per share

**EQTASS** = Equity to total assets

**LOANoDEP** = Loans over deposits to show the percentage of deposits that are returned to the banks through loans

**LOANTAS** = Net loans to total assets

**NII** = Net interest income

**PROVTAS** = Loan loss provision to total assets

**ROE** = Return on equity

**SIZE** = natural logarithm of the total assets

**EU** = European Union

**EC** = European Commission

## **List of Appendices**

1. List of M&A cross border acquirers
2. List of M&A domestic acquirers

## Abstract

The number of domestic and cross border bank mergers and acquisitions (M&A) has increased over the last decade with a resultant impact on the bank dividend. This study examines the effect of M&A on the dividend policy by comparing the abnormal returns, profitability and dividend policy of the domestic and cross border bank acquirers. The study focused on EU mega-bank mergers and acquisitions within 1997-2007 involving only commercial-to-commercial banks. The sample consists of a total of 62 mega-M&A with a minimum deal value of €500 million. Three hypotheses were formulated specifically to test: (i) the wealth effect and geographical diversification of the M&A between domestic and cross border acquirers; (ii) the effect on in the financial performance of both acquirers and (iii) the M&A impact on dividend policy on banks after bank M&A. Two strands of the literature were reviewed focusing on M&A and dividend policy.

The event study methodology was used to calculate the abnormal returns of both the domestic and cross border acquirers which were standardised. A long window of 61 days was applied to capture a satisfactory length of pre and post merger events that could capture the *behaviour* of the abnormal returns and consequent effect on dividend policy. The hierarchical regression model was used to estimate the impact of the variables on the profitability and dividend policy of the acquirer banks.

In comparison with the domestic acquirers, the cross border abnormal returns showed a trend of significant negative results following the M&A announcement. The domestic acquirers showed no significance but, on average have higher cumulative total standardised abnormal returns (CTSAR) than the cross border acquired banks. The result of the financial performance showed that CTSAR of the cross border acquirers is significantly affected by the profitability of the banks but insignificant with domestic acquirers. However, the cost-to – income ratio (CIR) significantly affects the performance of both bank acquirers. CIR and RISK (measured by the ratio of the loan provision to net interest revenue of the banks) highly correlated with profitability of both the domestic and cross border acquirers. The management of costs and loans risks were found to be significant variables in the achievement of profitability among domestic acquirers.

The dividend policy hypothesis result indicated that CTSAR has a weak correlation and insignificant effect on the dividend policy variables. Infact, the Causality test result confirmed that the CTSAR does not Granger cause dividend policy. However, the study provides strong support to previous studies that beta, liquidity, taxes, and the finance structure of the acquirers are significant variables in the formulation of the dividend policy of the merged banks. The *beta*, which a proxy for risk, is the most significant factor affecting the dividend policy of the merged banks.

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# **Dedication**

*To my grandma*

**Madam Christiana Azuonwu**

& my daughter

*Chidinma Nnadi*

# Chapter One

## Introduction

### 1.0 Background of the Study

The issue of corporate dividend policy has dominated finance studies over the decades. The interest in dividend theories of organisations by scholars can be justified by the crucial role of dividend in investment and financing decisions. Such decisions are hardly made on the whim particularly by banks. The banks, like other organisations, are usually faced with the challenge of what decisions to make with generated profits of the organisation. The decision has to be made between investing all or proportion of the earned profits in the form of dividends to the shareholders, or to plough it back into the business. The best decision however is one that maximises the wealth of the shareholders and exerts a positive impact on its share price.

The dividend policy decision of a bank is anchored on a number of factors such as; liquidity, the composition of the bank, the tax implications, the growth and future investments of the bank, the capital structure etc. Most corporate organisations realise the role of dividend payments in satisfying shareholders expectations. In fact, dividend decision has been intrinsically linked with the improvement of shareholders wealth. The 1960's witnessed the surge on the dividend policy debates among finance scholars which was pioneered by Modigliani and Miller (1961). The theory, also known as M&M, among other issue posits that dividend was irrelevant in increasing the value of a firm. Several other theories had since then flooded the finance literature either in support or in opposition of the theory. Some others have even taken a different view, thus making dividend policy an ongoing issue.

The foregoing argument underscores the overwhelming sensitivity of dividend decisions on the image and corporate existence of organisations. As a result, any strategic alliance or measure to consolidate dividends with the aim of improving the shareholders wealth by banks would be ultimately considered. Most banks have considered mergers and acquisition (M&A) as a strategic option, not only for expansion but also to improve the returns accruable to their shareholders. In the European Union countries, M&A deals have become a common trend

particularly during the period 1997 -2007. While different banks may have various missions in pursuing a merger strategy, the ultimate aim is to improve the returns to shareholders and therefore strengthen their dividend policy. This study attempts to link the issue of M&A announcements to the dividend policy and profitability of domestic and cross border commercial bank acquirers.

A huge number of studies in the realm of bank mergers and acquisitions (M&A) have focused on the returns accruable to the target versus acquirer shareholders. An overwhelming majority of the studies confirm that the shareholders of the targets benefit more than those of acquirers from M&A activities. The evidence is often based on event studies with a limited or short window around the announcement date and using the banks and market returns to estimate the abnormal returns to the target or the acquirer shareholders.

While these studies have produced different results, most of them have given less attention to the geographical implications of the M&A deals on the shareholders, particularly of the acquirers. Since the general notion is that the acquirers' shareholders have little or no benefits in a M&A, dissecting the returns into cross border and domestic shareholders would be insightful in determining the underlying factors why the acquirer shareholders benefit less. The focus of this study is therefore on the dividend policy implications of the M&A on the acquirer banks, distinguishing between cross border and domestic bank acquires.

It is important to state that M&A studies on cross border and domestic M&A are quite vast. However, most of the studies are limited by short event windows which do not capture significant events and performance of the merged entities before and after the event. They have often focused on the abnormal returns to the target banks eg Rad & Beek, 1999; Cybo-Ottone & Murgia, 2000; Kane, 2000. This study expands on the event window and uses a long estimation period to capture the 'behind the scene' performance of the domestic and cross border entities and seeking to obtain a clue as to why the acquirer shareholders gain less in M&A. The 61 days used in the study is considered sufficient and appropriate to make deductive observations which short event windows are unlikely to capture. Becker (2000) confirms that the choice of window is very crucial to the expectant result of the returns particularly for the acquirers which could range from statistically negative to insignificantly positive.

In addition, geographical factors could reveal vital causes on why the acquirer shareholders returns are often in the negative. Environmental factors such as country's legislations, attitude of citizens towards foreign acquisitions, knowledge of the local market, size and capital can have a considerable effect on the acquirer banks in cross border deals.

The methodology in most studies has followed the traditional Capital Assets Pricing Model (CAPM) and the application of the market model in the estimation of the cumulative abnormal returns (CARs) to measure shareholders returns. This study makes a departure from existing studies by using the cumulative total standardized abnormal returns (CTSAR) to cater for the different degree of event impact rather than using the traditional CARs. This is done by weighing each abnormal return by the standard deviation. The purpose of the standardization is to ensure that each abnormal return has the same variance (Serra, 2002). Thus, by dividing each firm's abnormal residual by the standard deviation over the estimation period, each residual has an estimated variance of 1. Rarely have studies in cross border and domestic M&A applied this technique in combination of a long window to determine M&A effect on bank dividends. The method also helps to mitigate any bias in the abnormal returns of both acquirers. Cornett & Tehranian (1992) applied the standardized abnormal returns technique but in a 2 day window, to measure the post-merger performance of 30 large bank acquisitions with the pre-merger performance of the merging banks.

Shareholders' wealth and returns should be seen as a generic concept rather than being limited to the increase and decrease in the abnormal returns. The use of a single variable in the measurement and estimation of shareholders wealth and abnormal returns may not be sufficient in analysing the robustness of results. Thus, in addition to the abnormal returns, this study also uses the dividend payout as a measure of M&A gains to the acquirers' shareholders.

Although studies in dividend policy have invoked contentious debates in finance, there is a dearth of research into its relationship with M&A. In fact, no known study has examined the effect of M&A on dividend policy particularly in the EU banking industry. Studies such as Olson & Pagano (2005), Page, Jahera & Pugh (1996), Rozeff (1982), Brook, Hendershott & Lee (1998), Casey & Dicken (2000), Johnson et al (2006) and Pattenden & Twite (2008) have considered various facets of dividend policy both for banking and other industries. This study is unique in that it examines the issue of dividend policy among cross border and

domestic acquirers. It assesses the impact of profitability on dividend policy and uses the CTSAR in combination with other variables to evaluate the factors affecting banks dividend policy. The concept of dividend policy in the present study is measured in terms of the dividend yield and payout. The term can also be applied to include either one or more of the two elements (yield and payout) and others, such as the earnings per share (EPS)<sup>1</sup>.

Dividend yield and payout have been interchangeably used in various dividend policy studies though the yield offers more significant result. This is not surprising as the concept is even more encompassing. The dividend payout ratio represents the proportion of the earnings that the banks pay out to shareholders in the form of dividends. It is usually the net profit after taxation and after the preference dividends announced during the period; expressed as a percentage. The dividend yield relates the cash return from a share to its current market value which is often stated at the grossed up rate (Reuters, 2008).

## **1.1 Previous Studies**

Studies in dividend policy including Rozeff (1982); Casey & Dickens (2000); La Porta (2000); Fama & French (2001); Grullon et al (2003); Gugler & Yurtoglu (2003); Brunarski, Harman & Kehr (2004); Johnson et al (2006) have analyzed the various aspects of dividend policy but none have examined banks dividend policy in relation to the abnormal returns to the shareholders of cross border and domestic bank acquirers in mergers and acquisitions.

Rozeff (1982) and Casey & Dickens (2000) examined the effects of tax and regulatory changes on commercial banks dividend policy. Both studies used only dividend payout as a measure of dividend policy and applied the value line beta as proxy for bank leverage. They found that the estimation of the leverage by value line can be precarious as the bank leverage ratio would merely provide better picture of its level of debts.

Gugler & Yurtoglu (2003) applied the cumulative average abnormal returns (CAAR) to evaluate the structure of ownership of majority controlled firms in Germany using the rent

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<sup>1</sup> See chapter three for the elaborate concept of dividend policy. However, the above three measures (yield, payout and EPS) are commonly used in part or jointly to describe dividend policy. Chen et al (2005) used payout and yield; Gugler and Yurtoglu (2003) used payout; while La- Porta et al (2000) used a series of dividend ratios such as dividend to sales, dividend to earning etc as instruments of measuring a firm's dividend policy.

extraction hypothesis. But the study does not focus on cross border cum domestic acquires; in particular a window of  $-/+ 2$  days was used which may be too short to capture the long run performance of the firms. Furthermore, the study only concentrated on the dividend payout and does not consider the yield.

In an international setting, La Porta, et al (2000) examined the substitute and outcome dividend models for a cross section of 4000 companies from 33 countries and upheld that the outcome model is more in support of the minority rights. Their study considered a series of legal and regulatory frameworks facing dividend policies in relation to the insiders' shareholdings. In the same vein, Page, Jahera & Pugh (1996) considered the effect of anti-takeover amendment laws on the dividend policy using 6 variables as proxies for dividend policy. It used a window of  $-/+ 5$  days but failed to focus on the impact on the acquirer firms.

Several recent studies in M&A have been undertaken in assessing the shareholders wealth and profitability of cross border and domestic mergers. Some studies have also examined target and acquirers banks in various dimensions.

Hernando, Nieto & Wall (2008) examined the characteristics of domestic and cross border targets and found that both have similar returns for their shareholders and also share common features. Lensink & Maslennikova (2008) used 41 days window period to compare the shareholders wealth incidental to the mergers of the cross border and domestic banks. Their findings show that domestic deals create more value than the cross border deals. Infact, their evidence shows that cross border mergers destroy shareholders value.

The above findings concur with Mangold et al (2008) who studied the shareholder wealth effect of German banks and attest that the cross border mergers destroy shareholders wealth while the domestic mergers create wealth. But the evidence are also contradicts some past studies. Anand, Capron & Will (2005), for example, found cross border acquirers with multinational scope are more wealth creative. The highlight of this finding is that, not only cross border banks undertaking an acquisition create wealth but also banks with a multinational profile. Further, Conn et al (2005) find that cross border acquirers have lower announcement period and long run returns than the domestic acquirers. However, they add that while domestic mergers yield negative shareholders returns, cross border mergers yield zero abnormal returns and tend to remain negative after the mergers.

## 1.2 The Contribution of Thesis

The novelty of the present study lies in the methodology adopted in the event study and in its examination of the effects of M&A and dividend policy. The study uses the total standardised cumulative abnormal returns (CTSAR) as opposed to the traditional abnormal returns. The uniqueness of the CTSAR is that it standardizes the abnormal returns (ARs) to cater for the different degree of event impact. This is done by weighing the abnormal returns by the standard deviation. The purpose of the standardization is to ensure that each abnormal return has the same variance (Serra, 2002). Thus, by dividing each firm's abnormal residual by the standard deviation over the estimation period, each residual has an estimated variance of 1.

The event window of the methodology employed in the present study is also extended. An estimation period of 100 days and an event window of  $\pm 30$  days are applied. Some studies favour short windows of 1-5 days (Andrade, Mitchell & Stafford, 2001; Bruner, 2005; Mulherin & Boone, 2000; Campa & Hernando, 2004), which are prone to insensitivity to the chosen model for the expected returns; whereas a longer window takes into consideration a possible bid revision and competitions (Conn et al, 2005). It also ensures that all possible factors that may influence the abnormal returns such as pre and post merger events and the response of the market thereafter are captured. Aw & Chatterjee (2004) opined that a longer window and thus estimation period ensures the sufficient observations for statistical accuracy without running any risk of being far from the test period is achieved.

There are a handful of studies that have used long event windows in estimating the abnormal returns in M&A. The table below provides a synopsis of some known M&A studies and the event windows applied. Note that 60 days have are not commonly used in cross border versus domestic studies in the EU.

**Table 1.1 Some M&A Studies and the Length of the windows**

<b>Study</b>	<b>Domestic/ Cross border</b>	<b>Country/Continent</b>	<b>Period</b>	<b>Length of window (days) - /+</b>
Aw & Chatterjee(2004)	Cross border	UK/Europe	1991-96	24
Campa & Hernando (2006)	Both	Europe	1998-2002	30
Ang & Kohers (2001)	Domestic	USA	1984-96	36
Moeller et al. (2004)	Domestic	USA	1980-2001	36
Rad & Beek (1999)	Both	Europe	1989-96	40
Black et al (2003)	Cross border	USA	1985-95	60
Gregory & McCorrison (2004)	Cross border	Europe	1985-94	60
Goergen & Renneboog (2004)	Both	UK/Europe	1989-99	60
Baradwaj et al (1990)	Both	USA	1980-87	60
Lowinski, Schiereck & Thomas (2004)	Both	Swiss/Europe	1990-2001	63

The current study covers the period 1997 - 2007 and favours a long estimation period. These years are significant because many EU mergers and acquisitions have occurred over the periods. Moreover, the 11 years assessment period is necessary to properly capture any economic events that could impact on the M&A results. Olson and Pagano (2000) argued that the success or failure of the banks M&A should not be solely judged on the estimation and announcement period but on the long term performance of the acquirers.

Although the CTSAR methodology is not new, no study has so far been undertaken in conjunction with dividend policy. The current study estimates the abnormal returns of the domestic and cross border bank acquirers and applies the CTSAR as a variable in the dividend policy regression. The purpose is to determine the significance of the CTSAR in the dividend policy formulation of the acquirer banks. The same technique is used in the evaluation of the financial profitability of the acquirer banks where the CTSAR is used as a proxy for shareholders wealth but correlated with the profitability variables.



In considering the dividend policy, two proxies are used: the dividend payout and the dividend yield. The significance of both proxies is evaluated in the regressions. The study therefore offers a unique triangulation involving the dividend payout, yield and the CTSAR associated with bank M&A.

This research is very important as it makes a contribution to the ongoing M&A and dividend policy puzzles. The findings are particularly useful for banks considering mergers as it produces an empirical basis for restructuring dividend policy. The study lays further basis for research into the both M&A and dividend policies as it attempts to capture a best fit dividend model for banks.

Investors and shareholders would readily grasp and understand in concise terms, recent issues relating to M&A and its dividend policy implications. As a result, they would be better informed of the fundamental issues associated with M&A and its attendant impact on their investments; whether in the domestic or foreign bank investments.

#### **1.4 Research Objectives & Hypotheses**

In summary, the study aims to assess the impact of bank Mergers and Acquisitions (M&A) on the dividend policy of the cross border and domestic acquirer banks by investigating the effect on their shareholders' wealth, financial performance and the dividend hypothesis.

The main research objectives are to:

1. Conduct empirical analysis using event windows and regression analysis to examine the abnormal returns to shareholders of cross border merged banks relative to domestic merged banks, based on a sample of 62 EU domestic and cross border bank mega M&A .
2. Review critically the literature on the performance effects of bank M&A and on the dividend policy model for cross border and domestic acquirer banks.
3. Examine the theoretical linkage between M&A, shareholder return and dividend policy of merged banks both for cross border and domestic acquirers.

4. Determine the factors affecting dividend policy and the most significant dividend policy variables/measures for both the cross border and domestic acquirers.

The research is guided by a set of research questions and hypotheses which are formulated in line with the research objectives. The following research questions are posed for the purpose of guiding the research.

- 1) To what extent do the M&A announcement affect the shareholders returns of cross border and domestic acquirers?
- 2) What effects do mergers and acquisitions have on the performance of cross border and domestic bank acquirers?
- 3) What is the impact of mergers and acquisitions on the different dividend policy measures of cross border and domestic bank acquirers and to what extent does this geographical diversification affect the shareholders returns of the affected banks?
- 4) What other factors influence the dividend policy of cross border and domestic merged banks?

Three research hypotheses which relate to the impact of M&A on the shareholders wealth, performance and dividend policy of cross border and domestic acquirer banks, are formulated and tested. One of the objectives of the present research is the examination of the effect of M&A on abnormal returns. However, despite the conflicting and mixed evidence in the literature concerning the impact of abnormal returns on merged banks, the resulting impact is expected to be significant.

Therefore, a test of following hypotheses is to further examine the significance of the M&A on shareholders returns, banks profitability and dividend policy. It is important to note that the behaviour of abnormal returns reflects investor expectations about profitability and dividends. Thus, the profitability and dividend regressions test the accuracy of the investor expectations.

*H<sub>1</sub>: The wealth effect and geographical diversification hypothesis: In contrast to domestic acquisition, cross border mergers and acquisitions will not create more value.*

Where diversification and possible reduction in cost is achievable, foreign acquisitions are not expected to outperform domestic acquirers.

*H<sub>2</sub>: The financial performance of cross border acquirers is significantly correlated with M&A, and significantly higher than domestic acquirers.*

Given their access to capital through foreign partners and investments, cross border bank acquirers are expected to outperform the domestic acquirers.

*H<sub>3</sub>. The dividend policy hypothesis: There is no significant difference in the shareholders perception of dividend policy of cross border and domestic bank acquirer following a merger or acquisitions.*

It is expected that there would be a significant difference in the dividend policy, measured by the dividend yield and payout, of both acquirers after the mergers and acquisitions.

#### **1.4 The Organisation of the Study**

The thesis is organised into eight chapters. The first chapter has provided a well coverage of the background to the research, leading to the formulation of the objectives of the study; including the research questions, hypotheses and justifications for the present study. The next three chapters offer different strands of the broad literature that encompasses this stride. Chapter 2 reviews the literature on dividend policy while chapter 3 discusses the various theoretical debates and dividend hypotheses. Both chapters cover various forms and concepts of dividend policy and review of the empirical studies. They also review the literature on dividend policy as it relates to M&A. Chapter 4 reviews the literature on mergers and acquisitions, abnormal returns and other contemporary issues associated with mergers and acquisitions.

Chapter 5 covers the methodological framework of the study. It discusses the different research techniques, data analysis and sampling issues and economic models applied in the study. It describes the event windows methodology and other statistical tools such as regression models, estimation methods and test statistics as used in the research.

Chapter 6 presents the first part of the data analyses and discussion of the results. It discusses the research results based on the event window methodology. It also examines the domestic and cross border M&A impact on bank financial performance. The first two hypotheses are tested in this chapter. Chapter 7 provides further empirical analysis of the dividend policy using both the dividend yield and payout. It uses hierarchical regression analysis to test the dividend policy hypothesis. The effects exerted by the total standardized cumulative abnormal returns (CTSAR) and other dividend policy variables are discussed and analysed in the chapter.

Chapter 8 summarises the research findings, evaluates the results and offers recommendations. The conclusions are drawn based on the findings of the study and are in line with the objectives of the research. In addition to the recommendations, the chapter makes suggestion for the furtherance of the research topic to a broader scope.

# Chapter Two

## Literature Review I

### 2.0 Introduction

The debate on dividend policy has remained an area of intense research in finance. Different arguments and theories have been put forward to explain the different facets of dividend policy. This chapter therefore explains the meaning and various interpretations of the concept, factors determining dividend policy and theoretical models of dividend.

### 2.1 The Meaning and Types of Dividend Policy

In discussing the meaning of dividend policy, it is important to define a dividend. Various definitions abound in the literature on the definition of dividend. A dividend is simply the money that a company pays out to its shareholders from the profits it has made (Doughty, 2000). Such payments can be made in cash or by issuance of additional shares as in scrip dividend. Davies & Pain (2002) however define it as the amount payable to shareholders from profit or distributable reserves.

Companies that are listed in the stock exchange are usually obligated to pay out dividends on a quarterly or semi annual basis. The semi annual or quarterly payment is referred to as the interim dividend. The final payment, which is usually paid at the end of the financial year of the company, is known as the final dividend. Dividends are normally paid after the corporate tax has been deducted.

Dividend policy is primarily concerned with the decisions regarding dividend payout and retention. Lease (2000) described it as the practice adopted by managers in making dividend payout decisions. It details the amount of cash to be distributed to the shareholders and what is to be retained by the bank for further investment. It is a decision that considers the amount of profits to be retained and that to be distributed to the shareholders of the bank (Watson & Head, 2004). The objective of a firm's dividend policy is to be consistent in the overall objective of maximising shareholders wealth since it is the aim of every investor to get a

return from their investment. Economists, psychologists and the sociologists have all attempted to explain investor behaviour in a number of ways and to relate the various corporate dividend policies to the theories on the behaviour of individual investors.

Theoretically, there are different types of dividend policies. These include constant payout, progressive policy, residual policy, zero policy and non- cash policy. Investors are seen to belong to a particular group or clientele. This is because they tend to pitch their tent with a particular policy that might suite them. This is referred as the clientele effect of dividend policy (Hutchinson, 1995; Kolb & Rodriguez, 1996).

The amount of dividend to be paid out by firms could be influenced by the size of the firm. Companies that are large in size are more than likely to pay dividend more often than small firms. Larger firms also have higher agency costs and a relatively lower transaction cost than the small firms. Dividend payout is inversely related to intrinsic business risk. Kalay (1980) opined that companies with unstable earnings pay less in dividends in attempt to maintain a stable dividend payout and to avoid the cost of borrowing from external sources.

## **2.2 Types of Dividend Policy**

**Constant or fixed policy:** The Company pays out a fixed amount of its profit after tax as dividend. Thus, the company maintains a fixed payout ratio of dividend. A company may as a matter of policy, decide to constantly payout sixty percent of its after tax profit as dividend to its shareholders and retain the remaining fraction. This type of policy allows the shareholders the opportunity to clearly know the amount of dividend to expect from their investments in the company. However as noted by Watson & Head (2004), the policy could be traumatic to companies experiencing a volatile or fluctuating profit earning. This is because of the uncertainty of its profit. If there are viable capital projects, the policy can be chaotic.

**Progressive policy:** Payments on dividend is on a steady increase usually in line with inflation. This could result in increasing dividend in money terms. The firm uses the policy as a ratchet. Every effort is made to sustain the increase even though marginal. Seldom, the company may be constrained to cut down on dividend payout. This is to enable it sustain its operations. This though is not a frequent action as it sends a wrong signal to investors. Firms

operating this policy will opt to avoid paying dividends during the period rather than consistently cut down on the dividend (Kolb & Rodriguez, 1996).

**Residual policy:** Dividends are just what is left after the company determines the retained profits required for future investment. This policy gives preference to its positive NPV (Net Present Value) projects and paying out dividends if there are still left over funds available. Dividend becomes a circumstantial payment paid only when the investment policy is satisfied. There is a tendency therefore that this type of policy could give rise to a zero dividend structure. Firms may need to modify this policy to ensure that investors of the different clienteles are not chased out by a strict application of the policy (Kolb & Rodriguez, 1996).

**Zero dividend policy:** Some firms may decide not to pay dividend. This is especially common in newly formed companies that rather require capital to execute its projects. All the profit is thus retained for expansion of the business. Investors who prefer capital gains to dividends because of taxation will naturally be lured by this kind of policy. This type of policy is quite easy to operate and avoids all the costs associated with payment of dividends (Watson & Head, 2004).

**Alternative policies to paying cash:** In order to give shareholders a choice between dividends or new shares, the banks might choose to buy back shares. This is share or stock repurchase. This has a significant advantage in terms of tax to the shareholder. While the dividend is fully taxed just as ordinary income, the stock repurchase or buyback is not taxed until the shares are sold and the shareholder makes a profit or capital gain (Ross, Westerfield & Jordan, 2001). There is also the policy of stock dividends and splits. Shareholders are given additional shares in lieu of cash as dividend (Brealey, Myers & Marcus, 1999).

### **2.3 Some Factors Determining Dividend Policy**

The choice of a particular dividend policy by a bank is not usually accidental. It is tailored to either meet the bank's need or the shareholders'. Shareholders have different choice of dividend depending on their needs. Firms also adopt policies that suite their peculiarity. Thus some identifiable factors affecting dividend policy include but are not limited to the following: reinvestment required for new capital projects, availability of other sources of

funds, existing cash levels and liquidity, market reaction to a change in dividend, tax, shareholders preference for income or capital gain etc.

**Market reaction to a change in dividend:** Management often sticks to a pattern of dividend payout. This can be explained by the signal conveyed by an alteration in dividend payment of the company. A cut in dividends will give a negative signal to investors on the future prospect of the company (Hutchinson, 1995). This might affect the share price of the company. Thus, since management cannot afford to give such weak impression about its company, it is likely to stick to its dividend policy that does not attempt to cut down on the current payout.

**Shareholders preference for income or capital gain:** Investors are classified according to their preferences. They are grouped into clienteles, 'defined by their current income needs'. The wealthy investors may not have an immediate need for cash dividend. Others groups may have strong need to receive cash as dividend. By targeting a particular clientele or group, management may wish to tailor its dividend policy to suit the needs of its target investors (Hutchinson, 1995).

There are reasons why an investor may wish to avoid or seek dividends other than cash. An investor who is concerned about taxes will opt for little or no dividend to be paid to him. This is because of the tax levied on dividend income. In attempt to avoid tax, some will prefer not to receive dividend but to pay a capital gain tax at a later time when their shares are sold and profit made. Thus, a firm will structure its policy to suit its investors (Kolb & Rodriguez, 1996).

**Existing cash and liquidity level:** The tendency to pay dividend is strictly based on availability of funds. This is a residual dividend model, which holds that companies will usually base their dividend policy on its cash flow and capital structure. Thus, where the banks require capital for investment for a project, the retained earning is utilised and the amount left for dividend will be affected. Only the residual earnings are used for the payment of dividends (Samuels & Wilkes, 1987).

There are however, other issues that are crucial in the dividend policy of any business organizations. These include the clientele effect, signalling hypothesis, dividend stability, dividend extras, residual dividend model, share prices etc. Some investors prefer no



dividends while others may prefer large dividends. Investors will therefore invest in companies that have suitable policy for them. A change in the amount of dividend sends a signal to the investors. When dividend increases, it is a signal of growth and a reduction in dividend signals otherwise. Thus, companies that have stable or predictable dividend enjoys the goodwill of investors.

Bank dividend policy is distinct and unique from other industries as it does not react to the Rozeff model elements such as past growth rate, beta, and other acute factors (Casey and Dicken, 2000). In a similar study, Baker, Powell and Veil (2001) segmented the factors influencing dividend policy of financial and non-financial firms. Their findings include pattern of past dividends, concern about maintaining a target capital structure, current degree of financial leverage, shareholders need for dividend income, legal rules and constraints; such as impairment of capital, the desire to send favourable signals to investors, the desire to conform to the industry's dividend payout ratio, investment considerations such as the availability of profitable investments, expected rate of return on firm's assets etc. Their findings corroborate some of the factors under discussion, which depicts the congruence and agreement of the dividend factors, irrespective of the industry.

Some firms have an established low dividend payout pattern even though their operating and financial leverage increases. Dividend payout can thus serve as a quasi- fixed charge that can replace the interest rate of borrowing or high fixed cost. Thus, as the fixed costs increases, the dividend must reduce to avoid the additional cost of external borrowing. Moh'd, Perry & Rimbly (1995) argue that increases in dividend payout are often observed if a low percentage of the firms' shares are held by the management of the company and the outsider shareholders become more dispersed.

In other words, higher dividend payouts are established when there is an increase in institutional ownership of the firm. These views are in agreement with Rozeff (1982), Easterbrook (1984) and Shleifer & Vishny, (2003) who argue that shareholders seek higher dividend payout as they perceive the diminishing level of their control and that small shareholders will want a high dividend payout as a compensation as well as attraction to larger shareholders for their role in monitoring management's activities.

## 2.4 Some Theoretical Dividend Models

Corporate dividend policy has captured the interests of financial economists and has been an issue of intensive theoretical models and empirical examinations over the last few decades (Frankfurter & Wood, 1997). The controversy probably began with the Modigliani & Miller (M&M)(1961) theory, which classified investors into dividend clientele. It was later found in a later research that tax is responsible for marginal alterations in the portfolio composition rather than the major differences predicted by Miller & Scholes (1978). At the onset, when the M&M theory was postulated, most financial practitioners and many academics greeted the conclusion that tax had a marginal effect on dividend policy with surprise (Baker, Powell & Veit, 2001).

Where dividends are taxed more heavily than capital gains, and where capital gains are not taxed until realised, a bank that pays no dividends will be more attractive to taxable individuals than a similar bank that pays dividends. This is because corporate investors are taxed more providing a substantial incentive for investors to generate income by selling their shares than to receive dividends.

Other models such as tax adjusted model which groups investors into tax dividend clienteles; Masulis & Trueman (1988) Model of cash payments, Farrar & Sewlyn (1967) model of after tax income of investors classifies investors into two clienteles. This is based on their preference for dividend or capital gains. Auerbach's (1979) model of shareholder wealth and Akerlof's (1970) signalling model, information asymmetric theories, Jensen (1986) free cash flow hypothesis, Feldstein and Green (1983) theoretical dividend behavioural models and Shefrin & Statman (1984) theory of self control are all measures to unmask firms' dividend policy.

The strategy of tax sheltering of income especially by high tax investors was instrumental to the Miller & Scholes (1978) and Miller (1986) attempt to inject rationality into the tax-adjusted model. Scholes (1982) attributed any significant relationship between profit and dividend to 'dividend information effect' rather than the effect exerted by tax (Watson and Head, 2004).

The shareholder wealth model assumes that the shareholders are the main priority in wealth maximization rather the firm. Where there is an option of capital gain or tax on dividends, the

idea of wealth maximization seems to be on the company's market values. Auerbach (1979) in this model sees dividend as a child of circumstance; which results from a long-term undervaluation of capital of the firm and a reinvestment of the earnings after deducting the expected returns of the firm and investors.

Akerlof (1970) came up with the signal model of corporate dividend policy. The crusaders of the signal model affirm that when dividend is used as a method of presenting the message of a firm's quality it bears a lower cost than other available alternatives. This implies that other methods of putting across good performance of the firm are not reliable, thus the use of dividend. This is possible because of the asymmetric nature of information regarding the firm. The asymmetric of information between the owners of the business and the management warrants the payment of dividends to restore dividend and adds value to the firm's equity (Frankfurter & Lane, 1992). It is an aid to allay investors' fears and helps the firm to remain competitive in the industry.

Other writers of the asymmetric information have developed thought on applying the agency cost in modelling the dividend policy. This is exponential on the reduction of costs incurred by management. It is firmly believed that huge dividend payment reduces the amount of capital at the disposal of the managers. Thus, requiring management to seek funds in the capital market to finance investment projects. This thus ensures that funds are effectively monitored by the capital market and to ensure prudence in spending by management (Easterbrook, 1984).

In line with this thought, Jensen (1986) postulated the free cash flow hypothesis, which is an extension of the agency cost model and the signalling model. It hinges on the prudence of managers on the use of funds available after financing the capital projects of the firm. The remaining fund, he assumes, can lead to conflict of interest between the shareholders and the management. Thus, the separation of the ownership and management affords the managers the opportunity to demonstrate their worth. However, the funds left after dividend and interest payments may become too marginal that unscrupulous managers have little to squash.

Feldstein and Green (1983) formulated a theoretical behavioural model of dividend in an attempt to prove that dividend is a product of several factors. The model asserts that the tax liability of dividends is marginal if compared with the transaction costs of trading shares

when the firm's profits are retained. Dividend payment reaffirms trust and confidence in management and thus serves as a signal factor.

The theory of self-control is used by Shefrin and Statman (1984) to explain the investor's preference for dividends to capital gains. The model posits that capital gains and dividends are not close substitutes. Investors are less patient when dividend is delayed. This can be verified when dividends are reduced. Thus dividend payout provides more checks on spending level of management. Dividend provides opportunity to spend rather than save but the opposite applies to the capital gains when earnings are retained.

The catering theory of dividend has become a front runner in the dividend model theories. The principle behind the theory is that decisions to pay dividends are usually driven by investors demand. Management therefore 'cater' for investors by paying dividends to shareholders who require it and not paying when the investors do not require dividends. Baker and Wurgler (2004) argue that investors have uninformed and time varying demand for dividend paying shares. This demand is not influenced by any arbitrage as the prices of the payers and non-payers remain unperturbed.

Management would pay dividend when investors place higher prices on payers but avoid payments if investors prefer nonpayers. The study used the catering dividend dynamics to support that argument that managers cater for time varying investors in an attempt to maximise share prices. Their results suggest that dividends are highly relevant to share values but in different directions and times. Once dividends are initiated, any changes are influenced by the level of profitability rather than the relative valuations of payer and nonpayers.

In a similar study of banks dividend payout, Casey and Dickens (2000) employed the Rozeff (1982) model to examine dividend payout factors in which he found five variables to be very significant in dividend payout policies of firms. The variables include beta, percentage of insider ownership, past revenue growth rate, forecasted revenue growth and the number of common stockholders. Those variables are equally useful in articulating dividend policies of banks. Chang and Rhee (1990) added that financial leverage is a crucial factor in dividend policy of firms. A firm that has a high financial leverage tends to have a high dividend payout ratio. This however depends if the tax chargeable on the dividend income is higher than the capital gains.

## **2.5 The Dividend Irrelevance Theory**

The theory of the irrelevance of dividends was promulgated by Miller and Modigliani (1961) in which they asserted that a firm does not let its dividend policy affect its investment decisions, and if taxes and transaction costs are ignored, a firm's dividend policy should have no impact on the value of its shares. This implies that the dividend a firm pays does not affect the value of its shares or the returns to investors because the higher the dividend paid, the less the investor receives in capital appreciation no matter how the corporation's business decisions turn out.

Share valuation according to Miller and Modigliani is a function of the level of corporate earnings which reflects a company's investment policy rather than a proportion of a company's earnings paid out as dividends. The firm's choice of dividend policy given its investment therefore is a choice of financing strategy. The basis of this proposition is based on the assumption of a perfect capital market and no tax world; perfect only on the assumption of a rational individual.

The importance of this argument is that investors will always prefer more wealth to less and are indifferent as to whether a given increment to their wealth takes the form of cash payment or an increase in the market value of their holdings. Perfect certainty implies complete assurance on the part of every investor as to the future investment programme and the future profits of the business. They propose that in a perfect capital market, no buyer or seller of securities is large enough for their transaction to have an appreciable impact on the ruling price.

However, there have been other scholars whose opinion and findings are in sharp contrast with the irrelevance dividend theory. Gordon (1959) and Lintner (1964) have argued that investors are very keen and happy with today's dividend as against a future gain that may not be certain. The contention is that dividend policy is positively relevant to the valuation of firms and shareholders will prefer a high dividend today to a highly uncertain capital gain from a questionable future investment. This is often referred to as the 'Bird in Hand' theory, since the gains from dividends are certain more than capital gains. If dividend is

preferred to capital gains then the dividend policy has an intrinsic role to play in the valuation of a bank.

The behavioural life cycle propagated by Shefrin and Stateman (1984) which is based on self control argues that investors would want to restrict themselves from consuming too much in the present in order to enjoy future income. Investors do not want to dip their hands into their capital and therefore allow themselves to consume current income such as dividends. Investors therefore prefer to consume from dividends rather than capital gains as such the issue of dividend is of relevance to investors.

Another dimension of the dividend puzzle is the proposition that dividend payout reduces the market value of a company particularly whenever dividends are taxed more heavily than capital gains. According to Brealey (1997), the fact that investors pay taxes at different rates on their income relative to capital gains provide an incentive to hold portfolios with different exposures to dividend yield even though this results in a less well-diversified portfolio. Various studies have however refuted this argument that heavy taxation on dividend is a strong incentive for individuals to prefer capital gains over dividend distribution.

There is also the clientele effect of dividend policy. This effect makes management reluctant to alter established payout ratios because of fear that such changes might incur unwanted transaction costs to current shareholders. Shareholders are indifferent to whether they receive dividends or capital gains (Watson and Head, 2004). Some types of shareholders require dividends as a source of regular income and others solely prefer capital gains or dividends due to the difference in tax treatment. Shareholders may prefer firms to supply them with a pattern of dividend that fits their consumption pattern thereby relieving them from the problem of having to change their cash flow especially where pensioners are involved.

Thus, investors would prefer to consider in isolation their investments and invest in a way that gives the highest opportunity to meet their particular goal with the lowest risk of failure as defined by the investor. A significant change in a company's dividend policy could give rise to unnecessary pressure on its shares.

## **2.6 Corporate Governance, Agency Theory and Dividend Policy Decision**

The main idea behind the agency theory approach is that dividend payment reduces the amount of cash held in the firm and consequently lowers the cost to investors. Miller and Modigliani (1958) think of firms as collections of investment projects and the cash flows these projects create, and hence naturally interpret securities such as debt and equity as claims to these cash flows. Shleifer and Vishny (1997) found that the ownership structure, along with a country's legal protection, is one of the most important determinants of corporate governance.

In both the contractual framework of Jensen and Meckling (1976) and the residual control rights framework of Grossman, Hart, and Moore (1986), the rights of investors are protected and sometimes even specified by the legal system. In different jurisdictions, rules protecting investors come from different sources such as company and security. Other laws include bankruptcy and takeovers, competition, and also from stock exchange regulations and accounting standards. It is argued by most writers that payment of dividend is highly correlated with the type of governance structure.

In a study carried out by La Porta et al (2000), *they* argue that dividend policies vary across legal regimes in ways consistent with a particular version of the agency theory of dividends. Specifically, firms in common law countries where investor protection is typically better, have higher dividend payouts than firms in civil law countries. Moreover, in common but not civil law countries, high growth firms have lower dividend payouts than low growth firms. Shareholder protection gives an investor the right to vote against a non performing management in terms of mismanagement of the assets of the business. For example contract law deals with privately negotiated arrangements, whereas company, bankruptcy, and securities laws specifically describe some of the rights of corporate insiders and outsiders. These laws and the quality of their enforcement by the regulators and courts are essential elements of corporate governance and finance.

Jensen and Meckling (1976) define an agency relationship as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent. Agency

costs arise with the separation of ownership and control of the firm because managers and shareholders have different objectives. Agency cost is thus the sum of the monitoring of expenditures by the owners, the bonding expenditures by the managers and a residual loss. This residual loss results from the divergence between the agent decisions and those intended by the principal that persists after the monitoring.

According to Jensen (1986), the conflicts of interest between shareholders and managers about payout policies are especially severe when the firm generates substantial free cash flow. The free cash flow is the cash flow in excess of that required to fund all projects that have positive net present values when discounted at the relevant cost of capital. Therefore with dividends, managers have fewer resources under control and the fact that capital markets punish dividend cuts with large stock price reductions is consistent with the agency costs of free cash flow.

Different shareholders have varying characteristics to influence the policies of the firm especially if they have a role in management to limit the availability of funds to invest in unprofitable projects. The investment policy of the firm based on this premises is therefore no longer independent of its dividend policy. Conflicts of interest between corporate insiders, such as managers and controlling shareholders on one hand, and outside investors such as minority shareholders on the other hand, are central to the analysis of the modern corporation (Cornett et al., 2008). Insiders can divert corporate assets to themselves through outright theft dilution of outside investors through share issues, excessive salaries, asset sales to themselves or other corporations they control at favourable prices, or transfer pricing with other entities they control. Alternatively, insiders can use corporate assets to pursue investment strategies that yield them personal benefits of control such as growth or diversification without benefiting outside investors.

As pointed out by La Porta et al (1998), the extent of legal protection of outside investors differs enormously across countries. Legal protection consists in both the content of the laws and the quality of their enforcement. Shareholders, both insiders and outsiders through corporate and other laws, are able to protect their investment against expropriation by insiders. This right by shareholders cover a range of activities such as the right to vote on important corporate matters and election of directors, the right to receive the same dividend per share with insiders and the right to sue the company for default of contract. The idea is



that shareholders buy certain rights to the company once they invest although in most cases these rights are effective when acted upon jointly.

In effect, common law countries appear to have the best legal protection of minority shareholders, whereas civil law countries, and most especially the French civil law countries, have the weakest protection. Evidence also suggests that good investor protection contributes to the efficiency of resource allocation and to economic growth. Developing countries can as such use shareholder protection as a means of attracting investors since an inflow of investment opportunities lead to increased growth and high per capita income.

Dividend policy has been applied in an attempt to reduce agency cost. Rozeff (1982) found that higher dividend payouts are constituted when a low proportion of the firm's equity is held by insiders and non growth firms are found to pay greater dividend than firms in their growth stage (Gaver & Gaver, 1993). The main idea behind the agency theory approach is that dividend payments reduce the amount of cash held in the firm and consequently lowers the cost to investors. By paying dividends, the insiders (management) are thus no longer in position to use the corporate earnings to benefit themselves as such earnings are inversely returned to the investors.

The theory of free cash flow seeks to expose the likely conflict of interest between the shareholders and management. This is an integral aspect of the agency theory. Some frugal managers who have the best interest of the shareholders are ordinarily expected to invest only in profitable projects. Frankfurter & Wood (2002) alleged that the separation of the business owners from the management of the firm offers the managers the choice of making wrong investments and possibly wasting funds.

The theory of free cash flow is predicated on the inefficient use of funds available to managers after investing in projects with high positive net present values (NPV). The assumption is that the funds remaining after the execution of profitable projects could cause conflict of interest between the managers and shareholders. The free cash flow hypothesis is predicated on the forgone findings that such funds are usually used to appease the management interest rather than shareholders.

Another dimension of dividends is that it can be used as an upshot of legal protection of the shareholders. La Porta *et al.* (2000) stated in their work that dividends serve as a substitute

for legal protection of shareholders in countries where shareholder protection is weak. Since firms will have to come to capital markets to raise funds to finance their projects, they have to create a reputation for good treatment of shareholders. Where there exist significant problems between corporate insiders and outsiders, dividends can play a useful role since dividends are better than retained earnings and the latter might never mature as dividends in the future. This reputation is necessary in countries where shareholder protection is weak unlike in countries with strong forms of protection.

Minority shareholders with the right to vote for directors under an effective system might use their legal powers to force companies to pour-out cash, thus preventing insiders from using too high a fraction of company's earnings to benefit themselves. Good investor protection makes it possible for shareholders to vote for directors who offer better dividend policies by selling shares to potential hostile raiders who then gain control over non dividend paying companies. Insiders also get attracted to dividends since good investor protection make it risky and costly to divert company assets

This assumption is however a contestable fact in countries with good shareholders protection and where there are both good investment prospects and growth. If there are banks but with a poor investment opportunities and growth, shareholders who feel unprotected will accept low dividend payouts and high reinvestment rates from the banks with better investment opportunities because they know that banks will have the potential of paying a higher dividend. The shareholders of the companies with poor investment and growth will not feel happy and protected under similar circumstances. Thus, with good investment and growth potential, shareholders will feel protected to accept low dividend payout. This concurs with La Porta et al's (2000) outcome agency model of dividends, which argues in favour of the 'bird in the bush' and not necessarily the 'bird in hand' theory of dividends.

Other studies have attempted to examine the doctrine that dividends serve as a mechanism for reducing agency costs and thus offer a rationale for the distribution of cash resources to shareholders. Companies that are attempting to maximize shareholder wealth often seek to reduce the agency problem by incurring additional costs, which helps to align the managers to act in the interest of the outsider shareholders. Moh'd, Perry & Rimbey (1995) propose that the dividend mechanism provides an incentive for managers to reduce the costs associated with the principal and agent relationship. Thus, distributing resources

in the form of cash dividends pushes managers to explore outsourcing in the capital market, causing them to reduce agency costs as they subject themselves to the scrutiny of the capital market.

Under this scenario, the optimum level of dividend payout is that which minimizes the agency cost structure relative to the cost of raising the required capital. If the firm is forced to raise external capital to replace the funds used in the payment of dividend, then managers must reduce agency costs and reveal some new information as a prerequisite for securing such loans. This argument which was initially proposed by Rozeff (1982), was tested by Moh'd et al (1995) by employing a cross sectional model of dividends which regressed dividend payout against proxies for the agency cost and the transaction cost trade off. Their result supports the position that an optimum dividend payout ratio can exist even without any consideration for tax implications.

In a similar vein, Easterbrook (1984) argues that outside shareholders are active in seeking to draw capital from the company to ensure that managers are subjected to examination by the capital market as a way of measuring up with the requirement of loans. The payment of dividend is thus considered to be a measure of causing the firm to undergo a cross examination by the capital market or third party audit in order to secure such needed capital. The implication of such is that the managers are forced into revealing relevant information and reduce agency costs in order to secure such loans. Thus, shareholders are happy to bear the cost implications of such new funding to realize the greater benefits associated with agency cost and information asymmetries.

## **2.7 Taxation and Dividend Policy Theories**

The relationship between taxes and dividend policy has attracted much academic interest. Financial theorists such as Brennan (1970), Masulis & Trueman (1988) have stipulated that taxes affect organizational corporate dividend policy. Under this scenario, changes in corporate dividend payout would be expected whenever the government changes its income tax policy (Wu, 1996). However, this does not always apply especially in the banking

business. Linter (1956) had asserted that the major determinants of dividend policy are the anticipated level of future earnings and the pattern of past dividend.

This discrepancy may have underpinned Modigliani & Miller's (1961) theory, which provided a platform for the debate and research on dividend policy. The banking sector is of interest in this research because of the structure of its dividend policy as will be revealed in the study.

Dividends are usually paid to owners or shareholders of business at specific periods. This is apparently based on the declared earning of the company and the recommendations made by its directors. Thus, if there are no profits made, dividends are not declared. But when profits are made, the company is obligated to pay corporate tax including other statutory taxes to the government. This is an essential corporate responsibility particularly with profit making companies. The taxes no doubt reduce the profits available at the disposal of the organizations, either to be retained or distributed as a dividend to shareholders of the company.

For decades, several postulations and assumptions have been made regarding whether such taxes paid by organizations actually affect their pattern of dividend policy. Dividend policy is the trade-off between retaining earnings and paying out cash or issuing new shares to shareholders. Some firms may have low dividend payout because management is optimistic about the firm's future and therefore wishes to retain their earnings for further expansion. It is hard to deny that taxes are important to investors. Although, dividend affects the shareholders tax liability, it does not in general alter the taxes that must be paid regardless of whether the company distributes or retains its profit (Brealey, Myers & Marcus, 1999, and Nnadi & Akpomi, 2008).

The tax adjusted model<sup>2</sup> groups investors into tax dividend clienteles. It purports that investors are happy with shares that offer higher returns but will accept lower value for shares due to the tax liability of the dividend. However, because investors have different tax liabilities, their choice of investment based on company's dividend policy will be at variance with each other. This agrees with the propositions of Modigliani (1982) and Masulis and Trueman (1988) models of grouping investors into tax clienteles. It is believed that dividend

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<sup>2</sup> The dividend policy hypotheses, including the tax adjusted model are fully discussed in the next chapter.

payment decreases or increases in opposite direction with tax liability (Frankfurter & Wood, 1997).

The strategy of tax sheltering of income especially by high tax investors was instrumental to the Miller & Scholes (1978) and Miller (1986) attempt to inject rationality into the tax-adjusted model. An investor can choose to either buy or decline to buy shares with high dividend as a technique of avoiding the apparent tax liability on such shares. Investors could turn to tax free shares to counter balance it with the tax incidental on dividend paying shares.

However, DeAngelo & Masulis (1980) disagree on the effective effect of the tax sheltering strategy but rather advanced personal tax shelters to minimize or totally avoid tax. The study reaffirms Bradley, Capozza and Seguin (1998) hypothesis on dividend policy and cash flow uncertainty. They assert that when a shareholder is confronted with a greater tax rate on dividend rather than capital gain, then the coefficient associated with dividends will be significantly affected.

However, the finding of Black and Scholes (1974) which sets out to examine the impact of profit on the dividend policy of companies fell short of any concrete findings as no correlation was established in the two variables. This contrasted with a later finding of Ramaswamy (1979) in which a significant relationship was established. But Miller and Scholes (1982) attributed any significant relationship between profit and dividend to dividend information effect' rather than the effect exerted by tax (Watson and Head, 2004).

The after tax income model of investors also classifies investors into two clienteles. This is based on their preference for dividend or capital gains. Farrar & Selwyn (1967) argue that share repurchase rather than dividend should be implored in distributing the company's profits to shareholders. This model was further investigated by Brennan (1970) into an equilibrium framework. But as stated by Frankfurter & Wood (1997), equilibrium with dividend paying firms is not consistent with a zero required return per unit of dividend yield.

Financial theorists such as Wu (1996) opined that evasion of taxes by companies is a key factor in the determination of the extent to which its dividend policy is affected by tax. Miller & Scholes (1982) however admit that taxes weigh tremendous influence on corporate dividend structure. In turn, they contend the effects of dividend policy on company's share price. What implications taxes have on dividend policy is a matter of intense debate. The

dividend irrelevant theory of Modigliani & Miller (1961), which assumes a perfect market, is still very much held in contention but its principles underlines most dividend policies.

Three contemporary schools of thought have emerged with theories all attempting to explain the dividend structure and the impact of taxation. The tax preference theorists agree that an increase in dividend payout reduces value. They reason that since dividends are taxed as ordinary income and capital gains, investors will prefer capital gains to dividends. These groups strongly assert that whenever dividends are taxed more heavily than capital gains, the firms would pay the lowest cash dividend they can get away with. The available cash would be retained and reinvested or used to repurchase the shares.

The dividend irrelevance theory assumes the absence of brokerages or taxes. This may be seen as presumptuous and unrealistic in practice, as taxes are inevitable in the business world. The seemingly popular theory led by Modigliani & Miller (M&M) claims that dividend policy makes no difference in a world without taxes, transaction costs, or other market imperfection. They further postulated that companies can raise shares whenever they need capital to finance the business.

Several studies aimed at correlating tax and dividends have been conducted with inconclusive results. Miller and Modigliani's (M&M) theory assumes that taxes do not affect dividend policy of the firm in a perfect market. Thus, investors' decisions are independent of dividend considerations. However, when the tax on dividend is higher than that of the capital gain of the investor, the issue of dividend policy of the firm becomes a concern to the investors. Chu (1996) studied the effect of tax on personal income and posits that dividend tends to expose investors to more tax liability than capital gains. Therefore, they will opt for lower dividend to minimize the tax liability on investment. The findings also shows that the after tax income of shareholders is greater when the firm pays no dividends, where the capital gains is lower than the tax consequential on the dividend.

In the US, several studies have been undertaken to examine the effect of the various tax reforms on corporate dividend policy. Bolster & Janjigian (1991) researched on the 1986 tax laws in US but found no concrete evidence of any correlation of any increase in dividend following the reform. However, Papaioannou and Savarese (1994) found an increase in the dividend payout for the average firms after such reforms. This is attributed to the reduction in

income tax injected in the tax system and thus aligns with the proposition that tax has a tremendous effect on the dividend policy of firms.

One identifiable problem of inferring the tax effect on dividend is the variation in tax rates faced by different investors. For investors whose personal tax liabilities are less than their capital gain tax liability (which underscores their interest in dividend rather than capital gains), the tax effect does not apply (Hutchinson, 1995). Different tax situations would ignite diverse effects on the share price of the firm. The rise in dividend can inversely be attributed to the tax provisions on such dividends.

## **2.8 The dividend Signalling hypothesis**

A major factor in the dividend payout strategy is the belief that the payout has a potential effect of passing information to the public. Presumably, managers possess vital information about the organisation that may not be in the domain of the public. Such information gap between the insiders and outsiders could cause an inaccurate valuation of the firm and thus renders the share price as an inappropriate measure of the firm's value.

In order to close this information gap, managers might opt to disclose the information to the public to paint a measurable value of their organizations. Baskin and Miranti (1997) assert that dividend can play the role of providing a veritable tool in conveying the private information they hold on the organization to the market. Since investors use cash flows to equity as measure of valuing a firm, dividend might give implicit information about the banks' prospect.

The argument surrounding the dividend hypothesis was postulated by M&M (1961) in which they argue that when markets are imperfect, the share prices may respond to changes in dividends. This implies that dividend announcements may be an indication of the banks' future earnings. Investors can draw inferences from the information conveyed by the dividend announcements. This signal can be detected by the sustainability or the changes in the pattern of the dividends. This assumption is commonly referred to as the signalling hypothesis.

For the signalling hypothesis or information content of dividends to be realistic, two conditions are very vital. First, the bank managers must possess private information about the future potentials of the organization which they are happy to convey to the market. Second, the signal conveyed must be correct. False or wrong information about poor prospect of the banks must not be falsified to deceive the public by increasing dividends. Koch and Shenoy (1999) emphasized the importance of the public trust and the reliance on insider information in making decision about their investments.

Thus an increase in dividend may be seen as signal of profitability by investors and could increase the share price of the firm. A cut in dividend would be perceived as a bad signal of the firm which can adversely affect the share price. This perception concurs with Lintner (1956) model which suggests that firms increase dividend when there is a steady increase in earnings. Thus dividend increase signals a long term profitability of the firm. This assumption is consistent with the dividend smoothing theory which asserts that firms will smooth dividends over time and not make substantial increase in dividend payout except where such increase is sustainable in the future ( Lipson et al, 1994).

## **2.9 Summary of Literature**

The chapter has examined some debates in the finance literature supporting various concepts of dividend policy and their implications. The dividend irrelevance argument led by Modigliani & Miller (1961) has also been discussed; though this will be further debates on the theory will be reviewed in the next chapter.

Corporate governance, agency theory and its impact on the dividend decisions have also been examined. Various studies and the theories underpinning their consideration by firms in their dividend policy are considered important variables, for instance, Rozeff (1980), La Porta et (2000). The implications of taxation in dividend as well as the signalling effect of dividend have been considered.



# Chapter Three

## Theoretical Debates and Dividend Policy Hypotheses

### 3.0 Introduction

Organisations are generally faced with two critical operational decisions: investment and financing decisions. The investment or capital budgeting decision is concerned with what assets the firm should acquire while the financing decision is concerned with how these assets should be financed. However, when the firm begins to generate profits, there may be a need to consider whether the firm should distribute all or a proportion of earned profits in the form of dividends to the shareholders, or whether it should be ploughed back into the business. Presumably, in taking any course of action, managers should concentrate on how to maximise the wealth of shareholders for whom the firm is being managed. Managers must not only consider the question of how much of the company's earnings are needed for investment, but also take into consideration the possible effect of their decisions on share prices (Bishop et al., 2000).

The term 'dividend policy' refers to "the practice that management follows in making dividend payout decisions or, in other words, the size and pattern of cash distributions over time to shareholders" (Lease et al., 2000, p.29). The concept of dividend policy has engaged managers since the birth of the modern commercial corporation and has yet remained among the most contested issues in finance. The study of dividend policy has captured the attention of finance scholars since the middle of the last century. They have attempted to solve several issues pertaining to dividends and formulate theories and models to explain corporate dividend behaviour.

The dividend enigma has not only been an enduring issue in finance, it also remains unresolved. Over thirty years since Black (1976) described it as a "puzzle", an enormous amount of research has been undertaken in an attempt to unravel the puzzle. Allen, Bernardo and Welch (2000) summarised the prevailing consensus view when they concluded that despite the number of theories that have been put forward in the literature to explain their pervasive presence, the issue of dividends remains one of the thorniest puzzles in corporate

finance. This chapter can only give a broad overview of the main issues, debates and hypothesis relating to dividend policy.

### **3.1 Brief History of Corporate Dividend Policy**

The issue of corporate dividends has a long history and, as Frankfurter and Wood (1997) observed, is bound up with the development of the corporate status. Corporate dividends date back at least to the early 16th century in Holland and Great Britain when the captains of sixteenth century sailing ships started selling financial claims to investors, which entitled them to share in the proceeds of the voyages<sup>3</sup>. At the end of each voyage, the profits and the capital were distributed to investors, liquidating and ending the venture's life. By the end of the 16th century, these financial claims began to be traded on open markets in Amsterdam and were gradually replaced by shares of ownership. It is worth mentioning that even then many investors would buy shares from more than one captain to diversify the risk associated with this type of business.

At the end of each voyage, the enterprise liquidation of the venture ensured a distribution of the profits to owners and helped to reduce the possibilities of fraudulent practice by captains (Baskin, 1988). However, as the profitability of these ventures was established and became more regular, the process of liquidation of the assets at the conclusion of each voyage became increasingly inconvenient and costly. The successes of the ventures increased their credibility and shareholders became more confident in their management (captains), this was accomplished by, among other things, the payment of "generous dividends" (Baskin, 1988). As a result, these companies began trading as going concern entities, and distributing only the profits rather than the entire invested capital. The emergence of firms as a "going concern" initiated the fundamental practice of firms to decide what proportion of the firms' income (rather than assets) to return to investors and produced the first dividend payment regulations (Frankfurter and Wood, 1997). Gradually, corporate charters began to restrict the payments of dividends to the profits only.

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<sup>3</sup> This type of business was called Commenda. Under the commenda, the commendator provided the capital and the commendatarius managed the investment (Walker, 1931, p.97).

The ownership structure of shipping firms gradually evolved into joint stock companies. But it was chartered trading firms that adopted the joint stock status. By 1613, the British East India Company issued its first joint stock shares with a nominal value without any distinction made, between capital and profit of the firm (Walker, 1931). In the 17th century, the success of this type of trading company attracted others and thus spread to include other activities such as mining, banking, clothing, and utilities. Indeed, in the early 1700's, excitement about the possibilities of expanded trade and the corporate form saw a speculative bubble form, which collapsed spectacularly when the South Sea Company went into bankruptcy. The Bubble Act of 1720 effectively slowed, but did not stop, the development of the corporate form in Britain for almost a century (Walker, 1931).

In the early stages of corporate history, managers realized the importance of high and stable dividend payments. In some ways, this was due to the analogy investors made with the other form of financial security then traded, namely government bonds. Bonds paid a regular and stable interest payment, and corporate managers found that investors preferred shares that pay regular dividends. For example, Bank of North America in 1781 paid dividends after only six months of operation, and the bank charter entitled the board of directors to distribute dividends regularly out of profits. Paying consistent dividends remained one of paramount importance to managers during the first half of the 19th century (Frankfurter & Wood, 1997).

In addition to the importance placed by investors on dividend stability, another issue of modern corporate dividend policy to emerge early in the 19th century was that dividends came to be seen as an important form of information. The scarcity and unreliability of financial data often resulted in investors making their assessments of corporations through their dividend payments rather than reported earnings. In short, investors were often faced with inaccurate information about the performance of a firm, and used dividend policy as a way of gauging what management's views about future performance might be. Consequently, an increase in dividend payments tended to be reflected in rising stock prices.

As corporations became aware of this phenomenon, it raised the possibility that managers of companies could use dividends to signal strong earnings prospects and to support a company's share price because investors may read dividend announcements as an indication of growth in the firm's earnings. Frankfurter and Wood (1997) describe how in the 1920's

and 1930's corporate managers increasingly responded to the recognition that investor behaviour is affected by dividend policy. Managers thus used dividend policy to affect share prices through investor reactions to payout ratios and to signal expected future earnings.

Thus in summary, the development of dividend payments to shareholders has been tied up with the development of the corporate entity. Corporate managers realized early the importance of dividend payments in satisfying shareholders expectations. They often smoothed dividends over time believing that dividend reductions might have unfavourable effects on share price and therefore, used dividends as a device to signal information to the market. Moreover, dividend policy is believed to have an impact on share price. Since the 1950's, the effect of dividend policy on firm value and other issues of corporate dividend policy have been subjected to a great debate among finance scholars. The following section discusses the various theoretical and an empirical arguments of dividend hypotheses.

### **3.2 Dividend Policy Theories**

The previous section has established that dividend policy was bound up with the development of the corporate entity. It was seen that the emergence of dividend policy as important to investors was, to some extent, driven by the evolving state of financial markets. Investing in shares was initially seen as analogous to bonds, so regularity of payments was important. It was also seen that in the absence of regular and accurate corporate reporting, dividends were often preferred to reinvested earnings, and often even regarded as a better indication of corporate performance than published earnings accounts. However, as financial markets developed and became more efficient, it was thought by some that dividend policy would become increasingly irrelevant to investors. Why dividend policy should remain so evidently important has been theoretically controversial.

Three main contradictory theories of dividends can be identified. Some argue that increasing dividend payments increases a firm's value. Another view claims that high dividend payouts have the opposite effect on a firm's value; that is, it reduces firm value. The third theoretical approach asserts that dividends should be irrelevant and all effort spent on the dividend decision is wasted. These views are embodied in three inter-related theories of dividend policy: high dividends increase share value theory (or the so-called 'bird-in-the-hand'

argument), low dividends increase share value theory (the tax-preference argument), and the dividend irrelevance hypothesis. Dividend debate is not limited to these three approaches, however, several other theories of dividend policy have been presented, which only serve to increase the complexity of the dividend puzzle. Some of the more popular of these arguments include the information content of dividends (signalling), the clientele effects, and the agency cost. These issues are discussed later in this chapter following the three main theories.

### **3.3 Dividend Irrelevance Hypothesis (DIH)**

#### **3.3.1 Background & Implications**

Before the emergency of the Miller and Modigliani (1961) theory (M&M, hereafter) on dividend policy, a common belief was that higher dividends increase a firm's value. This belief was mainly based on the so-called "bird-in-the-hand" argument, discussed in more detail in the next section. Graham and Dodd (1934), for instance, argued that "the sole purpose for the existence of the corporation is to pay dividends", and firms that pay higher dividends must sell their shares at higher prices (cited in Frankfurter et al., 2002 p201). However, as part of a new wave of finance in the 1960's, M&M demonstrated that under certain assumptions about perfect capital markets, dividend policy would be irrelevant.

Given that in a perfect market, dividend policy has no effect on either the price of a firm's stock or its cost of capital, shareholders wealth is not affected by the dividend decision and therefore shareholders would be indifferent between the choice of dividends and capital gains. The reason for this indifference is that shareholder wealth is affected by the income generated by the investment decisions a firm makes, not by how it distributes that income. Therefore, in M&M's world, dividends are irrelevant. M&M argued that regardless of how the firm distributes its income, its value is determined by its basic earning power and its investment decisions. They opined that given a firm's investment policy, the dividend payout policy it chooses to follow will affect neither the current price of its shares nor the total returns to shareholders.

This implies that investors calculate the value of companies based on the capitalised value of their future earnings which is not affected by whether firms pay dividends or not and how the

firms set their dividend policies. M&M go further and suggests that, to an investor, all dividend policies are effectively the same since investors can create “homemade” dividends by adjusting their portfolios in a way that matches their preferences.

M&M based their argument upon idealistic assumptions of a perfect capital market and rational investors. The underlying assumptions of a perfect capital market for the dividend irrelevancy hypothesis to hold can be summarized as follows: (1) no differences between taxes on dividends and capital gains; (2) no transaction and flotation costs incurred when securities are traded; (3) all market participants have free and equal access to the same information (symmetrical and costless information); (4) no conflicts of interests between managers and security holders (i.e. no agency problem); and (5) all participants in the market are price takers.

Miller and Modigliani (1961) point out that if the firm does not let its dividend policy affect its investment decisions, and in absence of taxes and transaction cost, a firm’s dividend policy should have no impact on the value of its shares. The dividend a company pays do not affect the value of its shares or the returns to investors because the higher the dividend paid, the less the investor receives in capital appreciation no matter how the corporation’s business decision turn out (Black 1976 ). The firm’s valuation follows the principle that the price of each share must be such that the rate of return (dividends plus capital gains per dollar invested) on every share will be the same throughout the market over any given interval of time otherwise arbitrage will set in (Miller and Modigliani 1961).

Share valuation according to Miller and Modigliani is a function of the level of corporate earnings which reflects a company’s investment policy rather than a proportion of a company’s earnings paid out as dividends. The firm’s choice of dividend policy given its investment therefore is a choice of financing strategy. The basis for this proposition is based on the assumption of a perfect capital market, no tax world, and perfect certainty and on the assumption of a rational individual.

Investors always prefer more wealth to less and are indifferent as to whether a given increment to their wealth takes the form of cash payment or an increase in the market value of their holdings. Perfect certainty implies complete assurance on the part of every

investor as to the future investment programme and the future profits of every corporation. In a perfect capital market, no buyer or seller of securities is large enough for his transaction to have an appreciable impact on the then ruling price.

However, some studies have found that dividends are not irrelevant in the way Miller and Modigliani proposed. Prior to M&M, Gordon (1959) suggested that dividend policy is positively relevant to the valuation of firms and argues that shareholders prefer a high dividend today to a highly uncertain capital gain from a questionable future investment. This is known as the “Bird in Hand” fallacy, since the gains from dividends are certain BY more than capital gains. If dividend is preferred to capital gains then the dividend policy has an intrinsic role to play in the valuation of a company.

Another proposition on the issue of dividend policy points out that, an increase in the dividend payout reduces the market value of a company whenever dividends are taxed more heavily than capital gains. According to Brealey (1997), the fact that investors pay taxes at different rates on their income relative to capital gains provide an incentive to hold portfolios with different exposures to dividend yield even though this results in a less well-diversified portfolio. Various studies have, however, refuted this argument that heavy taxation on dividend is a strong incentive for individuals to prefer capital gains rather than dividend income (Nnadi & Akpomi, 2008, Poterba, 2004, Poterba & Summers, 1984).

### **3.3.2 Proof of Irrelevancy and Empirical Evidence**

The basic valuation model of common stock, that is, the dividend discount model (DDM) would be a necessary step towards understanding the M&M proposition of dividend irrelevancy. Generally, the DDM states that the value of a stock is a function of future dividends (as a proxy for earnings) and the required rate of return on the stock. For example, the value of a share at time zero (today) is simply the present value of all future dividends discounted at an appropriate discount rate. This can be expressed as follows:

$$P_0 = \sum_{t=1}^{\infty} \frac{D_t}{(1 + r_t)^t} \dots\dots\dots 1$$

Where,  $P_0$  is the current share price;  $t$  is the time of the dividend;  $D_t$  is the dividends paid at period  $t$ ; and  $r_t$  is the required rate of return for period  $t$ . The DDM suggests that future discounted dividends ( $D_t$ ) are the underlying determinant of the value of the current share price ( $P_0$ ), and not any future share price. The share price is the critical determinant of the firm value ( $V_0$ ). Accordingly, more dividends increase the value of the firm, other things being equal. This intuition was generally accepted by most of the economists until M&M published their paper, initiating a new direction of research in the dividend policy literature.

In a perfect capital market the required rate of return for an investor on equity shares ( $r$ ) is equal to dividends plus capital gains. This assumes one period world. For simplicity of the exposition,

$$r = \frac{D_1 + (P_1 - P_0)}{P_0} \dots\dots\dots 2$$

where,  $P_0$  is the current market price of shares;  $P_1$  is the expected market price at the end of period one (the ex-dividend price of the share);  $D_1$  is the dividend at the end of the period. The above equation can be re-arranged to give the current market price of shares as:

$$P_0 = \frac{D_1 + P_1}{(1+r)} \dots\dots\dots 3$$

Note that the above equation can be derived also from the basic valuation model (eq.1 above). Now, if we let  $n$  be the number of shares outstanding at time zero, then the current value of the firm ( $V_0$ ) is:



$$nP_0 = V_0 = \frac{nD_1 + nP_1}{(1+r)} \dots\dots\dots 4$$

Recall that M&M stated that in a perfect capital market, firm value is independent of dividend policy. To illustrate, we can employ the sources and uses of funds equation. Given the assumption that the market value of the firm is independent of capital structure (Modigliani and Miller, 1958), debt financing is excluded from the analysis. On one hand, the firm's sources of funds are cash flow from operations ( $CF_1$ ) and any new equity financing ( $mP_1$ ), where  $m$  is number of shares issued at time one. On the other hand the uses of funds are dividends payments ( $nD_1$ ) and investment made during the period ( $I_1$ ). Since sources must equal the uses of funds, thus:

$$CF_1 + mP_1 = nD_1 + I_1 \dots\dots\dots 5$$

Rearranging the above equation, we obtain

$$nD_1 = CF_1 + mP_1 - I_1 \dots\dots\dots 6$$

Substituting equation (6) into equation (4), for  $D_1$  gives:

$$V_0 = \frac{CF_1 + nP_1 - I_1 + nP_1}{(1+r)} \dots\dots\dots 7$$

$$V_0 = \frac{CF_1 - I_1 + (n+m)P_1}{(1+r)} \dots\dots\dots 8$$

Since,  $(n+m)P_1 = V_1$  hence;

$$V_0 = \frac{CF_1 - I_1 + V_1}{(1+r)} \dots\dots\dots 9$$

As dividends do not appear in the equation (9), and since operating cash flows ( $CF_1$ ), investments ( $I_1$ ) and required rate of return ( $r$ ) are not functions of dividend policy (either by

their nature or by assumption), the value of the firm is thus independent of its current dividend policy (M&M, 1961). This analysis can be repeated for more periods and the results will remain the same; i.e., the value of the firm is unaffected by dividend policy. The notion that in perfect capital markets dividend policy should be irrelevant is a logical extension of the neoclassical proposition of perfect competition into financial economics. Its elegance and simplicity were recognised by M&M.

The above discussion suggests that the firm's investment policy is the key determinant of its value and dividend policy is the residual. Operating cash flows depend on investments. In other words, the firm's investments in positive net present value (NPV) projects will increase the cash flows from operation, which is the only way to increase the value of the firm. In summary, given the assumptions of perfect capital markets, the firm's future cash flow from investment activities is the sole determinant of the value of the firm. The firm's payout policy must therefore be independent of its value (Bishop et al., 2000).

The M&M dividend irrelevance proposition has provided the foundation for much subsequent research on dividend policy. However, as argued by Ball et al. (1979), the empirical tests of M&M's dividend irrelevance theorem have proven difficult to design and to conduct. Recall that M&M built their conclusions on a certain set of assumptions of perfect capital markets. Relaxing one or more of these assumptions has formed the basis for most of theoretical and empirical studies.

In line with the dividend irrelevance hypothesis, Black and Scholes (1974) examined the relationship between dividend yield and stock returns in order to identify the effect of dividend policy on stock prices<sup>4</sup>. They constructed 25 portfolios of common stocks listed on the New York Stock Exchange (NYSE), extending the capital asset pricing model (CAPM)<sup>5</sup> to test the long run estimate of dividend yield effects. The study employed the following regression model:

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<sup>4</sup> It is worth pointing out that Black and Scholes' study tested the tax-effect hypothesis, but it is presented here because its conclusion strongly supports the M&M's irrelevance proposition.

<sup>5</sup> The CAPM was developed alongside M&M's work on efficient markets and forms an integral part of the framework of modern finance theory. The CAPM is expressed as  $E(\hat{R}_i) = R_f + \{E(\hat{R}_m) - R_f\} \beta_i$ ; where  $E(\hat{R}_i)$  is the expected return for security  $i$ ,  $R_f$  is the risk free interest rate,  $E(\hat{R}_m)$  is the expected return on the market portfolio and  $\beta_i$  is the beta for security  $i$ .

$$E(\hat{R}_i) = \gamma_0 + \{E(\hat{R}_m) - \gamma_0\}\beta_i + \gamma_1 \frac{(\hat{D}_i - \hat{D}_m)}{\hat{D}_m} + \varepsilon_i \dots\dots\dots 10$$

where,  $E(\hat{R}_i)$  is the expected return on portfolio  $i$ ,  $E(\hat{R}_m)$  is the expected return on the market portfolio,  $\gamma_0$  is an intercept to be compared with short-term risk free rate  $R$ ,  $\beta_i$  is the systematic risk of portfolio  $i$ ,  $\gamma_1$  is the impact of dividend policy,  $\delta_i$  is the dividend yield on portfolio  $i$ ,  $\delta_m$  is the dividend yield on the market, and  $\varepsilon_i$  is the error term.

Black and Scholes used a long-term definition of dividend yield (previous year's dividends divided by the year-end share price). Their results showed that the dividend yield coefficient ( $\gamma_1$ ) is not significantly different from zero either for the entire period (1936-1966) or for any of shorter sub-periods. This implies that the expected returns either on high or low yield stocks are the same. They were therefore unable to prove that differences in yield lead to differences in stock prices. That means that neither high-yield nor low-yield payout policy of firms seemed to influence stock prices. Their conclusion lent important empirical support to M&M's dividend irrelevance argument. Other studies by leading financial economic researchers such as Miller and Scholes (1978, 1982), Hess (1981) Miller (1986), and Bernstein (1996) provided evidence in support of the dividend irrelevance hypothesis (DIH).

While some empirical research supported the DIH, other are unsupportive or provided evidence directly challenging the irrelevance hypothesis<sup>6</sup>. Building on Black and Scholes's work, Ball et al. (1979) examined the effect of dividends on firm value using Australian data over the period 1960 to 1969. They however, failed to find conclusive evidence to support M&M's irrelevance proposition. Baker, Farrelly and Edelman (1985) surveyed the chief financial officers (CFOs) of 562 firms listed on the New York Stock Exchange (NYSE) from three industry groups (150 utilities, 309 manufacturing, and 103 wholesale/retail). Based on 318 responses, they found that respondents strongly agreed that dividend policy affects common stock prices.

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<sup>6</sup> A representative sample of that debate would include: Lintner (1962), Gordon (1963) Walter (1963), Baumol (1963), Brigham and Gordon (1968), and Van Horn and McDonald (1971). See e.g. Baker, Veit, and Powell (2001) and Baker, Powell and Veit (2002a, 2002b).

In another survey study, Partington (1985) found that Australian senior managers viewed dividend payments as a way to satisfy shareholders and support the share price. Baker and Powell (1999) surveyed 603 CFOs of US firms listed on the NYSE, and observed that 90% of respondents believed that dividend policy affects a firm's value as well as its cost of capital. Further studies by the same authors tend to confirm that dividend policy actually matters in the determination of firm value. Other studies including Siddiqi (1995) and Casey and Dickens (2000) have provided evidence inconsistent with dividend irrelevance hypothesis.

Little evidence on the M&M dividend irrelevance hypothesis exists for emerging markets. Ben, Naceur and Goaid (2002) used unbalanced panel data to estimate a random effects Probit model to test whether the probability of creating future value of the firms relates to dividend policy, financial policy, and profitability. The dividend policy (measured by payout ratio) and financial structure (measured by debt to total assets) were found to be insignificant. They concluded that their evidence supported the M&M irrelevance propositions of dividend hypothesis. In contrast, Omet and Abu-Ruman (2003) provided evidence inconsistent with the DIH. Omet and Abu-Ruman surveyed the CFOs of 47 manufacturing companies and identify their views about dividend policy. Based on 33 responses, the researchers observed that most of the Chief Finance Officers ( CFOs) questioned strongly agreed that dividend policy affects share prices. However, given the small sample size in both the Omet and Abu-Ruman (2003), and the Ben, Naceur and Goaid (2002) studies, their results should be treated with caution.

Despite all the empirical work testing the DIH, the impact of dividend policy on the value of a firm remains unresolved. In an earlier section, it was noted that the proposition of dividend irrelevancy was based on several binding assumptions about the nature of perfect capital markets. This is an 'a priori' model of how markets should work if they were perfect. Naturally, once we depart M&M's world of perfect capital market and relax one or more of the assumptions of perfect capital markets, the issue of dividend policy becomes more complicated. Introducing market imperfections might change the view that dividend decision is irrelevant. Importantly, if dividend policy is relevant it may interact with other decisions made by the firm about investment and financing. In other words, there may be a range of reasons why dividend policy might matter as would be discussed in the following sections.

### **3.4 Bird-In-The-Hand Hypothesis (High Dividends Increase Stock Value):**

#### **Empirical Evidence**

One alternative and older view about the effect of dividend policy on a firm's value is that dividends increase firm value. In a world of uncertainty and imperfect information, dividends are valued differently to retained earnings (or capital gains). Investors prefer the "bird in the hand" (BIH) of cash dividends to the "two in the bush" of future capital gains. Increasing dividend payments, *ceteris paribus*, may then be associated with increases in firm value.

As a higher current dividend reduces uncertainty about future cash flows, a high payout ratio will reduce the cost of capital, and hence increase share value. That is, according to the so-called "bird-in-the hand" hypothesis, high dividend payout ratios maximize a firm's value. A pound of dividends has, on average, four times the impact on stock prices as a pound of retained earnings and many studies supported the BIH hypothesis (Diamond, 1967. See also Gordon and Shapiro, 1956; Gordon, 1959, 1963; Lintner, 1962; Walter, 1963).

M&M (1961) criticized the BIH hypothesis and argued that the firm's risk is determined by the riskiness of its operating cash flows, not by the way it distributes its earnings. Consequently, M&M called this argument the bird-in-the-hand fallacy. Further, Bhattacharya (1979) suggested that the reasoning underlying the BIH hypothesis is fallacious. Moreover, he suggested that the firm's risk affects the level of dividend not the other way around. That is, the riskiness of a firm's cash flow influences its dividend payments, but increases in dividends will not reduce the risk of the firm.

The notion that firms facing greater uncertainty of future cash flow (risk) tend to adopt lower payout ratios seems to be theoretically plausible (see, for example, Friend and Puckett, 1964). Empirically, Rozeff (1982) found a negative relationship between dividends and firm risk. That is, as the risk of a firm's operations increases, the dividend payments decrease (see also Jensen, Solberg, and Zorn, 1992).

Gordon (1959) hypothesized three reasons why investors would buy a certain stock. First, to obtain both dividends and earnings, second, to obtain dividends, and finally to get the

earnings. He examined these hypotheses by estimating different regression models using cross-section sample data of four industries (chemicals, foods, steels, and machine tools) for two years 1951 and 1954. The dividend hypothesis was tested using a linear regression, which is similar to the following equation,

$$P_{it} = \alpha_0 + \alpha_1 D_{it} + \alpha_2 R_{it} + \varepsilon_{it} \dots\dots\dots 11$$

where, for firm  $i$  and period  $t$ ,  $P, D$ , &  $R$  are the share price, dividends, and the retained earnings, respectively. The reciprocal of the dividend coefficient  $\alpha_1$  is the estimated required rate of return on common stocks without growth, and the coefficient on retained earnings  $\alpha_2$  is the price for growth. Gordon (1959) found that dividends have greater influence on share price than retained earnings. In addition, he argued that the required rate of return on a share increases with the fraction of retained earnings because of the uncertainty associated with future earnings. Similarly, Gordon (1963) argued that higher dividend payouts decrease the cost of equity or the required rate of return on equity. Using British data for the period between 1949 and 1957, Fisher (1961) reached a similar conclusion that dividends have greater impact on share prices than retained earnings.

The above regression (equation 11) was subject to several criticisms. Firstly, it does not take into account the risk variation among firms drawn from different industries, and this may lead to an upward bias in the coefficient on dividends  $\alpha_1$ . That is, high risk associated with a stock may result in low price and low payout, while low risk associated with a stock may result in high payout and low price. Secondly, the equation accounts only for the growth coming from investments that are financed with retained earnings, while it ignores the growth that may come from the use of external financing.

This may bias the coefficient of retained earnings  $\alpha_2$ . Thirdly, since dividends are more stable than reported earnings, the short-run fluctuations in income will be mainly reflected in change in retained earnings. If share prices and dividends are related to normal rather than reported income, the equation is biased in favour of dividends. Finally, dividends are measured more precisely than retained earnings because the estimated retained earnings depend on the accounting procedure followed to measure total earnings, which will place an

additional downward bias on the retention coefficient  $\alpha_2$  (see Friend and Puckett, 1964, and Diamond, 1967).

To correct for the potential bias resulting from the criticisms mentioned above (especially 1 and 2), Diamond (1967) introduced into the regression equation (11) the average three-year earning-price ratio centred on  $t - 1$ . He examined the impact of dividends and retained earnings on share prices for a sample of 255 US firms from eight industries for 1961 and 1967. He found only weak support for the notion that investors have preference for dividends over retained earnings. The study found that in industries where rates of growth were relatively high, retained earnings were marginally preferred more than dividends, whereas in mature industries with low growth rate a dollar of dividends is slightly preferred to a dollar of retained earnings. This suggests a negative relationship between a firm's growth and dividend payout. The results obtained by Diamond (1967) are consistent with earlier findings of Friend and Puckett (1964). Recently, Fama and French (2001) also found that firms with higher growth and investments tended to have lower payouts.

Baker, Powell and Veit (2002a) surveyed managers of NASDAQ firms to assess their view about dividend policy issues including the BIH hypothesis. Their questionnaire contains one statement about the BIH hypothesis, stating "investors generally prefer cash dividends today to uncertain future price appreciation". Based on 186 responses, only 17.2 percent agree with the statement, 28 percent no opinion, and 54.9 percent disagree. Therefore, they conclude, "...this finding does not provide support for the bird-in-the-hand explanation for why companies pay dividends" (p.278). In an earlier survey, Baker and Powell (1999) also found a similar rate of agreement (17.7 percent) about the bird-in-the hand explanation of dividend relevance.

Empirical support for the BIH hypothesis as an explanation for paying dividends is generally limited, and the argument has been challenged especially by M&M (1961) who argued that the required rate of return (or the cost of capital) is independent of dividend policy, suggesting that investors are indifferent between dividends and capital gains. Indeed, based on the tax-preference explanation, discussed shortly, researchers such as Litzenberger and Ramaswamy (1979), among others, developed an explanation of dividend policy that reaches

the opposite result. That is, investors are disadvantaged in receiving cash dividends. The next section examines the argument that low dividends are preferred to higher dividends.

### **3.5. Tax-Effect Hypothesis and Evidence on whether Low Dividend increases Stock Values.**

The M&M assumptions of a perfect capital market exclude any possible tax effect. It has been assumed that there is no difference in tax treatment between dividends and capital gains. However, in the real world taxes exist and may have significant influence on dividend policy and the value of the firm. In general, there is often a differential in tax treatment between dividends and capital gains, and, because most investors are interested in after-tax return, the influence of taxes might affect their demand for dividends. Taxes may also affect the supply of dividends, when managers respond to this tax preference in seeking to maximize shareholder wealth (firm value) by increasing the retention ratio of earnings.

The tax-effect hypothesis suggests that low dividend payout ratio lowers the cost of capital and increase the stock price. In other words low dividend payout ratios contribute to maximising the firm's value. This argument is based on the assumption that dividends are taxed at higher rates than capital gains. In addition, dividends are taxed immediately, while taxes on capital gains are deferred until the stock is actually sold. This tax advantage of capital gains over dividends tend to influence investors, to prefer companies that retain most of their earnings rather than pay them out as dividends, and are willing to pay a premium for low-payout companies. Therefore, a low dividend payout ratio will lower the cost of equity and increases the stock price. Note that, this prediction is almost the exact opposite of the BIH hypothesis, and of course challenges the strict form of the DIH.

In many EU countries and the US, a higher tax rate is applied to dividends as compared to capital gains taxes<sup>7</sup>. Therefore, investors in high tax brackets might require higher pre-tax

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<sup>7</sup> Note that in the US, the Tax Reform Act of 1986 substantially eliminated the preferential tax treatment of capital gains over dividends. Prior to the Act, dividends were taxed at a higher rate than capital gains, whereas following the Act, dividends and capital gains were taxed at the same rate (see, Rozeff, 1982 and Casey & Dickens, 2000).



risk-adjusted returns to hold stocks with higher dividend yield. This relationship between pre-tax returns on stocks and dividend yields is the basis of a posited tax-effect hypothesis.

Brennan (1970) developed an after-tax version of the capital asset pricing model (CAPM) to test the relationship between tax risk-adjusted returns and dividend yield. Brennan's model maintains that a stock's pre-tax returns should be positively and linearly related to its dividend yield and to its systematic risk. Higher pre-tax risk adjusted returns are associated with higher dividend yield stocks to compensate investors for the tax disadvantages of these returns. This suggests that, a stock with higher dividend yield will sell at lower prices because of the disadvantage of higher taxes associated with dividend income. The Brennan model can be described as:

$$E(R_{it} - R_{ft}) = \gamma_0 + \gamma_1\beta_{it} + \gamma_2(D_{it} - R_{ft}) \dots\dots\dots 12$$

Where,  $R_{it}$  is the return on stock  $i$  in period  $t$ ,  $R_{ft}$  is the risk-less rate of interest,  $\beta_{it}$  is beta coefficient for stock  $i$  in period  $t$  (systematic risk),  $D_{it}$  and is the dividend yield of stock  $i$  in period  $t$ . It is assumed that the coefficient  $\gamma_2$  is interpreted as an implicit tax bracket and is independent of the level of the dividend yield  $D$ . If the coefficient of dividend yield ( $\gamma_2$ ) is statistically different from zero and positive, the results are interpreted as evidence of a tax effect. That is, higher pre-tax risk-adjusted returns are necessary to compensate investors for holding high-dividend-paying stocks because of the disadvantage associated with dividend income.

A large body of empirical research has been devoted to testing Brennan's model and to understanding the relationship between dividend yields and stock returns. For example, Black and Scholes (1974) tested Brennan's model and found no evidence of a tax effect and concluded that low or high-dividend yield stocks do not affect the returns of stocks either before or after taxes.

However, Litzenberger and Ramaswamy (1979) strongly challenged the results of Black and Scholes and criticised their methods, especially their definition of dividend yield. Recall that Black and Scholes used a long-term dividend yield definition (previous year's dividends divided by previous year's closing share price). Litzenberger and Ramaswamy extended

Brennan's (1970) model and used a monthly dividend yield definition in classifying stock into yield classes, a positive dividend-yield class and zero dividend-yield class.

The results of Litzenberger and Ramaswamy show that the coefficient on dividend yield variable ( $\gamma_2$ ) is positive and highly significant. Blume (1980) reported positive and significant dividend yield coefficient, using long-run measure of yield and therefore, provides empirical support for Brennan (1970) model. Litzenberger and Ramaswamy (1979) thus conclude that every dollar increase in return in the form of dividends, investors requires an additional 23 cents in before tax returns. The dividend coefficient ( $\gamma_2$ ) obtained by Litzenberger and Ramaswamy is consistent in magnitude with that reported by Black and Scholes (1974). The implication of Litzenberger and Ramaswamy's findings is that firms could increase their share prices by reducing dividends. However, if this prediction holds, one may raise a question about why corporations pay dividends at all.

Miller and Scholes (1982) challenged Litzenberger and Ramaswamy's conclusion, and criticised their short-term (monthly) definition of dividend yield. They suggested that tests employing a short-term dividend yield definition are inappropriate for detecting the impact of differential tax treatment of dividends and capital gains on stock returns. Furthermore, Miller and Scholes argued that the positive yield-return relation was caused by information bias. The reason for this argument is that Litzenberger and Ramaswamy ignored the information effect of dividend omissions. An announcement of dividend omissions (perceived as bad news) may result in an upward bias in the dividend yield coefficient, since it reduces the return of the zero yield-dividend class. Miller and Scholes attempted to correct the information bias and then retest the Litzenberger and Ramaswamy result. They found that the dividend yield coefficient was not statistically different from zero. Hess (1981) found similar results to Miller and Scholes. In his study, Hess tested the relation between the monthly stock returns and dividend yield over the period of 1926 to 1980. He found mixed results and concluded that the work reinforces the findings of Miller-Scholes study and lends further empirical support to the original M&M proposition.

Litzenberger and Ramaswamy (1982) re-examined the relationship between dividend yield and stock returns after adjusting the dividend yield coefficient for any potential information effects. Their results, consistent with their previous findings, were that the yield coefficient is

positive and statistically significant. Kalay and Michaely (2000) re-examine the Litzenberger and Ramaswamy (1979) experiment using weekly data. They attempt to find whether the positive dividend yield obtained by Litzenberger and Ramaswamy is due to tax effects or to the information effects as conjectured by Miller and Scholes (1982). Kalay and Michaely exclude all weeks containing dividend omissions. They find a positive and significant dividend yield coefficient, inconsistent with Miller and Scholes's conjecture that the positive yield coefficient is driven by information biases. Also, Morgan (1982) had shown evidence inconsistent with the Miller and Scholes conjecture. Furthermore, using daily and monthly British data, Poterba and Summers (1984) provide evidence that strongly supports the tax-effect hypothesis.

Along the lines of Litzenberger and Ramaswamy (1979) and Blume (1980), Keim (1985) used the Sharpe-Lintner CAPM to estimate the relation between long-run dividend yields and stock returns among US firms. He used a sample of 429 firms in January 1931 and 1289 firms in December 1978. In his study, Keim constructed six dividend-yield portfolios. The first portfolio contained all zero-dividend firms, and the other five ranked from lowest to highest positive dividend-yield firms. He documented a non-linear relation between dividend yields and stock returns, and his results rejected the hypothesis that average returns are equal across portfolios.

In addition, Keim (1985) tested the impact of firm size and stock return seasonality on the relationship between stock returns and dividend yields. He found a positive and significant yield coefficient. However, much of the non-linear relation was concentrated in the month of January for small firms. Nonetheless, the same result was obtained even after controlling for firm size. In addition, he reported an inverse relationship between positive yield and firm size as measured by market capitalization and concluded that the results suggest the observed relation between long-run dividend yields and stock returns may not be solely attributable to difference in marginal tax rates for dividends and capital gains. His results suggest a yield-related tax effect. However, because of the significant effect of the month of January (seasonality) on the relation between dividend yields and stock returns these findings are not totally consistent with the after-tax CAPM. This conclusion deepens the puzzle surrounding the issue of a yield-related tax effect.

In the UK, Morgan and Thomas (1998) examined the relationship between dividend yields and stock returns over the period 1975 to 1993. Drawing on Keim's (1985) methodology, they tested the tax-based hypothesis in which dividend yields and stock returns are positively related. However, they pointed out that under the 1973 imputation tax system capital gains received a disadvantaged tax treatment when compared to dividend income. Consequently the tax-based hypothesis, in the UK, predicted a negative relation between dividend yields and risk-adjusted stock returns. Stocks with low yields are expected to produce higher returns to compensate stockholders for the increased tax burden associated with capital gains, and vice versa.

Contrary to prediction, Morgan and Thomas find a positive relationship between dividend yields and stock returns. Moreover, their results suggest a non-linear relation between risk-adjusted returns and dividend yield, which is inconsistent with Brennan's model. Also, the firm size and seasonality seems to influence the relationship between dividend yield and stock returns. Morgan and Thomas were therefore unable to provide support for the tax-effect hypothesis. In a previously mentioned study, Baker et al. (2002a) surveyed the managers of 630 NASDAQ firms and found weak or no support for the tax-preference theory.

The tax-effect hypothesis (TEH) is therefore based on a simple proposition. Many investors are faced with dividends being taxed at a higher rate than capital gains. In addition, dividends are taxed immediately, while taxes on capital gains are deferred until the gains are actually realized. Therefore, the TEH suggests that taxable investors will demand superior pre-tax returns from stocks that pay a large proportion of their income in the form of highly taxed dividends. In other words, investors will value the dollar of capital gains greater than a dollar of dividends, resulting in lower dividend-stocks selling at a relative premium to their higher-dividend counterparts. From the argument above, the evidence with respect to the TEH appears to be inconclusive.

In all of the studies discussed above the TEH has been addressed from one perspective: the relationship between dividend yields and the stock returns (CAPM-based studies). The literature, however, has also provided a vast amount of empirical research on the TEH by examining the behaviour of stock prices around the ex-dividend day (ex-dividend day studies). This issue will be further examined in the next section.

### **3.6 Clientele Effects of Dividends Hypothesis**

In their seminal paper M&M (1961) noted that the pre-existing dividend clientele effect hypothesis (DCH) might play a role in dividend policy under certain conditions. They pointed out that the portfolio choices of individual investors might be influenced by certain market imperfections such as transaction costs and differential tax rates to prefer different mixes of capital gains and dividends. M&M argued that these imperfections might cause investors to choose securities that reduce these costs. M&M termed the tendency of investors to be attracted to a certain type of dividend-paying stocks a 'dividend clientele effect'. Similarly, Pettit (1977) describes the net tendency of an individual investor to hold portfolios of securities that have particular dividend paying characteristics as 'dividend clientele effect'.

Nonetheless, M&M maintained that even though the clientele effect might change a firm's dividend policy to attract certain clienteles, in a perfect market each clientele is "as good as another". Hence the firm valuation is not affected as the dividend policy remains irrelevant. In practice, investors often face different tax treatments for dividend income and capital gains, and incur costs when they trade securities in the form of transaction costs.

For these reasons and based on different investors' situations, taxes and transaction costs may create investor clienteles, such as tax minimisation induced clientele and transaction cost minimisation induced clientele respectively. Another possible dividend clientele effect is related to risk clienteles. High-payout stocks tend to be less risky than low-payout stocks; and based on the risk factor, dividends may attract certain clientele investors (Scholz, 1992).

These clienteles will be attracted to firms that follow dividend policies that best suit their particular situations. Similarly, firms may tend to attract different clienteles by their dividend policies. For example, firms operating in high growth industries that usually pay low (or no) dividends attract a clientele that prefers price appreciation (in the form of capital gains) to dividends. On the other hand, firms that pay a large amount of their earnings as dividends attract a clientele that prefers high dividends.

Allen, Bernardo and Welch (2000) suggest that clienteles such as institutional investors tend to be attracted to invest in dividend-paying stocks because they have relative tax advantages over individual investors. These institutions are often subjected to restrictions in institutional charters which, to some extent, prevent them from investing in non-paying or low-dividend stocks. Similarly, good quality firms prefer to attract institutional clienteles (by paying dividends) because institutions are better informed than retail investors and have more ability to monitor or detect firm quality. This prediction is consistent with the signalling hypothesis. In fact, Allen, Bernardo and Welch (2000) proposed a model that links signalling and agency arguments with the clientele effects of dividend hypothesis. Allen et al, (2000) conclude with the proposition that the clientele effects are the very reason for the presence of dividends.

### **3.6.1 The Tax-Induced Clientele-Effects**

Since most of the investors are interested in after-tax returns, the different tax treatment of dividends and capital gains might influence their preference for dividends or capital gains. This is the essence of the tax-induced DCH. For example, *ceteris paribus*, investors in low tax brackets who rely on regular and steady income will tend to be attracted to firms that pay high and stable dividends. In addition, some corporate or institutional investors tend to be attracted to high-dividend stocks (Han, Lee and Suk, 1999 and Dhaliwal, Erickson and Trezevant, 1999).

Short, Zhang and Keasey, (2002) used UK data to provide strong evidence in support of the notion that payout ratios and institutional ownership are positively related. However, they did not link their results to the clientele hypothesis. On the other hand, investors in relatively high tax brackets might find it advantageous to invest in companies that retain most of their income to obtain potential capital gains, all else being equal. Some clienteles, however, are indifferent between dividends and capital gains such as tax exempt and tax deferred entities.

### 3.6.2 The Transaction Cost-Induced Clientele and the Empirical Evidence

Another argument of the DCH is based on the proposition that dividend policy may influence different clienteles to shift their portfolio allocation, resulting in transaction costs. For example, small investors (such as retirees, income-oriented investors, and so on) who rely on dividend income for their consumption needs, might be attracted to (and even may pay a premium for) high and stable-dividend stocks, because the transaction costs associated with selling stocks might be significant for such investors. On the other hand, some investors (e.g. wealthy investors), who do not rely on their share portfolios to satisfy their liquidity needs, prefer low payouts to avoid the transaction costs associated with reinvesting the proceeds of dividends, which they actually do not need for their current consumption (Bishop et al., 2000). Note that for both groups of investors, transforming one financial asset to another incurs a transaction costs. Thus, the M&M's notion of homemade dividends is not costless and the existence of such costs may make dividend policy not irrelevant.

The other effect of transaction costs on dividend policy is related to the fact that firms may need to restore cash paid out as dividends with new equity issues (or debt financing) to take advantage of new investment opportunities. If issuing costs are significant, then firms are most likely to rely on retained earnings rather than external financing. This is reinforced by the empirical fact that retained earnings constitute the major source of firm finance not just in developing but also even in developed capital markets.

Fazzari, Hubbard and Petersen (1988) reported that, over the period of 1970 to 1984, the retained earnings amounted to 71.1 percent of the total source of funds of US manufacturing firms with an average retention ratio of 60 percent<sup>8</sup>. In these cases, there is a negative relationship between transaction costs and dividend payments. Firms can reduce or avoid such expenses by lowering dividend payments or not paying them at all. However, in practice, many firms continue to pay cash dividends, while at the same time issuing new equity and debt, suggesting that other factors may also be at work in influencing dividend policy.

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<sup>8</sup> Note that the average retention ratio varies with the firm size. Smaller firms have greater retention ratio than larger firms.

An important implication of the DCH is that, by changing its dividend policy, a firm's ownership structure might also change. Another implication of clientele theory is that firms should attempt to adopt a stable dividend policy to avoid inducing shareholders to modify their portfolios, entailing transaction costs (Scholz, 1992 and Soter, Brigham and Evanson, 1996). However, whether these changes have an impact on firm value remains unanswered. In a competitive equilibrium, it would be expected that one clientele is good as another and that the clientele effect of dividend policy is irrelevant to a firm's value. To date, evidence on the link between clientele effects and firm value is inconclusive.

The theoretical plausibility of dividend clientele hypothesis is relatively ambiguous. On the one hand, transaction costs and taxes may influence demands for dividends. But the mere existence of transaction costs or differential taxes is not enough rationale for a general theoretical explanation of the determination of dividend policy. Not surprisingly, therefore, most of the literature on the DCH has produced mixed results. Miller (1977) and Auerbach (1983) have presented theoretical models that are consistent with the presence of clientele effects.

A number of empirical studies discussed have examined investors' portfolios, and their demographic attributes including taxes. Pettit (1977) provided empirical evidence for the existence of a clientele effect by examining the portfolio positions of 914 individual investors. He found a significant positive relationship between investors' ages and their portfolios' dividend yield, and a negative relationship between investors' incomes and dividend yield. Pettit suggested that elderly low-income investors tend to rely more on their portfolios to finance their current consumption, and avoid the transaction costs associated with selling stocks. Consequently, they have more of a tendency to invest in high-dividend stocks. Pettit also showed that investors whose portfolios have low systematic risk prefer high-payout stocks, and thus found evidence for tax-induced clientele effect.

However, using a sample constructed from the same database used in Pettit's (1977) study, Lewellen et al. (1978) found only very weak supportive evidence of the clientele effect hypothesis. In a later study, Scholz (1992) developed an empirical model to test the DCH directly by examining individual investor portfolio data. He found that differential tax



treatment of dividends and capital gains influences investors' decisions in choosing between higher-or-lower-dividend yield portfolios, consistent with dividend tax–clienteles hypothesis.

Another strand of empirical testing has examined the relationship between dividend changes and clienteles effect. Richardson, Sefcik and Thompson (1986) tested a sample of 192 US firms that initiated dividends for the first time during the period of 1969 through 1982. They attempted to investigate whether the observed (post-dividend-initiations) increase in firms' stocks trading volume is due to the signalling effect or a product of investors in various tax clienteles adjusting their portfolios. They found that the increased trading volume associated with dividend policy changes was mainly related to the information contained in the dividend announcement, and only a small part was related to clienteles adjustment. They concluded that the evidence supporting the existence of clienteles trading is somewhat weak. This concurs with Asquith and Krasker (1985) who had similar findings.

Dhaliwal, Erickson and Trezevant (1999) examined institutional shareholding changes following dividend initiations. Based on the theory of tax-induced clienteles, they expected an increase in institutional ownership subsequent to dividend initiations. Using a sample of 133 dividend initiators from the 1982 to 1995 period, the results obtained are consistent with their prediction. They reported an 80% significant increase in their sample firms who experienced an increase in institutional shareholders following dividend initiation. They concluded that the dividend/tax-clientele effect is strong enough to influence investors' decisions.

Seida (2002) also provided evidence consistent with the DCH findings. Earlier research by Bajaj and Vijh (1990), Ang, Blackwell and Megginson (1991), and Denis, Denis and Sarin (1994) provided empirical support for the existence of the dividend clienteles hypothesis. Michaely, Thaler and Womack (1995), however, found weak or no empirical support for this notion. For example, they tested the possible changes in shares turnover rate for firms announcing dividend initiation or omission as a sign of a clienteles change, and found little evidence.

Finally, another strand attempts to infer the tax characteristics of a firm's marginal investors by examining the movements of stock prices around the ex-dividend days<sup>9</sup>, and therefore provides an indirect test of the DCH. The basic intuition of the relation between stock price and ex-dividend day is that, in a rational capital market, and in a world of certainty, share prices should drop by approximately the amount of dividend per share on the day the stock goes ex-dividend. Any other share price behaviour suggests arbitrage opportunities ( Kalay, 1982 and Lease et al., 2000). When the stock goes ex (without)-dividend the investor has no claim to dividend payments, and thus will not pay the same amount as if the stock traded cum (with)-dividend. The stock price on the ex-dividend day should therefore be lower than in the cum-dividend period to reflect the lost dividend (Lease et al., 2000).

This notion, however, may not perfectly hold in some circumstances, because dividends are usually taxed more heavily than capital gains. Investors in high tax brackets will therefore be better off receiving their income in the form of capital gains rather than dividends. The tax effect may mean that the drop in stock price may be less than the dividend because investors value dividends less than capital gains. Elton and Gruber (1970) had presented empirical evidence about the tax-induced clientele hypothesis by observing the share price behaviour around the ex-dividend day<sup>10</sup>.

They examined the shares listed on the NYSE paying a dividend between April 1, 1966 and March 31, 1967, Elton and Gruber found that share prices fell by less than the amount of the dividend on ex-dividend days. This is because the positive relationship between the dividends yields of a stock and the proportionate size of its ex-dividend price drop. They interpreted their results as evidence that differential taxes induced a preference for capital gains relative to cash dividends, therefore supporting the tax clientele hypothesis (that is, investors in high tax brackets invest in low-dividend yield stocks and vice versa). They thus concluded that

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<sup>9</sup> The ex-dividend day is the first day in which the stock is traded "without" dividends, i.e. the current dividend is earmarked for the seller, not the buyer. The cum-dividend day is the last business day the stock is traded "with" dividend i.e. the stock's buyer is entitled to receive a declared dividend

<sup>10</sup> Several empirical studies have analysed ex-dividend day behaviour of share prices for US firms. A partial listing includes Kalay (1982, 1984), Elton, Gruber and Rentzler (1984), Eades, Hess and Kim (1984), Barclay (1987), Karpoff and Walkling (1988, 1990), Grammatikos (1989), Bali and Hite (1998), Koski and Scruggs (1998), and Elton, Gruber and Blake (2003).

firms do not only seem to attract a clientele but they attract a rational clientele (one which should prefer their dividend policy).

Kalay (1982) criticised Elton and Gruber and argued that the marginal tax rates of the investors cannot be inferred from the ex-dividend day price-drop-to-dividend ratio (price-drop ratio)<sup>11</sup>, and the observed positive relationship between price-drop ratio and dividend yield may not be due to tax induced clientele effects. He presented another explanation, known as the “short-term traders” hypothesis. Kalay argued that, assuming certainty, if the ex-dividend price ratio drop is less than one (less than the amount of dividends), short-term traders who face the same tax rate on dividends and capital gains could make arbitrage profits. That is, investors can buy a stock before it goes ex-dividend and sell it soon after. This practice is known as dividend capture (Karpoff and Walkling, 1990).

However, this arbitrage process could be hampered by transaction costs<sup>12</sup>. Kalay suggests that transaction costs are insignificant for broker dealers who are the potential short-term traders, while Elton, Gruber and Rentzler (1984) argue that it matters even for broker dealers. Karpoff and Walkling (1988, 1990) show that excess ex-dividend-day returns are positively correlated with transaction costs (measured by bid-ask spread), and this relationship increases for stocks with high-dividend yields. They suggest that short-term trading around ex-dividend days is higher for high-yield stocks (see also Michaely and Vila, 1996), implying that short term trading (or dividend capture) may influence the ex-dividend day stock price changes, and hence any clientele effects may not be the only explanation for these changes.

Examination of the ex-dividend day behaviour of share prices has also been extended to different stock markets, including Australia (Brown and Walter 1986), Canada (Lakonishok and Vermaelen, 1983 and Booth and Johnston, 1984), Finland (Hietala, 1990), Greece

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<sup>11</sup> The price-drop ratio can be defined as  $(P_B - P_A)/D$ , where,  $P_B$  is the stock price cum-dividend,  $P_A$  is the stock price on the ex-dividend day, and  $D$  is the amount of dividends.

<sup>12</sup> The arbitrage profit can also be inhibited by the risk or the uncertainty of ex-dividend price. For further details on this issue see for example, Heath and Jarrow (1988), Grammatikos (1989). More recently, Michaely and Vila (1996) documented that risk and transaction costs affect the abnormal trading volume adversely.

(Milonas and Travlos 2001), Japan (Kato and Loewenstein, 1995), and New Zealand (Bartholdy and Brown, 1999). These studies have found mixed support for the ex-dividend day effect.

It is worth noting that dividend clientele hypothesis predictions, to some extent, may contradict other explanations of dividend policy such as the signalling and agency costs hypotheses, discussed above. For example, according to the signalling hypothesis, dividends convey information about a firm's future prospects, and in that sense investors with preferences for capital gains (for tax reasons) may still prefer firms with high-payout ratios, contradicting the prediction of the tax-induced clientele hypothesis. Also, based on agency theory, dividends may mitigate the free cash in hand of managers and reduce the agency problems, and for these reasons investors may also prefer high-dividend stocks even though they are tax-disadvantaged.

### **3.7 The Signalling Hypothesis and the Empirical Evidence**

The signalling hypothesis (hereafter referred to as information content of dividend hypothesis) is another reason why M&M's DIH is inadequate as an explanation of financial market practice. The ICD hypothesis explains the asymmetric information between insiders (managers and directors) and outsiders (shareholders). M&M assumed that managers and outside investors have free, equal and instantaneous access to the same information regarding a firm's prospects and performance. But managers who manage the firms usually possess information about its current and future prospects that is not available to outsiders. This informational gap between insiders and outsiders may cause the true intrinsic value of the firm to be unavailable to the market. If so, share price may not always be an accurate measure of the firm's value.

In an attempt to close this gap, managers may need to share their knowledge with outsiders so they can more accurately understand the real value of the firm. Historically, due to a lack of complete and accurate information available to shareholders, the cash flow provided by a security to an investor often formed the basis for its market valuation (Baskin and Miranti, 1997). Thus, dividends provide a useful tool for managers in which to convey their private

information to the market because investors used visible (or actual) cash flows to equity as a way of valuing a firm. Many academics and financial practitioners also suggest that dividends might have implicit information about a firm's prospects.

Interestingly, M&M (1961) suggested that when markets are imperfect share prices may respond to changes in dividends. This implies that dividend announcements may be seen to convey implicit information about the firm's future earnings potential. The proposition has since become known as the "information content of dividends" or signalling hypothesis. However, M&M dismissed the possibility that this occurred by suggesting that the empirical evidence does not support the notion that investors prefer dividends to retained earnings.

According to the signalling hypothesis, investors can infer information about a firm's future earnings through the signal coming from dividend announcements, both in terms of the stability of, and changes in, dividends. However, for this hypothesis to hold, managers should first possess private information about a firm's prospects, and have incentives to convey this information to the market. Second, a signal should be true; that is, a firm with poor future prospects should not be able to mimic and send false signals to the market by increasing dividend payments. Thus the market must be able to rely on the signal to differentiate among firms. If these conditions are fulfilled, the market would react favourably to the announcements of dividend increase and unfavourably if otherwise (Ang, 1987, and Koch and Shenoy, 1999).

As managers are likely to have more information about the firm's future prospects than outside investors, they may be able to use changes in dividends as a vehicle to communicate information to the financial market about a firm's future earnings and growth. Outside investors may perceive dividend announcements as a reflection of the managers' assessment of a firm's performance and prospects. An increase in dividend payout may be interpreted as the firm having good future profitability (good news), and therefore its share price will react positively. Similarly, dividend cuts may be considered as a signal that the firm has poor future prospects (bad news), and the share price may then react unfavourably.

Accordingly, it would not be surprising to find that managers are reluctant to announce a reduction in dividends. Lintner (1956) argued that firms tend to increase dividends when

managers believe that earnings have permanently increased. This suggests that increase in dividend implies long-run sustainable earnings. This prediction is also consistent with what is known as the “dividend-smoothing hypothesis”. That is, managers will endeavour to smooth dividends over time and not make substantial increases in dividends unless they can maintain the increased dividends in the foreseeable future. Lipson, Maquieira and Megginson (1998) observed that, managers do not initiate dividend increase until they believe those dividends can be sustained by future earnings. Fama and Blacomin (1968), Baker, Farrelly, and Edelman (1986), DeAngelo, DeAngelo, and Skinner (1992), and Baker, Veit and Powell (2001) find support for Lintner’s argument of dividend smoothing.

It is worth noting that, although management can use changes in dividends as a signal to convey information to the market, in some cases dividend changes may be an ambiguous signal. The most cited dividend signalling models can be found in Bhattacharya (1979), John and Williams (1985), and Miller and Rock (1985). The literature of dividend signalling has produced other models to represent the theory of asymmetric information (see, for example, Ambarish, John and Williams, 1987, Ofer and Thakor, 1987, Kumar, 1988, and Bernheim, 1991, Allen, et al., 2000).

In general, these models are based on several assumptions. There is asymmetric information between corporate insiders (managers) and outside investors (shareholders). Dividends contain information about the firm’s current and future cash flows, and managers have incentives to convey their private information to the market through dividend payments in order to close the information gap. The announcement of a dividend increase will be taken as good news and the market will bid up share prices accordingly. Similarly, an announcement that a dividend will be cut suggests unfavourable prospects and will tend to see the firm’s share price fall (Asquith and Mullins (1983) Kalay and Loewenstein (1985), Denis et al.,1994, Yoon and Starks, 1995, and Bali,2003).

Dividends are considered a credible signalling device because of the dissipative costs involved. For example, in Bhattacharya (1979) model the cost of signalling is the transaction cost associated with external financing. In Miller and Rock (1985) model the cost is the distortion in the optimal investment decision, whereas in the John and William (1985) model, the signalling cost is the tax penalty on dividends relative to capital gains.

Therefore, only good-quality firms (under valued) can use dividends to signal their prospects, and poor-quality firms cannot mimic by sending a false signal to the market because of the costs involved in that action. A major criticism addressed to these models is that firms choose dividends to signal their prospects while other less costly means are available such as share repurchases (Allen and Michaely, 2002).

In the preceding section, the theory of dividend signalling was developed around the proposition that corporate insiders are more informed about the firm's current performance and future prospects than outsiders. This suggests that the market perceives dividends (and repurchases) as signals of a management's view about the firm's fortunes, and therefore share prices react to that signal. The empirical work on dividend signalling has examined two main issues. First, whether share prices move in the same direction with dividend change announcements. Second, whether dividend changes enable the market to predict future earnings.

Finance scholars have addressed these issues extensively, but once again the results have been mixed and inconclusive. The first question has received much attention in the literature, because if the announcement of dividend changes does not have the predicted impact on share prices this will cast doubt on the validity of the information content of dividend hypothesis. Pettit (1972) observed that dividend announcements communicate valuable information, and showed that the market reacts positively to the announcement of dividend increases (significant increase in stock prices), and negatively to the announcement of dividend decreases (significant drop in stock prices).

He argued that dividend announcement, when forthcoming, may convey significantly more information than the information implicit in an earnings announcement. Aharony and Swary (1980) suggest that dividend and earning announcements are not perfect substitutes and a proper test for the signalling hypothesis needs to take into account the effect of earnings announcements. They found support for the results obtained by Pettit even after controlling for contemporaneous earnings announcements. Woolridge (1983) also found significant increase (decrease) in common stock returns following the unexpected dividend increase (decrease) announcements.

Asquith and Mullins (1983) examined the market's reaction to dividend announcements for a sample of 168 firms that initiated dividends either for the first time in their corporate history or resumed paying dividends after at least a ten-year period. They tested the average daily excess stock returns ten days before and ten days after the announcement of dividend initiation. For the two-day announcement period, their result shows that there is an excess return of about +3.7 percent. Moreover, using cross-sectional regression Asquith and Mullins found a positive and significant relationship between the magnitude of initial dividends and the abnormal returns on the announcement day. This suggests that the size of dividend changes may also matter. In another empirical study, Asquith and Mullins (1986) reinforce their earlier findings and offer more support to the information content of dividend hypothesis.

Michael, Thaler and Womack (1995) have gone further by examining the impact of both initiations and omissions of cash dividends on share prices reaction. They observed 561 dividend initiation events and 887 dividend omission events over the period of 1964 to 1988. They documented that, during three days surrounding the announcements, the average excess return was about -7.0 percent for omissions and +3.4 percent for dividend initiations. Note that the market reactions to dividend omissions are greater than for dividend initiations.

This implies that the market reacts optimistically toward dividend initiations (or increases); however, the market is more pessimistic in response to the announcements of dividend omissions (or decreases). They found significant long-run drifts in stock prices in response to dividend initiations and omissions and reported +7.5 percent excess returns after one year of initiation announcements and +24.8 percent after three years. For dividend omissions they reported abnormal returns of -11.0 percent in the first year and -15.3 percent after three years. Bali (2003) presented evidence consistent with the preceding results. He reported an average 1.17 percent abnormal return for dividend increases and -5.87 percent for decreases. In addition, he examined the long run drifts of stock prices reaction to dividend increases and decreases and reinforced the findings of Michael et al. (1995).

From the empirical findings of these studies there seems to be general agreement that share prices follow the same direction as the dividend change announcements. Dividend increases



and dividend initiations (decreases and omissions) are associated with subsequent significant increases (decreases) in share prices. Moreover, the reaction of share prices in the event of dividend decreases and dividend omissions is found to be more severe.

The signalling power of dividends, however, may vary in different markets. For example, in a comparison study of dividend policies between Japanese and US firms, Dewenter and Warther (1998) revealed that the influence of dividends as a signalling mechanism in Japan is significantly lower as compared to the US. They studied 420 US firms and 194 Japanese firms. The results of Dewenter and Warther's study show that the 2-day event window (0, +1)<sup>13</sup> in the event of dividend omissions gives a mean returns of -2.53 percent and -4.89 percent, while for dividend initiations +0.03 percent and +2.38 percent for Japanese and US firms respectively. For a wide 62-day window (-60, +1) average returns are -6.48 percent and -17.03 percent, while for dividend initiations +0.1 percent and +10.24 percent for Japanese and US firms respectively.

The results indicate that the impact of dividend omission and initiation announcements on US stock prices is significantly larger than on Japanese stock prices. Moreover, Dewenter and Warther conclude that Japanese firms are subject to less information asymmetry especially among keiretsu (industrial groups) member firms. These differences in the findings are attributable to the differences in corporate governance structures between Japan and the US, and moreover to the nature of corporate ownership in Japan. Conroy, Eades and Harris (2000) provide evidence consistent with Dewenter and Warther's (1998) study for Japanese firms.

Using a sample of 200 German firms listed on Frankfurt Stock Exchange, Amihud and Murgia (1997) found support for the notion that dividend changes convey information about firms' values. They examined the stock price reaction to dividend announcements using 255 events of dividend increase and 51 events of dividend decrease for the period of 1988 to 1992, and compared the results with findings of studies based on US data. They reported that the average abnormal return (AR) of stock prices is 96.5% percent for dividend increase and -1.73 percent for dividend decrease.

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<sup>13</sup> Chapter two of the literature review on mergers and acquisitions and the research methodology (chapter 5), have detailed discussions on event window.

In addition, they observed that though the earnings news preceded dividend change announcements, dividends still have significant information. However, the finding of their study was inconsistent with tax-based signalling models (for example, John and William, 1985, and Bernheim, 1991) because dividends in Germany are not tax-disadvantaged. Recall that the tax-based signalling models propose that higher taxation on dividends makes them informative about a firm's value. Thus, according to these models, if dividends do not suffer from a tax penalty (as in the case Germany) share prices should not react to dividend changes.

Travlos, Trigeorgis and Vafeas (2001) provided evidence from an emerging market in favour of the dividend signalling hypothesis. They used a sample of 41 announcements of cash dividend increase and 39 announcements of stock dividends for firms listed on the Cyprus Stock Exchange for the period of 1985 to 1995, and examined market reaction to the announcement of cash dividend increases and stock dividends. They found positive and significant abnormal returns for both cash dividend increases and stock dividend announcements and interpreted their results as consistent with the signalling hypothesis.

Numerous studies have addressed another question of the information content of dividends hypothesis; that is, whether dividend changes enable the market to predict the future earnings of a firm. Empirical work that addresses this issue has yielded puzzling results. For example, Watts (1973) used a sample of 310 firms for the years 1946 to 1967, and annual definitions of dividends and earnings to test the hypothesis that current and past dividends provide more information to predict future earnings than that contained in current and past earnings. He tested the relationship between annual future earnings in year and the level of dividends and also examined the association between the abnormal increase/decrease in stock prices and unanticipated changes in dividends. He found that the average estimated coefficients of current dividends (across firms) are found to be positive but the average significance level are too small and concluded that the information content of dividends are only be trivial.

Using a sample of 1025 firms listed on the NYSE and on the American Stock Exchange (AMEX) between 1979 and 1991, Benartzi, Michaely and Thaler (1997) studied the relationship between firms' future earnings and dividend changes. They did not find evidence

to support the notion that changes in dividends have the power to predict changes in future earnings. They found that dividend changes are strongly linked to contemporaneous and lagged earnings changes. And pose a challenge to the signalling hypothesis. Their results lend support to the earlier findings of Watts (1973) and those of DeAngelo, DeAngelo, and Skinner (1996) who also found no evidence that dividends provide valuable information about future earnings.

Further, Nissim and Ziv (2001) found that dividend changes and earnings changes are positively correlated, and provide support for the signalling hypothesis. However, their results were not the same for dividend increases and decreases. They did not find an association between dividend decreases and future profitability after controlling for current and expected profitability, and they assumed that this result is possibly due to the accounting conservatism. Note however that the proposition that dividend changes transmit information about future earnings seems to have weak support.

Mixed support exists about issues relating to the information content of dividends hypothesis which is a common concept in the dividend literature. Firms often use dividend policy to communicate information about their future prospects to the market, and this provides another possible explanation of why firms pay dividends. Moreover, signalling could play a pivotal role in determining firms' dividend policies and their values.

The signalling hypothesis makes an important assumption that managers want to signal the proper value of the firm via dividends. However, another school of thought has been developed on the suspicion that managers may have incentives not to pay dividends and will therefore need to be forced (or given incentives) to pay dividends.

### **3.8 Agency Costs and Free Cash Flow Hypothesis of Dividend Policy and the Empirical Proof**

One of the assumptions of M&M's perfect capital market is that there are no conflicts of interests between managers and shareholders. In practice, however, this assumption is questionable where the owners of the firm are distinct from its management. In these cases managers are always imperfect agents of shareholders (principals). This is because managers'

interests are not necessarily the same as shareholders' interests, and they might carry out actions that are costly to shareholders, such as over-investing in managerially rewarding but unprofitable activities. Shareholders therefore incur (agency) costs associated with monitoring managers' behaviour, and these agency costs are an implicit cost resulting from the potential conflict of interest among shareholders and corporate managers. The payment of dividends might serve to align the interests and mitigate the agency problems between managers and shareholders, by reducing the discretionary funds available to managers (Rozeff, 1982, Easterbrook, 1984, Jensen, 1986, and Alli, Khan and Ramirez, 1993).

Another source of the agency costs problem that may be influenced by dividend policy is the potential conflict between shareholders and bondholders. Shareholders are considered as the agents of bondholders' funds. In this case, excess dividend payments to shareholders may be taken as shareholders expropriating wealth from bondholders (Jensen and Meckling, 1976). Shareholders have limited liability and they can access the company's cash flow before bondholders. Consequently, bondholders prefer to put constraints on dividend payments to secure their claims. Conversely, for the same reasons, shareholders prefer to have large dividend payments (Ang, 1987).

Easterbrook (1984) argued that dividends could be used to reduce the free cash flow in the hands of managers and hypothesised that dividend payments will oblige managers to approach the capital market to raise funds. In this case investment professionals such as bankers and financial analysts will also be able to monitor managers' behaviour. Therefore, shareholders are able to monitor managers at lower cost (and minimise any collective action problems). This suggests that dividend payments increase management scrutiny by outsiders and reduce the chances for managers to act in their own self-interest. However, Easterbrook suggested that increasing dividend payments might force managers to take undesirable actions like increasing firm leverage, which may sometimes increase the riskiness of the firm.

Along the lines of Easterbrook's argument, Jensen (1986) contended that firms with excess cash flow give managers more flexibility for using the funds in a way that benefit themselves but not shareholders' best interests. He defined free cash flow as the cash not needed to finance positive NPV projects and argued that managers have incentives to enlarge the size of their firms beyond the optimal size. This is to amplify the resources under their control and

moreover to increase their compensation, which is often related to firm size (see also Gaver and Gaver, 1993).

Thus, if a firm has a substantial surplus of cash the overinvestment problem will be more pronounced, and managers may undertake negative NPV projects. Extracting the excess funds of free cash flow that management controls can reduce this overinvestment problem. Increasing dividend payouts may help to mitigate the free cash flow under managers' control, thereby preventing them from investing in negative NPV or poor projects. As a result, paying more dividends will reduce the agency costs between managers and shareholders. Moreover, Jensen has pointed out that debt might play a similar role to dividends in reducing the agency costs of free cash flow by reducing the funds under management control.

As noted earlier, M&M suggested that a firm's dividend policy is independent of its investment policy. By contrast, the free cash flow hypothesis implies that dividend policy and the investment decision are interrelated. It is argued that an increase in dividend payments will reduce the "overinvestment" problem, which will have a positive impact on the market value of the firm (Lang and Litzenberger, 1989). However, accepting the notion that increasing dividends will reduce the funds available to managers and force them to be in the market to acquire funds means that shareholders should be willing to tolerate the risk of the firm being more indebted and also accept paying higher personal tax rates on dividends. In other words, shareholders have to trade off between the costs and benefits of acquiring more dividends.

The issue of agency costs hypothesis as an explanation of corporate dividend policy has been widely addressed in empirical research. Rozeff (1982), for instance, was one of the first to formally model agency costs using a large sample of US firms. Rozeff's regression model and the hypothesised signs of the variables can be described as follows:

$$PAY = \beta_0 + \beta_1INS - \beta_2GROW1 - \beta_3GROW2 - \beta_4BETA + \beta_5STOCK + \varepsilon \dots \dots \dots 13$$

where, *PAY* is the average payout ratio over a seven year period, *INS* is the percentage of common stock held by insiders over the seven year period, *GROW1* is the realized average growth rate of a firm's revenues over a five year period, *GROW2* is the forecasted growth of

sales over the five year period, *BETA* is the firm's estimated beta coefficient reported in the Value Line Investment Survey, and *STOCK* is the natural log of the number of shareholders at the end of the seven year period.

The key idea of Rozeff's (1982) model is that the optimal dividend payout is at the level where the sum of transaction and agency costs are minimised, therefore the model is called "cost minimisation model". Rozeff's model contained two proxies for agency costs, namely *INS* and *STOCK*. Note that the hypothesised signs of these variables (*INS* and *STOCK*) are negative and positive, respectively. This indicates that there should be a negative relationship between the percentage of stock held by insiders (insider ownership) and the payout ratio, and a positive relationship between the number of shareholders (dispersion of ownership) and the dividend payout ratio. Rozeff suggested that the benefits of dividends in reducing agency costs are smaller for companies with lower dispersion of ownership and higher for insider ownership. He found the agency costs variables significant and consistent with their hypothesised sign. Rozeff's (1982) results provide empirical support for the agency costs hypothesis. A decade later, Dempsey and Laber (1992) updated the work of Rozeff using an extended period over the years 1981-1987 and strongly supported Rozeff's findings (see also Lloyd, Jahera and Page, 1985).

Using factorial analysis to model the determinants of corporate dividend policy Alli et al. (1993) found the ownership dispersion factor insignificant in relation to dividend decision, inconsistent with Rozeff (1982). However, the insider ownership variable was found to be significant and negatively related to dividend payouts. The overall results of their study support the agency cost hypothesis of dividend policy. Jensen, Solberg and Zorn (1992) applied three-stage least squares to examine the determinants of cross-sectional differences in insider ownership, debt, and dividend policy.

They used a sample of 565 firms for the year 1982 and 632 firms for the year 1987. From the dividend equation, the insider ownership variable was found statistically significant with a negative sign. This implies that there is a negative relationship between insider holdings and dividend payments. The result of Jensen et al. is consistent with Rozeff (1982) and therefore supports the agency costs hypothesis.

Holder, Langrehr and Hexter (1998) examined 477 US firms over the period 1980 to 1990. They reported that insider ownership and dividend payouts are significantly and negatively related and that the number of shareholders positively influences payouts. In addition, they found support for Jensen's free cash flow hypothesis. Likewise, Saxena (1999) examined a sample of 235 unregulated and 98 regulated firms listed on the NYSE over the period of 1981 to 1990 and reinforced the findings of the Holder et al.'s study. Both studies are consistent with the agency costs hypothesis and provide evidence that agency cost is a key determinant of the firm dividend policy.

Further empirical support for the agency cost hypothesis and in particular for the free cash flow hypothesis came from Lang and Litzenberger (1989). While this study pre-dates many of the agency costs studies discussed above, it does so from a different model of agency cost analysis, namely the free cash flow hypothesis of Jensen (1986). Lang and Litzenberger tested a sample of 429 dividend-change announcements for US firms for the period of 1979 to 1984 and used the Tobin's ratio<sup>14</sup> to distinguish between overinvesting-firms and value-maximising ones.

Based on Lang and Litzenberger (1989) overinvestment hypothesis, firms with less than one should be expected to have larger average stock returns following dividend change announcements. To clarify, low firms experience positive abnormal stock returns following dividend increase announcements because the market anticipates this as a reduction in the overinvestment problem (good news). That is, an increase in dividend payment reduces the cash flow that would have been otherwise invested in negative NPV projects. Conversely, dividend decrease suggests that the potential for overinvestment problems may have grown.

This prediction is consistent with the free cash flow hypothesis. They reported that the average stock returns for firms were significant for both dividend increases and decreases. They opined that dividend changes for over investing firms (where the Tobin's Q is less than 1) signal information about investment policies. This argument provides evidence in support

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<sup>14</sup> Tobin's Q can be defined as the ratio of the market value of the firm's equity and debt to the replacement cost of its assets (Tobin, 1969 and Perfect & Wiles, 1994).

of free cash flow hypothesis and argued that the excess funds hypothesis provides a better explanation of share price reaction to dividend change announcements than the cash flow signalling hypothesis.

Other empirical studies have examined the agency theory of free cash flow and have found little or no support for the excess cash flow hypothesis. For example, using a sample of 55 self-tenders and 60 special dividend announcements between 1979 and 1989 Howe, He and Kao (1992) produced findings that challenge those of Lang and Litzenberger (1989) and show that there is no relationship between Tobin's  $Q$  and stocks reaction to one-time dividend announcements.

Further, Denis, Denis and Sarin (1994) investigated a sample of 5992 dividend increases and 785 dividend decreases between 1962 and 1988. They examined the relationship between dividend yield and Tobin's  $Q$ . They found the relationship to be negative and argued that this negative relation is attributable to a negative correlation between dividend yield and Tobin's  $Q$ . This suggests that the market perceived this as a signal that overinvestment problems may be imminent. In the same vein, they examined the level of capital expenditures for low and high firms in relation to dividend changes and observed that firms with Tobin's  $Q$  less than 1 increased their investments following dividend increases and decreased them following dividend decreases.

This result contradicts the overinvestment hypothesis. In addition, using a sample 419 dividend change announcements of firms listed on the NYSE over the period 1969 to 1988, Yoon and Starks (1995) arrived at the same conclusion. The studies of both Denis et al. (1994) and Yoon and Starks (1995) thus provide support to the cash flow signalling hypothesis rather than free cash flow hypothesis as an explanation for the stock price reactions to dividend change announcements.

Lie (2000) also examined the free cash flow hypothesis using a large sample of special dividends, regular dividend increases, and self-tender offers. He found little evidence in support of the agency cost hypothesis and concluded that neither small special dividends nor the increase in regular dividends could solve the overinvestment problem. This is inconsistent with the agency hypothesis of free cash flow. La Porta et al. (2000a) examined more than



4000 companies from 33 countries around the world and provided empirical support for the agency costs hypothesis. They started by dividing the countries into two categories: countries that provided good legal protection for minority shareholders, and countries where shareholders had poor legal protection<sup>15</sup>. Next, they analysed the effect of investor protection on dividend payouts and tested two alternative agency models: the “outcome” model and the “substitute” model. The first model implies that in countries with a more effective legal protection system, shareholders have greater rights and therefore can force managers to disgorge cash. As a result, dividend becomes an outcome of the legal protection of shareholders. They hypothesised that the more effective the legal protection the greater the rights of shareholders, and subsequently more dividends are paid.

The second or substitute model, predicts that managers can use dividends to establish a reputation if they need to go to the capital market to raise external funds. In countries with weak protection of shareholders, firms may need to establish a good reputation for their treatment of investors by paying more dividends to shareholders. That is, dividends serve as a substitute for legal protection of minority shareholders. La Porta et al. hypothesised that higher payouts are expected in countries with poor legal protection and support the agency model of dividends. That is, in countries where shareholders have better protection, firms pay more dividends. Moreover, they found that firms operating in these countries and having a rapid growth rate paid fewer dividends than their counterparts with slow growth rates. This implies that shareholders use their legal power to force managers to disgorge cash when investment opportunities are low.

Thus in summary, the empirical results for the agency costs explanation of dividend policy are mixed. The agency costs hypothesis posits that dividends mitigate the cash under management control, and therefore reducing the possibility that managers will use the funds in their own self-interest. Dividends may also curb managers’ tendency for over investing. In this way, it is speculated that dividends serve to reduce conflict of interests between managers and shareholders. As dividend payment reduces the overinvestment problem and

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<sup>15</sup> They suggested that, generally, in countries such as the US, UK, and Australia where common law is implemented, investors have better protection than in countries governed by civil law such as France, Germany, and Japan.

agency costs, it may have a positive impact on stock price, which is in turn is a critical determinant of any mergers and acquisition particularly in the banking sector. The overall impact of the dividend hypothesis on M&A necessitated the rationale for this research.

### **3.12 Summary**

The literature on dividend policy has produced a large body of theoretical and empirical research, especially following the publication of the dividend irrelevance hypothesis of M&M (1961). No general consensus has yet emerged after several decades of investigation, and scholars can often disagree even about the same empirical evidence. In perfect capital markets, M&M asserted that the value of a firm is independent of its dividend policy. However, various market imperfections exist (taxes, transaction costs, information asymmetry, agency problems, etc) and these market imperfections have provided the basis for the development of various theories of dividend policy including tax-preference, clientele effects, signalling, and agency costs.

The chapter has reviewed the evolution of corporate dividend policy. It was noted that dividend policy has been bound up with the development and history of the corporation itself. The basic argument and M&M proof of dividend irrelevancy have also been streamlined and the chapter also explored the main theories that counter the irrelevancy proposition of dividend. To provide an understanding of dividend policy theories, the chapter attempted to explain the basic argument for each theory followed by the most important empirical evidence on testing of these theories. The theoretical and empirical studies discussed in this chapter have established that a number of possible factors can influence dividend policy.

# Chapter Four

## Analysis of Mergers & Acquisitions

### 4.0 Introduction

The issue of mergers and acquisitions hereafter referred to as M&A has captured the interest of many both in the business industries and academics. Several of these studies have focused on the banking sector due to the strategic importance of the banks in any economy. During the period 1997 - 2007, several M&A were initiated in many EU countries, many of which were either domestic or cross border deals. This chapter therefore reviews the roles of M&A, EU regulations on bank M&A and the impact of the global economic impasse on banks mergers.

### 4.1 The Concept of Mergers and Acquisitions

The term mergers is often used in congruence with acquisitions. It is one of the most popular terms used in finance and economics. Its divergent nature has earned it a wide interpretation and definitions. Mergers & Acquisitions (M&A) play crucial roles in the development and growth of corporate entities. They provide a substantial source of finance to several organisations. But some other organisations could perceive M&A as a threat to their independent existence (Watson & Head, 2005).

Academics often use the terms mergers and acquisitions interchangeably or refer to the acronym 'M&A' without actually differentiating between the two events. In theory, the merger between X and Y occurs when there is amalgamation between both to form another legal entity Z. This contrasts with acquisition that occurs in any three ways: when X buys minority stake in Y (less than 50%); when X buys majority share in Y (above 50.01%) of Y and when X buys all the shares in Y (100%) (see, e.g. Pasiouras et al, 2005).

Mergers can be defined as a reorganisation of assets into a new organisation. They often

involve companies with similar size. This is in order to avoid the dominance of one company by the other. This feature differentiates M&A from takeover which is often associated with companies of different sizes. The bigger company often called the 'bidder' which offers to acquire the smaller or target company's shares. This can be done by paying cash, offering shares in their company (equity purchase), or both. In practice though, the line between mergers and takeover is narrowed as one of the merging companies is often bigger than the other.

Cybo-ottone & Murgia (2000) defined merger and acquisition (M&A) from the economic perspective. They explained that M&A can be considered as an event that involved companies along the profit function through a change in size, scope and distance from the efficient frontier. This definition suggests that profit is a veritable product of M&A. They also suggest that evidence on the cross section estimates of profit and cost functions may provide proof of any profitability impacts resulting in a merger deal. The above definition further highlights that M&A is the acquisition of a stake of 50% without control, if the transfer is between affiliated parties or between different parties.

#### **4.1.1 Types of bank mergers**

Mergers can be classified into horizontal, vertical and conglomerate. Horizontal mergers take place between competitors, while vertical mergers occur between companies that are on buyer and seller relationship. Conglomerate merger is an amalgam of firms of different lines of operation.

Horizontal mergers occurs when a company takes over another from the same industry and at the stage of production process. Thus, the horizontal integration involves the combination of two competitors (Gaughan, 2002). Horizontal mergers are more difficult to implement when the market is oligopolistic (only a few firms on the market) and therefore can result to monopolistic power. In the UK, the hostile bid in 2001 by Lloyds TSB for Abbey National plc was prevented as this merger would have given too much power in the market to Lloyds TSB. It was therefore perceived as against public interest. The primary motives of a horizontal merger is to achieve economies of scale and market power.

Vertical mergers occur when organisations acquire another with the desire to achieve scope. This happens where the target is in the same industry as the acquirer but operating at a different stage of the production chain. Depamphilis (2003) explains that vertical integration can better be demonstrated with the use of corporate value chain. Organisations that do not own operations in each major segment of value chain may choose to backward integrate by acquiring a supplier or to forward integrate by acquiring a distributor. Thus, vertical integration reduces costs of research, contracting, payment collection, advertising, communication, and co-ordination of production. The synergy achieved in a vertical integration may produce size and cost efficiency for the integrated companies.

Finally, conglomerate mergers occur where the target is in an activity apparently unrelated to the acquirer although the same activities such as marketing may be related. Gaughan (2002) opines that a conglomerate merger occurs when the companies are not competitors and do not have a buyer–seller relationship. Some conglomerate mergers are motivated by risk reduction through diversification and to improve efficiency.

#### **4.1.2 Determinants of Bank mergers and Acquisitions**

Bank mergers do not happen by accidents. They are often carried out with caution and care. This is because of the complexities involved in a merger deal. Berger & Humphrey (1992) emphasized that the stock market data produce some evidence on the impact of a merger deal on the shareholders of the companies. Therefore to ascertain the efficacy of a merger deal at the time of its announcement can be established by splitting the sample according to the size, scope, geography, and the legal nature of the merger. A positive impact of the merger can be explained by an increase in the efficiency, profitability or the share price following the merger.

**Scope** : The merger deal is undertaken when there is existence of economies of scope. This can be achieved by comparing the value of the shareholders creation effect of similar (eg. bank to bank) as opposed to cross product deals.

**Geography**: The geographical dimension of the deal is very relevant. Rhoades (1993) explained that a merger deal occurs when a more efficient firm acquires a less efficient firm.

This means that a bank merger may be motivated to eliminate the duplication of activities. Such mergers often occur when there is a considerable overlap in the market.

**Economies of Scale:** Some evidence of economies of scale effects can also be observed if the value creation effects are larger than the size of the deal. The size of the deal could provide a rough measure of market concentration following the deal. This yardstick is usually included in some merger guidelines.

Economies of scale occurs because the scale of operations is larger after the M&A. Economies of Scale are most likely to arise in horizontal acquisitions but may also surface in vertical acquisitions. They are common in areas such as production, distribution, marketing, management and finance (Watson & Head, 2005).

**Synergy:** This happens when the assets of the operations of the companies involved in the deal complement each other. Thus the combined output after the merger is greater than the sum of their individual outputs.

**Legal:** The legal nature of the M&A gives a better understanding on the deal. If the deal is prompted by desire of acquisition, it will follow from a desire to preserve the identity of the target by limiting intervention to the injection of capital. Whereas a desired increase in cost efficiency will be more likely to be related to a centralised mode of organisation like a merger. In reality, the legal distinction between the merger and acquisition is blurred. Some acquired firms are later merged with bidder companies as a result of the friendly nature of many acquisitions, especially in the banking sector which is highly regulated (James & Houston, 1996).

**Comparing the bidders and target banks:** Another determinant feature of M&A is the assessment of the pre-merger performance of the banks. If the performance has been poor, it will be evident that the merger is prompted by injecting efficiency in the management of the bank. Watson and Head (2005) infer that a declining share price will attract potential bidders who are convinced that they can manage the company more efficiently.

### **4.1.3 Reasons for Bank Mergers and Acquisitions**

There are often justifications for banks to undertake M&A. The reasons can be classified under two broad categories: economic and financial justifications. Watson & Head (2005) enlist the economic reasons for M&A as entry to new markets, provision of critical mass, means of providing growth, and increase in market power and share. The financial reasons range from financial synergy, target undervaluation, tax considerations and increase in earnings per share.

Banks may wish to expand even beyond their domestic territory. Such cross border expansion can be facilitated by mergers. This could include the expansion into new geographical and business areas of the bank especially when the internal growth is not too efficient.

The critical mass or size may be essential in the credibility of the bank. Mergers are sometimes critical in enhancing the needed attractiveness of the bank to attract such fanfare from the public. Given the veritable nature of their research and developments; marketing, investments, merging companies can put their resources together to muscle the critical mass and size essential to provide sufficient funds to finance such activities (Altunbas & Marques, 2008).

When a bank gets to its elastic limit, the chances of internal growth becomes uncertain. Mergers and acquisitions provides a good opportunity for a bank to strategize its growth focus. M&A also increases the chances of acquiring market share and may strengthen the banks monopolistic power especially in horizontal mergers and acquisitions. However, the vertical acquisition tightens the grip on raw materials or the distribution.

Financial synergy occurs if the banks reduce their cost of capital as a result of M&A. This benefit can be achieved when there is an increased size following an acquisition since such acquisition can drastically reduce the interest rate on new debts. Rad & Beek (1999) add that synergies in a merger deal is more realistic when the costs of the merged firm are lower than

the costs of the two merging banks which again is a direct benefit of economies of scale. Another important aspect of merger is its use in eliminating ineffective management team at least cost.

Another interesting reason that facilitates a merger is the availability of information about the target bank or the information hypothesis (Hawawini & Swary,1990). This can be obtained when there is a correspondent-respondent relationship between the banks, particularly in cross border mergers. Banks may have private information about another where there exists such correspondent-respondent relationship. Such privately held information can be utilised by the bidder banks to evaluate a merger attempt.

#### **4.1.4 Bank Mergers and Shareholders Wealth**

The past two decades have experienced an enormous increase in the number of mergers involving banks and other financial institutions particularly in Europe. The cumulative money value of the merger activities from 1997 to 2007, for instance is believed to be in upwards of 96 trillion dollars (Reuters, 2009). The US dominated the world merger activities but the trend has also highly infiltrated the European financial market.

According to European Economic Research (1996), the number of M&A activities in the European countries increases by over 50-90 deals per year. This is at an estimated average of 15 mergers per year. The financial yield resulting from such deals amounts to about \$77.9 billion while in the US, it amounts to \$193.6 billion within 1991 and 1996. Thus, till date the US bank mergers have been the focus of merger activities among most researchers due to the voluminous amount of information available.

There have been numerous studies relating to the impact of M&A on the profits of banks and shareholders wealth. Some of the studies have indicated both negative and positive effects on the both the bidder and target banks and their shareholders. Eckbo (1983) found that when a bank merger is announced, the share price of the bank tends to rise. This is either because the increase of market concentration improves profits of the larger players. This result contrasts with some others undertaken especially in the US such as Cornett and Tehradnian (1992), Houston and Ryngaert (1994); Siems (1996) which found a decline in the



share prices of the banks after M&A.

The result obtained by Cybo-Ottone and Murgia (2000) suggest that merger increases the share value of the banks. This finding is notable as it streamlines a higher positive result in mergers involving banks and other financial institutions such as insurance firms. The returns on such mergers were statistically significant than in other bank-to-bank mergers. Additionally, the study shows that in the year following the deals' announcement, there is higher and significant abnormal returns .

The study of Rhoades (1993) on the domestic bank mergers finds some weak evidence that bidder bank underperforms in the market more than the targets whereas the opposite is claimed in cross border deals. The financial institutions have a clear pattern of significant under performance in the years prior to the announcement of their deal. The study also amplified the difference in the results of a merger as different from an acquisition. It compared the post merger performance of the target banks that have been acquired with targets that have been merged, and finds a very small and non significant under performance of merger targets as compared with acquisitions targets and with merger bidders. This finding is consistent with that of Cybo-Ottone and Murgia (2000) in that there is weak evidence that merger deals have a more disciplinary appeal than acquisition.

The argument of Houston & Ryngaert (1994) was based on their study from a sample of US mergers and could not establish any significant input on the value of the shareholders wealth particularly the acquiring bank. The study concludes that the shareholders wealth is in effect transferred from the acquiring to the target banks. However, a positive correlation between the value created as a result of the merger and some other factors were established; such factors as the acquiring bank's operating performance, the nature of the operating environment, and the mode of financing the deal.

Although the issue of how much wealth is generated or reduced by merger has remained very contentious as well as controversial, most researchers agree that there is some impact on the shareholders or the banks. Some studies attribute the wealth changes to a greater efficiency resulting from the merger; and the pooling together of resources (Pillof, 1996; Berger, 2000; Hughes et al 1999 ). While others such as Beitel et al (2004) suggest that most mergers result

in excess returns to the shareholders as a result of combination of both size, profitability of the banks and the efficiency factor. However, they concluded that the shareholders wealth will be higher when the target bank has a poor stock performance and the acquirer bank is involved in few merger deals.

However, Kane (2000) adds that such wealth generation resulting from merger is likely to be feasible if there is a potential for increase in market concentration and where the target is a large depository bank and both are located in the same area. This undermines any argument in support of cross border M&A. Mergers involving large banks are favorably disposed as their share price is likely to improve.

However, Becher (2000) offers an insightful finding regarding merger activities in the EU in the 1990s. His findings suggest that wealth creation by banks mergers was at its peak over the period, and this is supported by the large increase in bank mergers and deregulations during the period. The number of banks mergers increased by over 2.15% over the past decade. The study indicated that merger in the banking sector created more synergies and benefits to merging banks through time. Using a 36 day event window, the study concluded that the wealth created by the merger was positively significant to the targets as well as the returns to the bidders. The overall effect is significantly positive and larger than any other in the 1980s. However, over an 11- day event, the result of the study produced a positive return to the target but negative to the bidders.

The analysis captured the opinion of some previous studies which suggest a longer event window for the targets when calculating the abnormal returns. The study also reaffirmed the positive impact of deregulation on the banking sector and upheld the importance of synergies in M&A transactions.

There is another argument about the value created by mergers. According to the principal – agent theory, there is an assertion that the interest of the managers do not often represent those of the shareholders in the consideration of a merger deals. This is particularly common where the managers remunerations are based on growth or size. Thus, managers will be more inclined to engage in mergers irrespective of the benefits or doubts surrounding such acquisitions. Roll (1988) confirms that in some circumstances, the target banks could be

overpaid in a display of pride of managing a mega bank at the expense of the shareholders. This latter argument is often referred to as the 'hybris hypothesis'.

Bank mergers are also figured to be tools for reducing the operating expenses and thus increasing net profits and efficiency. However, Berger and Humphrey (1992) demonstrated that mergers of banks with total assets worth over \$100 million have an insignificant effect on the operating costs of the merged banks. In fact, some studies have failed to find any collaboration between mergers and economies of scale in the banking sector. Bogus banks are not often the most profitable firms (Boyd & Graham, 1991). This tends to suggest that large and merged banks do not necessarily create good shareholders wealth or have as good efficiency as may be expected.

#### **4.1.5 Bank Mergers and Growth in Bank Formation**

The overall impact of mergers in the banking industry can be assessed by the number of functional banks existing after a merger wave. Arguments have been advanced purporting that consolidation results from deregulatory changes which shrink the number of banks. The European Central Bank report (2004) maintains that number of EU banks fell by over 23% following the mergers that occurred between 1971-2003. The incidence of M&A is often found to be the aftermath of deregulations in the sector, technological changes, increase competition in the industry, introduction of the euro. As a result, inefficient banks have been absorbed by the more efficient ones.

However, Cabral et al (2002) noted that the majority of mergers occurred among the small domestic institutions and among banks operating in the EU countries. Banking groups have been criticised for concentrating their merger activities within the domestic banks. This ploy, Campa & Hernando (2006) argue, is to consolidate their positions within their countries of operation rather than targeting their strategy to other foreign EU countries where uncertainty is greater and survival as a result of competition is made difficult.

A significant factor in merger activity is the geographical diversification which results from the merger. There is also the improved competitiveness and the ability of the banks to provide services and values to the consumers by the cross selling of their products.

There are different opinions on the reasons for the rise in bank mergers. Two studies conducted have divergent views about the impact of bank mergers on the formation of banks. Such divergent findings raise questions about the correlation of bank mergers and bank growth or formation. Keeton (2000) opined that the mergers that encourage new bank formation are those that involve the takeover of small banks by the large banks or those involving the takeover of local banks by distant banks. This can be adduced by the disappearance of small banks.

Results on bank merger activities in the 1990s indicate that mergers are strong factors in the growth of banks. Markets with high record of merger activities have higher growth of bank formations especially those involving the takeover of small banks by the big banks or the local banks by the distant banks. This can be attributed to high profitability, increased population and economic growth rates and low market concentration (Amel and Liang, 1997).

The issue of bank mergers and growth came into focus with the upsurge in banks M&A which coincided with the growth of banks in the 1990s. This incidental increase in merger activity provides a lead to the conclusion by some economic analysts that merger is a crucial index of such bank growth and formations. This conclusion was however challenged by the Seeling & Critchfield (1999) which found that heavy merger activity and new bank formations are not correlated. The incidence could both have increased in response to other factors such as high profits, strong economic growth etc. The study opined that instead, mergers in fact act as deterrent to bank formations.

The emergence of the above findings led to further research on the issue by Berger et al (1999). They confirmed the popular opinion that merger activity actually increases bank formation. The study did not only consider similar factors examined by Seelin & Critchfield (1999), it also used data on mergers and new bank charters across different markets and controlling for other factors that could have encouraged mergers and new bank formations within the 1990s.

Others have held bank M&A contributes to the significant reduction in the number of banks.

Goddard et al (2007) argued that bank consolidation had reduced the number of banks in the majority of the EU15 countries particularly within 1984 - 2004. This assertion was earlier highlighted by Walkner & Raes (2005). In evidence drawn from the European Central Bank (2004), they examined the percentage decline in the number of domestic banks between 1997 and 2004 which was attributed largely to merger formation in the various member states of EU. Table 4.1 presents their data.

Table 4.1 Trend in the Number of Banks Among EU Countries

**Source:** ECB(2004) and extracted from Walkner & Raes(2005)

As can be noted in the table, there is a decrease in the number of bank branches in most of

the countries. In Belgium, the number declined by more than 32% while in Germany and the Netherlands, the number fell down by 25.1% and 46% respectively. The UK and Luxembourg also recorded a fall of 13.2% and 15.4% in the number of local branches while in Sweden, it fell by 18.2% . However, an increase in the number of bank branches rose to more than 31% in Greece, 19% in Italy, 14% in Portugal, 4% in Spain and 1.3% in France. This appears to be an inconsistent trend as majority of the EU countries show a decrease in the number of bank formations.

The argument for and against the effect of merger activity can be understood by considering the economic impact on banks. Mergers can discourage bank charters by producing organisations with enough local market power to discourage entry. On the otherhand, mergers can also encourage bank charters by creating a niche in service to small customers who are more concerned about their personal service. Such service will hardly be a priority of the big merged banks.

#### **4.2 Studies on European Domestic & Crossborder Bank Mergers**

There has been a surge in banks mergers within and across the European countries over the last decade. Records show that domestic mergers have maintained steady growth in relation to cross border or international mergers. However, between 1985 and 2001 only about one fifth of all merger transactions were cross border. The banking sector accounted for only 13% of the such deals (Focarelli & Pozzolo, 2001). The rare occurrence of cross border mergers has been attributed to several factors such as inefficiency, cultural issues, adverse regulation, communication barriers and distance which have contributed to its limited success in such deals. Goddard et al (2007) confirmed that cross border bank mergers particularly those involving large banks have been quite unpopular within the European countries. Domestic banks tend to outperform international banks in terms of their efficiency particularly in developed economies. Amihud et al (2002) thus assert that cross border mergers in such respect give a picture of weak competition in the market.

Most studies on cross border deals have concentrated on inefficiency, nature of the target and acquirer banks and regulatory framework as crucial factors in its limited success (Vander-

Vennet, 1998; Berger et al 2000). However, Buch & DeLong (2004) added that information costs remain a considerable determinant of international merger deals. This is in consonance with Berger et al (2001) which add that cultural differences, supervisory structures, common currency have inadvertently inhibited cross border mergers in Europe.

Buch & DeLong (2004) applied the gravity model of foreign investment decision to diagnose the rationale behind cross border mergers. The model has been previous applied to foreign trade-in-goods between two countries, which is a factor of the market size and the geographic distance between the countries. The distance between the countries is considered to be a proxy for transportation costs. The expense on cost created by distance has been upheld as a critical issue in the growth of cross border M&A. Other studies (Wei & Wu, 2001; Portes & Rey, 1999) concur with their assertion.

Another key variable in the determinant factors of cross border M&A has been the deregulatory environment. Countries with effective privatisation programmes have attracted foreign investors particularly in the fragile banking sector. Most European countries with privatised banking sector have been points of interest for merger deals. Bonin & Abel (2000) found that privatisation has been a key influence in the high market shares of foreign banks in the Eastern Europe.

Conversely, economies with more stringent information requirements and efficient supervisory system will likely win the confidence of foreign interests. They often have laid down disclosure regulatory requirements which give vital information of their operation and performance. Thus banks in countries with such high regulatory standard will be more attractive for international acquirers in cross border merger deals. However, Buch & DeLong( 2004) caution that such high regulatory standard, if too high may be a disincentive and could impede foreign interest from considering cross border merger deals.

Ongena and Penas (2008) investigated the determinants of the bondholders' wealth effects of the acquirers in domestic and cross border European banks mergers in the periods of 1998 - 2002 and concluded that the abnormal returns to domestic bondholders is higher than those of the cross border banks. The study also indicated that the banks' bondsholders experience abnormal returns of up to 5% higher than those participating in the cross border merger when

the acquirers country has a strict banking policy and regulations.

Other studies have corroborated the above findings. Penas & Unal (2004) find that bondholders of both domestic and cross border banks in the US mergers realise significant positive risk and maturity adjusted returns around the merger announcement month. After controlling for a variety of merger and bank characteristics, the bondholders returns show increase in the asset size as a result of the mergers. In the same vein, Choi, Hasan & Francis (2007) examined the stock market reactions to merger announcements involving cross border acquirers. They find the impact to be related to cross country difference in the deposit insurance and investors protection but with little relevance to the supervisory regimes. The study however failed to state any direct impact of the domestic and cross border mergers on the bondholders' wealth of the banks.

Aw and Chatterjee (2004) find that UK domestic acquirers achieve better performance than the UK cross border acquirers, particularly those acquiring US targets. The UK domestic acquirers show positive but non significant abnormal returns in the six months following the merger announcement. The cross border EU banks acquisitions have significant negative returns. This argument is supported by various studies such as Danbolt (1995), Conn (2003) and Black et al (2003) which examined cross border acquisitions of quoted targets. Conn (2003) finds that of the 15 cross border merger studies reviewed, the resonant conclusion is the zero or negative abnormal returns which applies to both UK and EU acquirers. These abnormal zero and negative returns are also found in the domestic acquisitions (Sudarsanma & Mahate, 2003).

More recent studies have expressed diverse opinions and views on the profitability, efficiency and wealth generation of the cross border and domestic bank acquirers. Mangold & Lippok (2008) compared the shareholder wealth created by cross border with those of domestic acquirers among German firms. Their findings indicate that while domestic acquirers create wealth, cross border banks destroy shareholders wealth. The wealth destruction by the foreign acquirers is explained by the difficulties in post merger integration due to cultural differences, legal and economic obstacles. The study also adds that mergers involving non-EU targets result in positive abnormal returns while EU targets results in significant negative cumulative abnormal returns to the shareholders of the acquirers.



The above assertion is supported by the findings of Lensink & Maslennikova (2008) who established that domestic bank acquirers create shareholder value while cross borders acquirers do not. The finding is based on the geographic and product market diversification hypothesis. They applied the excess demand and the barrier to entry theories (Brewer et al, 2000) to explain how geographic deregulations might affect the cross border announcements. While the excess demand theory posits that as geographical restrictions to mergers are eliminated, the number of bidders competing for a given target will invariably increase. This will in turn increase the purchase price paid by the acquirer banks. In most cases, the target might be overpriced with the subsequent long-run effect of underperformance in relation to the abnormal returns of the merged bank. The study, however, used a window of 20 days which might not capture the essential post merger events impacting on the acquirer banks performance.

The barrier to entry theory advance the idea that the prices paid by cross border acquirers will be lower as the barriers to the merger deals are removed. The argument is that the barriers often provide a bulwark to the targets which inevitably attracts the abnormal returns common with targets. Thus, eliminating the barriers to entry increases the chances of replacement of the target banks and lowers the purchase or merger price premium. This ensures that the target is not overvalued and the acquirers are less likely to have poor abnormal returns. The theory thus upholds that barrier to entry encourages abnormal returns to the acquirers.

Delong (2001) studied the market reaction to a geographical diversified bank mergers and finds that the US stock market reacts positively to domestic acquirers as against cross border acquirers in a merger announcement. The reaction can be explained by the potentials for cost savings which is greater when the banks are exposed to similar economic situations. This argument is also supported by the findings of Cybo-Ottone and Mugria (2000) who find that domestic acquisitions create more abnormal returns to their shareholders while cross border acquirers show a positive but not significant returns.

However, not all cross border versus domestic merger studies support the assertion that domestic acquirers create more value to the shareholders than the cross border acquirers. In fact, Bertrand and Zitouna (2008) find the EU cross border and domestic bank acquirers

differ significantly. The study debunks any fears cast on cross border acquirers as they help enhance both the shareholders value and the domestic country's economy. The efficiency gains are found to be stronger in the cross border than domestic mergers and acquisitions. The difference in both acquirers can be explained by the mechanism of the European economic integrations.

For cross border acquirers to create more wealth to the shareholders, they have to be distinctive in size and operations. Anand, Capron and Will (2005) add that only cross border acquirers with multinational scope are capable of creating more wealth for the shareholders. The implication is that only cross border bank acquirers that are conglomerates are capable of inflating the returns of the shareholders. In the same vein, Ecko and Thornburn (2000) and Gregory and McCorrison (2004) studies both private and quoted cross border M&A but find no trace of significant negative returns.

However, some studies have found no difference in the returns of the both the cross border and domestic acquirers. Lowsinski, Schiereck and Thomas (2004) remark that any difference in the wealth effect of the domestic and cross border acquirers may be due to market segmentations in imperfectly competitive markets. In a ten day window to evaluate the effect of the cross border acquisitions on Swiss shareholder wealth, the domestic deals recorded higher abnormal returns than the cross border bank shareholders. On the merger announcement date, the cross border acquirers indicated positive returns while the domestic acquirers showed negative returns. However, the empirical result of the study showed no significant difference between the cumulative abnormal returns of the both acquirers. The study has a shortcoming of being limited to Swiss bank acquirers.

The above assertion is corroborated by Hernando, Nieto and Wall (2008) who find that both the cross border and domestic acquirers show no much difference in their characteristics. The cross border coefficients variables of EU bank acquirers are positive and statistically significant than the domestic acquirers, while the abnormal returns to the shareholders are high for the cross border acquirers. However, the study finds that cross border acquirers are less likely to increase their market shares in the target domestic market. Cross border acquirers are often attracted by the possibility of having a higher rent which might be readily available in more concentrated markets.

Domestic acquirers are less likely to be profitable in more concentrated markets than their cross border counterparts. Hernando et al (2008) also reported that domestic banks are likely to acquire large banks. This can be explained by the theory that large banks are more beneficial in achieving both diversification and enhancing market penetration. There is also a suspicion that supervisory authorities tend to create easier platform for the acquisition of large banks by the domestic acquirers.

Conn et al (2005) find cross border acquirers have lower announcement but long-run returns than domestic acquirers. However, in the short run, the study find domestic acquirers have negative abnormal returns while the cross border show zero and negative postmerger returns.

While cultural difference is significant in the long run merger performance of the domestic acquirers, such a factor has no significance in the cross border acquisitions. Also taxes, accounting standards, the legal system and exchange rate volatility have no significance in the returns and performance of the acquirers. Conn et al (2005) maintain that cultural difference remains an odd for the cross border acquirers especially when integration and acculturation are vital factors in the process. The greater the cultural gap, the worse the problem of the success of the deal for cross border acquirers as opposed to the domestic.

#### **4.2.1 Studies on the Performance of Domestic & Cross Border Bank Acquirers**

Essentially, performance studies in mergers and acquisitions can be categorised into 7 broad areas: integration process performance (Bresman et al., 1999; Capron, 1999; Datta, 1991; Larsson & Finkelstein, 1999; Shanley & Carrea, 1992); overall acquisition performance (Bruton et al., 1994; Hayward, 2002; Humburg & Bucerius, 2006; Puranam et al., 2006; accounting performance (Palich et al., 2000; Zollo & Singh, 2004; Feea & Thomas, 2004, Goddard, Molyneux & Wilson, 2004a; DeLong & DeYoung, 2007); long-term financial performance (Carow et al., 2004; Harrison et al., 2005; Palich et al., 2000); short-term performance (Moeller et al., 2004; Pangarkar, 2004; Seth et al., 2002; Shahrur, 2005; Walker, 2005; Capron & Pistre, 2002; Carow et al., 2004); acquisition survival (Bergh, 2001; Vermeulen & Barkema, 1996; Pennings et al., 1994) and innovation performance (Ahuja & Katila, 2001; Kapoor & Lim, 2005; Hitt et al., 1991, 1996 & 1998).

Examination of some operational performance studies indicate mixed results. For instance, Cornett & Tehranian (1992) studied the performance of 30 US bank acquirers and find a correlation between stock market reactions and changes in the financial performance. This implies that the market reacts commensurately with the level of the performance of the banks. This can be seen when banks announce their year profits and losses. Pillof (1996) investigated 48 mergers over a period of 10 years to establish the correlation between the abnormal returns and the financial performance of the banks and find no significant results. Which implies that the market speculations at the time of the merger announcements failed in predicting the actual results.

In most merger performance studies, the acquirer banks are often found to have negative or no significant returns. Past studies such as Baradwaj, Dubofsky & Fraser (1992) find a negative returns for the acquirers in a study that involved 108 mergers for a period of 6 years. Cornett & Tehranian (1996) investigated mergers with minimum deals of \$100 million over a period of 5 years and find that the majority of the 30 mergers studied indicate that the acquirer banks recorded negative returns to their shareholders. Even on mergers deals with values exceeding \$500 million (or the megamerger deals) acquirers showed negative abnormal returns to the acquirer banks shareholders (Siems, 1996). Hart & Apilado (2002) developed a GARCH market model to sustain an argument that cross border acquisitions though have positive stock returns, their post performance are poor.

Some others have used larger samples to arrive at the same conclusion that the acquirer bank shareholders earn negative returns in comparison with the domestic acquirers. Subrahmanyam, Rangan & Rosenstein (1997) used 225 merger deals to support their argument that acquirer shareholders have negative returns. While Houston & Ryngaert (1994) and Madura & Wiant (1994) examined samples of 153 and 152 of both cross border and domestic acquirers and find the returns negative.

Studies on the evaluation of merger financial performance have produced varied results. While some studies have judged performance based on the reaction around the announcement date of the merger, others have hinged their judgement on the returns accruable to the shareholders. However, Olson & Pagano (1998) had indicated that any meaningful evaluation

of a merger should be based on the long term of the acquirer's stock price performance rather than on a short term basis. Such long-term performance will include the returns to shareholders, dividend payout, and the share prices subsequent to the merger deal.

This argument concides with Houston & Ryngaert (1994) that a veritable measure of merger performance is not solely the profit but should incorporate bulk elements of the returns to the assets. This is a cautious measure since accounting data may not provide the correct state of the merged bank in the short run especially in terms of costs and returns. Therefore, it is understandable why an efficient market may provide a better understanding of the market rather than the accounting data. Their figures are mostly unbiased as against the financial accounting results that are often subjected to management influence.

It is also claimed that the past financial performance of banks involved in mergers could play crucial role in the determination of the expected returns to shareholders in a merger. However, Berger & Humphrey( 1982) argued that a deal involving an efficient bank acquiring an inefficient bank may result in reduction in operating costs through the elimination of X-inefficiencies. The contention is that the acquiring bank should be more profitable than the acquired and the revaluation of the share prices of the both banks should be related to the difference in their profits.

However, the posture of the bidders as more profitable than the target does not explain the abnormal returns from such deals. This corroborates the studies of Houston & Ryngaert (1994) and Morck et al (1990) who find a significantly higher abnormal return in bank mergers involving more profitable bidder banks. Thus suggesting that bidder banks with strong records of high profit profile will produce a merger deal which will be more wealth creative to the shareholders than those with weak profit background.

Another aspect of evaluating the performance of M&A is the effect from the welfare of bank customers. An expected overall impact of banks would be an improvement in the lending rates and access to credit facilities to customers. Study by Sapienza (2002) shows that when a merger involves domestic banks operating in the same geographic area, borrowers tend to benefit from good lending rate particularly if the acquired bank has small market shares. The finding of the research tend to support the argument that small borrowers benefit more in

domestic M&A because the large cross border acquirer banks tend to do away with the small borrowers.

This position differs from the claim made by Scott & Dunkelberg (2003), that M&A have no noticeable effect on the ability of small firms to obtain loans but could trigger increase in poor service quality by small firms. However when banks merge, the acquiring firm determines the banks lending policy. If the acquirer does not have a significant lending culture, this could impact on the small entrepreneurs who may find it difficult benefitting from the M&A. Peek & Rosengren (1997) argued that a significant number of small banks who are involved in M&A usually have a business loan portfolio. The impact of this is the eventual promotion of small business financing. Thus the impact of M&A is often judged on the amount of support given to small business lending.

Kosmidou et al (2004) applied multivariate analysis using financial variables to compare domestic and cross border banks performance in the UK. The study reveals that on average, domestic banks have higher operating performance. Specifically, the domestic banks record high performance on the rate of their return on equity, loans to short term funding ratio and net interest revenue to total assets. Although, this study is not focused on M&A, it does however project the 'home advantage hypothesis' which assumes that domestic banks are more efficient than foreign banks in their operational performance due to their knowledge of the local environment.

The length of the event window could be very critical in the measurement of the success and failure of the acquirers. Short and long windows may inevitably suggest different performance results for the same or different acquirers. Zollo and Meier (2008) confirm that the short term acquisition and firm performance are often measured by the abnormal returns to the acquirers over a short window around the announcement period. The difference between the short term acquisition performance and the long term lies in the market expectations and actual result of the merger. While the former is focused on the premerger collective financial market expectations and events, the latter window is provides some knowledge of what has actually occurred during the merger process. Infact, they represent the ex ante expectations and the ex post factor performances of the merging units and the merged entities.

Thus, the present study leans towards using long term window of  $-/+30$  days (60days) in order to capture, not only the short market reaction of the merger announcement, but only using financial ratios of the merged entities to evaluate the longterm operational performance. Some studies (Harrison et al. 2005; Zollo & Meier, 2008; Barber & Lyon, 1997) have confirmed that long windows are far more reliable than the short windows. This argument is hinged on the widespread evidence of market imperfection to the announcement of M&A which can be reduced by a long window. In fact, short windows are deemed to give misleading results since it captures dominant cognitive performance. This research therefore takes further steps in strengthening the long window argument; first it uses a long window in estimating the abnormal returns of the acquirer banks and applies some key financial ratios in evaluating the performance of the banks over a period of 11 years. Such long evaluation period is uncommon in performance studies.

### **4.3 Mergers & Acquisitions and Bank Efficiency**

Walker & Raes (2005) deliberated on the different levels of efficiencies associated with bank M&A. These include, but are not limited to, operating profit and overall efficiencies. Finance literatures are diverse with views indicating lack of visible improvements in the operating efficiency of merged banks. In a study by Rhoades (1994), two approaches were applied to explore the operations of consolidated banks using 39 empirical works. The operating performance approach and the event studies were simultaneously applied.

The operating approach takes into consideration the financial performance of banks after mergers while the event studies observed the share price reactions subsequent to and after the merger announcements. The approaches failed to establish any significant improvement both in the banks financial performance and rise in the share price of the consolidated banks. This also corroborated the findings of Pillof & Santomero (1997) that M&A do not contribute to improvement both in share value and profit of banks.

The above scenario has generated concerns as to possible reasons why efficiency cannot be improved with merger. A number of findings have been advanced by various scholars.

Vander-Vennet (2002) associates this to a precipitation of a takeover of a poorly performing bank by a relatively efficient bank. In such deals, there may be improvement in the short term operating profit but not in the operational efficiency. The differences in the countries tax and legal systems are possible players in the unrealisation of the potential synergies particularly in cross border mergers.

Another argument presented by Hughes et al (2003) is that operating efficiency may be lacking especially when the management of the consolidated bank seeks to build empire rather than consolidate on its existing valuable resources. An increase in acquired assets may increase or decrease operating efficiency depending on the attitude and posture of management. Inordinate ambition of expansion; acquisition of more banks and other similar agency objectives may deter efficiency. Managers are more inclined to achieve efficiency if they streamline their resources in achieving organisational objectives rather than engaging in other empire building course.

In the US, the variation in accounting rules have been posited as a cause for the discrepancy in establishing operating efficiency in the M&A in the banking sector. Two accounting principles: the purchasing and pooling of interest accountings, which are in use in the US often produce conflicting results in their methods of treating M&A. The purchasing accounting method triggers the rise in the consolidated banks depreciation and amortisation expenses. This is due to the treatment of goodwill (i.e the purchasing price of the acquisition, less the book value of the target banks assets and equity) which is amortised and expensed as they are intangible assets.

The pooling of interest method equates the assets of the consolidated bank with the sum of the two merging banks. Kwan & Wilcox (1999) opined that the use of the purchasing accounting method will inevitably produce a negative result on the reported expenses. Both methods are however recognised by the US GAAP ( Generally Accepted Accounting Principles) .



#### **4.4 M&A & The Corporate Governance of Banks**

The resounding opinions on the conflict of interest of managers and directors who ordinarily should be the stewards of banks and their shareholders. Their actions often indicate a selfish motive and thus portray conflicts of interests. Most mergers and acquisitions have suffered basically because the ‘agents’ have allowed their interests go ahead of those of the ‘bank owners’. This is particularly so with the acquiring banks, where various studies indicate that their shareholders suffer deficiencies in their returns.

Zalan and Lewis (2005) examined the reasons behind bank acquirers CEOs engaging in mergers and acquisitions, even when there is strong evidence that the result might not generate returns for the acquirers’ shareholders. Their finding indicates that the managers and their M&A promoters have developed a non efficiency based posture. The relationships among the CEOs, the banks promoters and the board of directors gives a strong argument for the preference of mergers rather than the agency relationship with the shareholders. In other words, the managers would prefer to please their promoters by engaging in unprofitable deals as mergers rather than considering the consequence on their shareholders returns.

The above argument is further strengthened by the study of Certo et al., (2008) who found that directors are more concerned with the size of their pay package rather than the shareholders interests. They affirmed that when directors are faced with decisions including M&A that can lead to an increase in their pay, they would opt for their own interest. By so doing, they become agents rather than the stewards who ought to protect the interests bank owners. Aggarwal & Samwick (2003) also confirmed that managers diversify their firms in response to the changes in their personal benefits rather than reducing the exposure to risk of their firms.

However, Coakley and Iliopoulou (2006) argued that although pay packages might be an element in the consideration of mergers and acquisitions by CEOs of bidder firms, their rewards however are usually tied to the success of the deal. Managerial power are more of

interest than agency theory on their executive compensation. The US CEO acquirers are found to be more compensated than their EU counterparts on the successful execution of a merger and acquisition.

As the agency problems become more diverse in organizations, the duties of the board in monitoring the activities of the management take broader dimension particularly when the company's performance is poor. A poor performing bank may be an indication of the inefficiency of the inside directors and could warrant the replacement of the inside directors with outsiders or even the removal of the CEO.

Although the inside directors are perceived to have an understanding of the business operations, the independent or outside directors are professionals and can more easily achieve the supervisory role, reduce the occurrence of conflicts among the top management and also prevent the misuse of the company's resources, thus improving performance (Hayes, 2005). This implies that they exert enormous influence on the company and act to protect the shareholders interest. Their position as outsiders gives them the moral leverage to question any indiscreet acts of the top management.

Outside directors exude some independence on the CEO. They could act independently as they are not in the control of the top management. Unlike their inside directors who are almost handpicked by the CEO; Weisbach (1988) indicates that independently dominated board are likely to dismiss a poor performing CEO. They are portrayed as doing more jobs to protect the interest of the shareholders, including decisions on engaging in mergers. Boards with majority of outside directors are perceived to positively affect the share price of the firm<sup>16</sup>.

The presence of directors generally is to mitigate between the shareholders and the top management of the firm. Their duty is to curtail the agency problem which arises when management goes outside the interest of the shareholders. Fama & Jensen (1983) outlines the board's functions as including the ratification of the management decisions and the monitoring of the management performance. They are by law empowered to hire and dismiss

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<sup>16</sup> A study by Rosenstein & Wyatt (1990), shows that there is a rise in the stock price of the firm at the announcement of an appointment of an outside director to the board. This strongly suggests that shareholders have high confidence in the outside directors.

managers and to determine their compensations. Such authority leaves the directors with enough powers to oversee the management.

When a high proportion of the firm's shares are owned by the members of the management, there is a tendency that they will be more committed to benefit the shareholders and to raise the firm's share value. The presence of outside directors will thus be inconsequential as the agency problem is almost invisible. However, Hermalin & Weisbach (1991) opined that even when majority shares are held by top management, it does not signal an absence of agency problem.

Such scenario points the direction of family ownership of the firm which are known for putting the family interest at the expense of the other minority shareholders. Top management or board positions could be reserved for family members, foundations can be created to honour family members using the firm's resources. Such an act even calls for a more stringent action, to protect the other shareholders.

An important criterion for determining the extent and necessity of involving greater percentage of outside directors in the board composition of an organisation is the length of service of the top management and the CEO. If the management has been in office for a long time, it may be an indication of their good performance; otherwise they would have been fired by the board or even taken over. But this may not be leverage for the CEO to stay indefinite. Vancil (1987) states that the general consensus is for CEOs to serve less than 10 years in order not to lose focus and will reflect a penchant of dominance by the CEO. This may adversely affect the performance of the firm.

The composition of the board is definitely a concern of the CEO<sup>17</sup>, whose performance is under the purview of the board. It will therefore be an understatement to expect that the CEO to show serious interest on who constitutes the board. While the choice of the inside directors may be influenced by the CEO, the outside are independently made. They are usually engaged on the basis of their professional experience and directorship in other reputable firms. Borokhovich et al (1996) agree that the inside directors increase the value of their human capital by strengthening their reputations as decision control experts. But the inside

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<sup>17</sup> Studies have shown that CEOs are well involved in the appointment of the directors. Mace (1986) opined that the CEO will be interested in persons who will be less insurrogative to his decisions.

directors however are more concerned with maintaining their position in the firm and would not be involved in confrontations with the CEO.

However, Borokhovich et al (1996) maintain that the influence of the CEO in the appointment of the directors may hamper the independence of the directors and will thus affect their keenness in protecting the shareholders' interest. This argument suggests that the directors may after all, not represent the shareholders interest. CEOs that pursue interest outside those of the shareholders would be interested in influencing the appointment of directors who will support their decisions.

Whether the independent directors actually represent the shareholders interest has been an unending debate. Some studies (Gilson, 1990; Rosenstein & Wyatt, 1990; Hermalin & Weisbach, 1988) affirm that outside directors represent the shareholders interests. Independent directors are defined as those whose relationship with the bank is the fact they are members of it board of directors. Cotter et al (1997) explain that an independent board is one with above 50% majority of members as non executive directors. They opine that due to the high confidence in their judgment, boards with majority of independent directors usually have fewer takeover bids on grounds of performance.

Infact, the shareholders confidence in the quality of the independent directors is shown by the study of Byrd and Hickman (1992) which shows that the share price of the firm increases when the board is controlled by the independent directors and also when an outsider has been named as member of the board. The abnormal returns on the date of takeover announcement are higher when the decision is perceived to be made by the independent directors' dominated board rather than the inside.

Various prior studies have focused on the presence of independent directors, corporate performance and ownership structure particularly in the banking sector (Weir, 1997 and Adams & Mehran, 2003). Most studies on independent directorship have focused on firm performance (Zhilan et al, 2005; Adams, R. & Mehren, 2003, Weir, 1997) and Rosestein & Wyatt (1990) and Block (1999) focused on US firms.

The independent directors in any organization are very fundamental in the formulation of important policies. Board ownership especially outside or independent directors play key roles in effective corporate governance. Brook et al (2000) observed that independent

directors bear some losses during mergers as they often lose their place in a merger. Their equity ownership is thus considered as having greater marginal impact than those of their counterpart insider directors. They are considered to be very influential in the decision of the board to sell or merge with other banks. Their composition in the board is thus significant.

In addition to the oversight functions, the independent directors are charged with substantial powers to ensure that corporate decision makings maximize shareholders wealth. Some studies (Wyatt, 1990; Byrd & Hickman, 1992 and Cotter et al, 1997) have confirmed that boards with majority of independent directors soar very high in their performance, share value, high abnormal returns during takeover bids and generally improves the shareholders returns.

Several studies have been carried out on board composition and performance particularly in the banking sector. Adams & Mehren (2003) compared the corporate banking structure in the banks with those of manufacturing and other sectors. Their findings show significant difference in the board size, percentage of the outside directors, frequency of boarding meetings, percentage of the CEO equity holdings and other such variables which were higher in the banking sector. The CEO equity holding, the stock option pay, salary plus bonuses in the banks are higher than in other sectors.

The tenet of the agency theory spurs from the argument that the management and decision making is divorced from the ownership of the organization. Where the decision making is delegated to the agent by the principal, and if there is a discrepancy in the interests of the two parties, agency problems will arise. This implies that corporate governance, in addition to protecting the interest of the shareholders in the running of the bank, also minimizes the agency costs and reduces the breadth of managerial discretions (Vafeas, 1999).

Fama & Jensen (1983) found that the composition of the board in publicly quoted companies provide such avenue for monitoring the excesses by the management and ensuring that shareholders interest prevails rather than those of the management of the bank. While the difference between the UK and the US board structure in the number of directors may be blank, studies suggest that the difference lies in the composition of the executive and non executive directors. In the UK, the board is dominated by the executive or inside directors while in the US, the non executive directors are usually in the majority (Main & Johnston, 1993).

The directors are usually appointed based on their experience, skill and expertise. The non executive directors have dual function of monitoring the management and also exercising an oversight role over the board activities. As outsiders, they have a more neutral stand in their decisions. Fama (1980) opines that efficiency and values are also measured by the number of directorship they hold. Reasonably number of directorship in other firms signals the worth and experience of the directors. However, an average of three directorships is considered reasonable by Cadbury (1992) in order to reduce the amount of time committed to other functions.

The major contribution of board structure to the performance of the organization is the prevention of fraudulent activities and the enhancement of smoothness of the firm's operations. Firms that have good corporate governance structure often have impressive operating performance. Such firms also provide useful information to the investors and their creditors to enhance their operations and reduce the information asymmetry (Demsetz & Lehn, 1985).

The independence of the directors can be impaired or achieved by structure of the directorship of the board members. Where there are interlocking directors<sup>18</sup> in board of bank, the decision of the interlocking directors are likely to be impaired especially if the CEO of the bank is also an independent director in banks where they act as CEO.

If the independent directors hold substantial percentage of the bank's shares, they interest to protect the shareholders become more intense as they are also concerned with increasing the shareholders wealth. Morck, Schleifer & Vishny (1989) support the argument that firms performance increases when the independent directors hold majority of the shares while Shivdasani (1993) opines that takeover bids are high where the independent directors own small proportion of the banks shares.

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<sup>18</sup> An interlocking directorship occurs when a director acts as an executive director or CEO in a firm and at the same time, as an independent director where the CEO is an independent director. Okazaki, Sawada, & Yokoyama (2005) assert that such directorship is capable of slowing opposition to the CEO irrational policies and therefore questions the extent of shareholders protection offered by such board.

## 4.5 European Union Merger Regulations & Control

All mergers and acquisitions in the EU are required to comply with the laid down rules and regulations issued by the Union or its affiliate institutions. The European Commission (hereby referred to as the EC), is the executive arm of the European Union responsible for proposing legislation, implementing rules and regulations of the Union. The essence of these regulations is to ensure transparency and smooth M&A deals and to intervene where necessary when the rules are breached.

There have been a series of periodic merger control reforms by the EC some of which have been very radical and with a far reaching impact on execution of bank mergers among member countries. These reforms and regulations are aimed at streamlining the guidelines for mergers involving competing firms, best practice guidelines on the conduct of merger and investigations in line with some jurisdictional implications.

EU merger activities came under stringent control on September 21, 1990 to foster credibility in M&A competition among EU countries. The overall aim of the regulation is to protect the interest of consumers by encouraging the consistent existence of competition but at the same time, discouraging monopolistic tendencies occasioned by mergers. The regulation is founded on four pivotal issues:

- 1) The exclusive right of the Regulatory Commission to review merger activities within the EU states. Such activities will also include acquisition and joint venture businesses.
- 2) The Regulation makes it compulsory for any merger deals to be notified to the Commission. The Commission has set standards regarding the size for mergers that it considers to be subject to mandatory notification to the Commission.
- 3) The consistent application of competitive based criteria for M&A. The commission considers third parties in cases of dispute to make oral presentations and encourages interested bodies to play active roles in EU merger regulations.
- 4) The provision of a legal framework to govern any merger activities. It also enjoys exclusive jurisdiction on merger regulations though its decisions are subject to judicial review by the member state courts.

Levy (2003) asserts that since the institutionalisation of the merger regulation, the commission has given unconditional approval for over 1800 applications of merger related deals; 50 others have been turned down; another 50 have been referred for consideration by the EU member countries. While 95 merger transactions have received conditional approval during the first phase of the Commission, during phase two of the Commission, 20 mergers deals have been given unconditional approval; 18 others prohibited with three of such prohibited overruled by a member country court and about 80 applications to the Commission have been withdrawn .

The commission has worked towards ensuring that its enforcement standard is adhered to by member countries. To this end, the Commission issued a Draft Horizontal Mergers Notice to explain how mergers should be analysed and identifying various factors that may impede a fair competitive atmosphere. The adoption of this Draft has other wider implications and benefits to the EU states. At least, it creates a platform to achieve standard through an assessment of M&A transactions.

Cross border acquisitions have been hampered by different regulatory frameworks across countries. La Porta et al (2000) posit that investor protection is highest in English common law colonies as well as in Scandinavian, German and French civil law territories. Such legal environments influences cross border acquisitions. Efficient cross border acquisitions will take place where an acquirer from a high investor protection country acquires a target from a low investors protection country. Information asymmetric may also slow the performance of cross border acquirers due to restrictions imposed by the regulatory regimes (Moeller and Schlingemann, 2002).



#### 4.5.1 History of EC Merger Control Legislation

The development of the EC merger control, or control of concentrations, has been solidified with the gradual creation of a European single market. European competition policy has historically revolved around articles 81 & 82 of the EC Treaty<sup>19</sup>. Since the EC Treaty is silent on the control of mergers, the supervision of concentrations was in the early stages of the Union restricted to the Commission's control of compliance with article 82. In the precedent set by the *Continental Can* case, when the European Court of Justice (ECJ) held that an undertaking abuses its dominant position if it strengthens its position in such a way that the degree of dominance reached substantially fetters competition, the way was clear for the EC to rule on M&A.

The limited supervision implied by the treaty provisions was problematic since it restricted the control of mergers to those that were made between dominant undertakings. It is interesting to note, that the Commission as early as the 1960s had realized this shortcoming (Dauz, 2002). However, it would take another 30 years until a legal instrument dealing solely with concentrations was agreed upon by the EU member countries. The reason for this delay might partly be explained by the political importance that is linked to an instrument through which mergers between undertakings may be restricted or prohibited. Massive lay-offs, new investments or withdrawn investments are in many cases very tangible results of mergers. The governments of the EU were reluctant to surrender these powers to the Union.

As in many other fields of Community law, it was a judgement of the ECJ that put an end to the power squabble. In the *BAT-Reynolds* merger dispute, the Court conferred competence on the Commission to supervise mergers under article 81 of the EC Treaty (in addition to article 82) which created an atmosphere conducive for the adoption of the Merger control Regulation

It was the Regulation 4064 of 1989 that introduced the basic principles upon which the current merger control as contained in European Commission Merger Regulation (ECMR) 139 of 2004 is based. Regulation 4064 of 1989 clearly spelt out the Commission's exclusive

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<sup>19</sup> The EC Treaty governs the historical formation of the European Union. Article 81 of EC Treaty prohibits any agreements between undertakings while Article 82 deals with the abuse of dominant position in a merger transaction.

jurisdiction to clear or prohibit concentrations with a Community dimension. It introduced the “one-stop-shop” mandatory notification procedure for the concentrations that fell within its jurisdiction as well as market-oriented, competition-based criteria. The Commission was empowered to impose fines and competence to restore competition by ordering the undoing of a prohibited merger transaction. The strict deadlines for decision-making provided for legal certainty for the parties to the concentration. Finally, decisions of the Commission are subject to scrutiny by the Community courts.

These principles manifest themselves also in the current merger control legislation particularly Regulation 139 of the EC Merger Regulations (ECMR). However, developments in case-law and the limited resources of the Commission has led to some reforms, among which the most important include the possibility of referral to national authorities of concentrations with a community dimension under article 9 of the ECMR and a reformed substantive test which allows for the intervention against more types of anti-competitive mergers.

Nonetheless, the system of *ex ante* administrative control of mergers and the Commission’s wide powers of investigation and enforcement established by the Merger Regulation is ever still the foundation of the Community’s merger control. The introduction of the merger regulations meant that the Commission’s authority to supervise mergers was explicitly laid down in Community legislation. Similarly, the establishment of an administrative system of merger control has important implications on the role of the Community courts and the standard of judicial review they ought to apply (Murray, 2004).

If *BAT-Reynolds* merger dispute was the starting point for a more extensive control of concentrations, the merger Regulation 4064 of 1989 provided the Commission with a foundation to build the extended control on. However, as conventional in EC law, the performance of the Community Courts finally shape and determine the application and interpretation of legislation.

#### **4.5.2 European Union Bank Reforms and Mergers Regulations Amendments**

The EU merger regulation came into effect on the 21 September, 1990 through the enactment of the EC which has the robust powers of enforcing Articles 81 and 82 of the EC Treaty. The Treaty was enacted to prevent the perceived unfair competition and abuse of the strong market forces in any mergers acquisitions deals. The Articles 82 highlights what constitutes abuse as when there is a limit placed on the production, markets or technical developments to the prejudice of the consumers by an unfair trading of a member state. This also includes any perceived unfairness in the fixing of prices in a business transaction.

The Article also explains that any condition that could place any party in an advantage condition, which at the same time disadvantages another party or places the party in a more competitive position, is considered 'unfair' (Harris, 2007).

The approval or rejection of mergers activities within the EU is usually the responsibility of the EC. Where a merger has been rejected, there is an internal procedure of obtaining a remedy through the European Court of First Instance (referred herein as CFI).

The CFI makes an independent investigation and reviews decisions either by giving approval to the merger or rejecting its execution.<sup>20</sup> Any further remedy sought is usually referred to the European Court of Justice (ECJ)<sup>21</sup> which serves as the court of final instance for all merger issues (Motta, 2000).

The underlying principle applied by the EC in considering approval for banks mergers is usually based on the Commission's basic litmus tests: the extent of the transparency of the deal; availability of deterrent mechanism in place to prevent any unfair conduct by parties and reactions of the undertakings which do not participate in the coordination, such as the current or future competitors and the customers are required to avoid acts that can hamper the deal<sup>22</sup>.

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<sup>20</sup> Several merger reviews have been undertaken by the CFI over the years. Some of these decisions have set a precedent in the merger rulings in EU countries. Their jurisdiction is not only limited to bank M&A but includes all other forms of consolidations. On July 13, 2006, the CFI made a landmark judgement by putting a stop to the merger of Sony –BMG, which would have been the second largest music company in the globe. Some mergers that have been cleared by the EC have also been challenged in the CFI. Also in 2003, the EC objected to the General Electric and Honeywell merger even when it has been cleared by the US Department of Justice. The companies appealed against the decision of the EC asking for the removal of the prohibition but the CFI rejected the appeal. (See the General Electric V. Commission).

<sup>21</sup> Levy (2003) narrates that since the Merger Regulation came into force, the EC has rendered more than 2,200 decisions, of which over 1,800 (86%) had approved notified concentrations unconditionally; around 50 (3 %) had found the Merger Regulation to be inapplicable; around 50 (2 %) had referred concentrations notified under the Merger Regulation in whole or in part to the government of EU countries; around 95 (5 %) had approved transactions subject to undertakings given at the end of the initial investigative period;<sup>11</sup> around 20 (1 %) had approved transactions unconditionally during phase II; around 60 (3 %) had approved concentrations subject to undertakings given at the end of phase II; and had rendered prohibition decisions with respect to 18 (1 %) transactions,<sup>12</sup> three of which were subsequently overturned by the Community courts on appeal. More than 80 operations had been withdrawn, of which around 20 (1 %) were withdrawn following the opening of in-depth investigations, in many instances to avoid prohibition decisions. Thus, around 2% cent of all transactions notified under the Merger Regulation have been either prohibited or abandoned in the course of in-depth investigations. The Commission's challenge rate" is broadly comparable to those of other major jurisdictions.

<sup>22</sup> Motta, Polo and Vasconcelos (2007) document detail merger remedies undertaken by the EC over the past years. Some of the remedies are either of structural and non structural in nature. For instance, in 1997, 188 disputed merger cases were submitted to the Commission; 235 in 1998; 292 in 1999; 345 in 2000; 335 in 2001; 279 in 2002; 249 in 2004; 313 in 2005 and 403 in 2007.

In the US however, the procedure for approving or rejecting a merger deal seems to have clearer guidelines than in the EU. The law requires the merging banks to obtain clearance from either the Department of Justice (DOJ) or the Federal Trade Commission (FTC). Unlike the EC system where third or interested parties are allowed to appeal against the Commission's decision, the US system does not make provisions for such. Infact, neither the DOJ nor the FTC gives aggrieved parties the opportunity to know any reasons for their decisions, as such decisions are not published. Harris (2007) points out that the while US are more precautious in handling outside merger interest through their regulations, the EU allows more freedom from third parties as long as sufficient interests have been proven.

Several reforms have been undertaken by the Economic Commission to overhaul the merger process in the EU. Byowitz, et al (2002) outlines some major areas of the EU Merger Control Regulation. Specifically, the reform includes the following areas substantive; procedural; jurisdictional and administrative reforms. The substantial reform is based on the concept of the dominance criteria used in assessing the impact and market powers of mergers. The EC has upheld the principle of the dominance test rather than the substantial lessening of competition peculiar to the US system. The current reforms define dominance to include some oligopolies that raise competition issues which tend to differentiate its policy from the US. The merger reform gives a guideline that helps to identify grey areas in which mergers can be considered as anticompetitive. These include: the establishment of the paramount market position which arises when the combined market share is more than 50% or when there are reasonable grounds to believe that despite having a lower percentage share, a party will still exert a stronger market power. Motta, Polo & Vasconcelos (2007) also highlight some remedies put in place by the EC to address any forms of anticompetitive practice or any merger that will create a dominant position as a result of effective competition would be greatly affected. They argue that the use of dominance test rather than the US application of substantial lessening of competition criteria is more useful in addressing any ill competitive tendency.

Another guideline is in the area of elimination of constraints on the ability of suppliers to unilaterally alter prices which is a form of non- collusive oligopoly. There are also reforms against any increased risk of coordination among competitors in the market which is a form of collusive oligopoly. The EC guideline is to give priority to efficiency in the consideration of merger analysis. The EC merger reforms consider efficiency as a vital ground for merger

initiation. The essence of the argument is that the consumers benefit more where the system is efficiently developed and are unlikely to create monopolistic tendencies. The Commission also proves mergers on the basis of imminent failure of the firm when the target would have likely been forced out of the market and where there is no suspicion of any anticompetitive acquirers. If the execution of a merger will help to sustain the survival of the target bank assets, the Commission would be obliged to grant the merger on the basis of efficiency<sup>23</sup>.

The procedural reforms include the striking off of the requirement that the parties in a merger file intention within a week of from the conclusion of a binding agreement between the merging banks. The reform adopts the US style where an *ex ante* merger notification and also requires the merging parties to make a submission notifying its intents before the execution of a legal agreement. The procedural reforms can also extend the time periods to a further 30 working days for the completion of the merger review where the parties have proposed remedies to address any competitive concerns raised. This can also be further extended to additional 15 days in complex cases.

In addition, EC reforms increased the amount of both the fines and penalties of the parties where they are found to have made any misleading submissions or any such issues raised during the Commission's inquiries. The Commission is also empowered to seal the premises of the offending parties during an investigation (Byowitz et al, 2002).

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<sup>23</sup> The efficiency clause has not been without controversies. Christiansen (2005) and Padilla (2004) argue that the introduction of the efficiencies defence is a reaction to the criticism of the old Merger Regulation. It was claimed that efficiencies had been falsely used as an argument against the merging parties and that welfare-enhancing mergers had therefore been prevented. In the sense of the "error cost approach" these would be 'Type II errors'. However, the empirical evidence for this claim is fairly weak. In their econometric study Neven and Roller (2002) detect only a few 'Type II errors'. There is no reference either to concrete cases apart from the General Electric/Honeywell merger and this case is questionable. The prohibition was recently upheld by the Court of First Instance (CFI), which would appear to argue against a false decision by the EC. Experience with the efficiencies defence in the US also suggests that this new rule has little relevance in practice. So far there has been no publicly available evidence of an approval decision based on efficiencies (Colley 2004). Hence, no significant reduction of errors is therefore to be expected either from the introduction of the efficiencies defence in EU merger control. Moreover, the concrete conditions are so strictly formulated in the Guidelines that they cannot be fulfilled in practice (Baker, 2002). The massive problems associated with the application of the efficiencies defence also need to be considered. In particular, there are information asymmetries in the authority's disfavour and fundamental knowledge problems.

The jurisdictional reforms focus on simplifying the system of referring transactions from the Economic Commission to the EU member countries which may be affected by the merger<sup>24</sup>. The reform therefore proposes a pre-notification system which allows the merging banks to seek referral of a merger transaction to any EU country involved or affected by the merger. The reform also permits the process of acquiring exclusive jurisdiction over any merger deals involving cross border parties.

Issues included in the administrative reforms include: the creation of office of the Chief Competition Economist; the appointment of a peer review panel to undertake investigations, outside interests in a merger conflict. The reform also includes regular meetings with interest groups in event of conflict in the merger with a view of resolving the issue.

#### **4.5.3 The EU Merger Regulation and Political interference**

Since the introduction of the European Union merger control, analysts have spotted several fundamental institutional flaws in operation and procedures of seeking redress in the European Commission. Drauz (2004) argues that the responsibility for final decision-making lies with a primarily political body and its affiliate bodies (the CFI and the ECJ) whose members are potentially exposed to influence from firms and from governments of member countries). For example, firms can deliberately seek to influence antitrust proceedings at the expense of their competitors (Baumol & Ordover 1985).

One possibility is the prevention of mergers between competitors which could lead to competition-relevant efficiency benefits. This constitutes a form of rent-seeking which, if

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<sup>24</sup> According to the Economic Commission Competition Policy Annual Report (2007), the number of merger cases notified to the Commission reached an all-time high of 402, a rise of more than 12% compared to the 356 transactions notified in 2006. In the last quarter of the year the number of notifications fell both in relation to the previous quarters and the last quarter of 2006. In total the Commission adopted 396 final Decisions in 2007, of which 368 were cleared in the first phase without conditions. Of these unconditional first-phase clearances 238 (or 65%) were adopted under the simplified procedure. A further 18 transactions were cleared in Phase I subject to conditions. Ten Decisions were adopted after in-depth Phase II investigations. Five of these were cleared without conditions, while in four case; the clearances were subject to conditions.

successful, results in Type II errors<sup>25</sup> in the sense of the "error cost approach". On the other hand, political influence can be exerted, especially by national governments, aimed at securing approval for certain mergers despite reservations about the effects on competition. Under the banner of "industrial policy", Stevenson & Fillippi (2004) opine that there is a strong interest in building "champions" for the global markets or securing special treatment for sensitive industries. However, by and large, there are no sound theoretical arguments to justify this. Moreover, the empirical experience is mostly negative. Consequently, approvals granted in exceptional cases for industry policy reasons are false decisions of Type I (Christiansen & Kerber 2005). Hence, in both cases, there is the risk of welfare losses, which are highly relevant to the discussion of the "more economic approach".

During the initial years of the introduction of the EU merger control, Christiansen (2006) argued that there were a number of questionable decisions in which influence of this kind played a role. For instance, in Germany during the Boeing/McDonnell Douglas merger dispute, it was believed that the Airbus consortium exerted influence on the Commission (Boeder & Dorman 2000). But there also allegations of massive intervention by the member state government and in some extreme cases, the members of the Commission were divided among themselves (Coate & Kleit, 1998).

A sensible institutional solution to this problem would be, in the first place, to create an independent antitrust authority at the European level which would have sole responsibility for protecting competition and could build up an appropriate reputation. However, proposals to this effect met with massive resistance and have receded more and more into the background. In the present reform discussion this fundamental institutional aspect is receiving little or no attention.

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<sup>25</sup> There basically two form of empirical errors; the Type 1 Error and the Type II Error, which are similar to the EC decisions on merger cases. The Type Error I which relates to wrong approval of a merger (false positive) while the Type II Error relates to an unjustified prohibitions or denial of a good merger deal by the Commission. (False negative). The Improved decision-making quality would mean a reduction in the frequency of the two types of error which can arise. In both cases, the potentially achievable level of economic welfare is not attained. In the first case, this results in direct welfare losses while, in the second, potential efficiencies are not realised. The overview shows the scenarios that are possible. According to the "error cost approach" there would be an improvement in decision-making quality if the new criteria lead to a reduction of errors compared with practice before the reform (Christiansen, 2006).



Admittedly, political factors have been found to play a lesser role in recent years in merger resolutions by the EC (Pons & Sautter 2004). But this does not suggest by any means that it is no longer an issue. Rather, there are two further points which need to be considered. The increased focus on economic analysis can be interpreted as an attempt on the part of the supporters of a purely competition-oriented approach within the Competition Directorate General to shield themselves from attempts to exert external political influence. The greater complexity of the economic argumentation before the reform has doubtlessly been a contributing factor (Levy 2003). Thus, the more economic approach oriented would lend to a more a logical refinement of a strategy which has already being pursued.

These measures of reforms are geared at giving a transparent and fully compatible rationale in merger deals independent of any political-economic aspects of merger control. Consideration for industrial policy or other non-competitive factors would be in no way compatible. Perhaps in order to reduce political influence, there should be great measure of independence of the competition authority; this includes the stronger orientation of merger control to more general rules so as to reduce the room for discretionary decisions and thus the exposure to influence. This could also quash the contention that in its more recent decisions, as in the GE/Honeywell merger for instance, the European Commission is allowing itself to be influenced by an underlying anti-American sentiment – and thus again by non-competitive factors (Murray 2004).

Secondly, the fact that political intervention has been successfully pushed back in recent years does not imply that the problem has been resolved once and for all. Rather, it has to be assumed that the inclination towards anti-competitive intervention at the political level will continue to exist, at least latently. This was clearly indicated by the initiative on the part of France and Germany for a pan-European industry policy while on the subject of Germany, there was a special ministerial powers exercised in the E.ON and Ruhrgas merger dispute or the heated debate over Springer-Verlag's acquisition of Pro Sieben Sat.1 (Lingus et al 2004; Anon, 2005).

So, for this reason, too, there is still a need to give thought to institutional safeguards to shield the EU merger control process from (industry policy-related) political influence. At the same

time, the increasing orientation towards case-by-case analysis within the framework of the "more economic approach" also creates new possibilities for discretionary decisions. Given this ambiguity the incentives for firms and politicians to exert influence could be increased again (Baumol & Ordover 1985). That this aspect has gone largely unnoticed to date points once more to an overly narrow focus of the discussions on the new approach.

#### **4.5.4 Some Principal Provisions of the EU Merger Regulations**

Levy (2003) classifies the powers of the European Commission on Merger Regulations (ECMR) under four basic areas namely: the exclusive competence of the Commission to review concentrations of Community dimension; the mandatory notification of such concentrations; the consistent application of market-oriented as well as competition-based criteria; and the provision of legal certainty through timely decision making. Infact, he noted the following eight cardinal provisions of the Regulation:

1). The Merger Regulation applies to concentrations or changes in control of the process. The concept of a concentration includes mergers, acquisitions, and the formation of jointly controlled, autonomous, full-function joint ventures. The concept of control is defined as the possibility to exercise "decisive influence".

2). All concentrations that meet certain "size" tests are deemed to have Community dimension and, as such, are subject to mandatory notification under the Merger Regulation, irrespective of whether they have any effect in the Community. The Commission has exclusive jurisdiction over such transactions (the "one-stop-shop" principle). Transactions that fall below these thresholds may be subject to national competition rules. In exceptional circumstances, an EU member country may request either that the Commission refers a concentration of Community dimension to its national authority or that the Commission review a concentration that does not have a Community dimension.

3). Transactions must be notified on a prescribed form according to mandated time periods, a waiting period must be observed before notifiable transactions can be put into effect, and the Commission must render a decision no later than five months (90 working days) following notification. Fines may be imposed for failure to notify, late notifications, or the provision of

incorrect or misleading information. Where reportable transactions have been implemented prior to having received approval, the Commission may take remedial action.

4.). The Merger Regulation provides considerable scope for third parties to comment on notified concentrations, including the right to be heard orally. The Commission encourages customers, competitors, suppliers, and other interested parties to play a active role in EU merger control.

5). The substantive test under the Merger Regulation is whether a transaction creates or strengthens a dominant position as a result of which effective competition is significantly impeded in the common market. The Commission's appraisal under the Merger Regulation has two main elements: (i) definition of the relevant market; and (ii) competitive assessment of the transaction. The Commission generally focuses first on unilateral exercises of market power and then on whether a transaction creates or strengthens a position of collective or oligopolistic dominance. Horizontal mergers (i.e. those involving firms active in the same markets) have accounts for the large majority of challenged transactions, although the Commission has also examined (and, on occasion, prohibited) mergers that have had vertical or conglomerate effects.

6). The Commission is not empowered to exempt or authorise, on public interest or other grounds, concentrations that are considered incompatible with the common market. The Commission may peg its approval of transactions on undertakings or commitments offered during the initial investigative periods.

5) An appraisal under Article 81, which prohibits anti-competitive agreements, may also be warranted under the Merger Regulation where a full-function joint venture gives rise to spill-over effects between its parent companies. Non-full-function joint ventures fall outside the Merger Regulation and may be subject to Articles 81 or 82, which prohibits abusive conduct by dominant companies, as well as national competition rules. Any decisions of the Commission are subject to judicial review by the Community courts.

#### **4.5.5 The US and EU Merger Regulations**

There is a sharp contrast in the pattern of merger regulation and the economic environment of the EU and the US. Rad & Beek (1999) noted that the EU member states are very heterogeneous. The differences in culture, legal and economic systems are substantially diverse than the US. But this also has some impacts on any merger transactions. It strengthens the diversifications caused by the loose integration in economies of member nations.

There is also the fear that economies of scale will be difficult to exploit in an EU cross merger. The difference in the legal operations of the domestic country implies that in an occasion of a merger, the merged bank will need to readjust to the demands of the local legislations. However the US offers a less stringent measure in the legal requirement of laying off staff in event of a merger. In the EU, the labor laws are tight and almost difficult to allow banks to shade off their staff strength as a costs saving measure. The protections under the EU regulations are thus stronger.

There is also the issue of limitations on the investment ventures businesses such as banks, can be allowed to explore. While the US seems restrictive, the EU is more liberal on the range of activities banks can undertake. For examples, banks are not allowed to undertake commercial and investment banking. But the EU regulations allows banks to undertake either or more such as insurance. This inadvertently gives EU banks a measure of economies of scale and scope in comparison with the US.

#### **4.6 Bank M&A & the Current Economic Crisis**

The current global economic crunch has adversely affected the trend of mergers and acquisitions particularly in the European market. The economic impasse has hit very hard on the bank sector leading to over 16 large failed, unsuccessful and cancelled mergers and acquisitions in the sector (Reuters, 2009). In general terms, the crunch has cramped the private equity model as there have been smaller and fewer deals. Young (2008) observes that owing to the economic crunch, the number of the M&A deals reduced by half in 2008 and the biggest value of M&A in the chemical industry for instance, being valued at maximum of one

hundred and fifty (€150) million euros. Banks want much more security before giving credits or loans. This has slowed down the ability of the banks to lend.

However, the effect of the credit crunch and the global economic meltdown has not been so badly felt in all European countries. The German banking system has shown remarkable resilience in the face of the global financial crisis. Dammers (2008) observes that despite the collapse of the IKB Industriebank and SachsenLB mergers which was among the earliest signals of the severity of the credit crunch, the Germany banking system has remained quite steady and resilient.

But despite its steadfastness, the German banking industry has been faced with its share of the financial storm leading to the government to introduce broad measures such as bailouts involving liquidity debt guarantees and recapitalisation of the banks in addition to the introduction of the Financial Markets Stabilisation Funds to streamline successful takeovers. Consolidation has been argued as the panacea to the melt down in the banking sector. Some German banks are also mapping out strategic models to neutralise the financial crisis such as geographical diversification into eastern and central European countries, scaling down public sector lending and increasing commercial banking for small businesses by a higher percentage.

Interestingly, at the start of the credit crunch, some financial analysts had envisaged the impending credit squeeze in the global economy which would invariably affect bank acquisitions. Shearer (2006) outlined that the impending credit crunch facing dealmakers in the M&A markets in 2006 would have dire consequences for the deals. Tightening of the credit cycle, reliance on the traditional funding sources such as the leveraged loans were among the strategic options for the banks.

The increase in the bank interests by most banks in 2006 was a move to tighten lending and thus signaling a severe financial crisis. Flexibility in the M&A structures such that borrowers could have sufficient capital to withstand the liquidity reduction was the strategic way to deal with the credit crunch. The result has been the enormous pressure created on both the domestic, cross border and opportunistic acquisition deals in the EU banking sector ( Carruthers, 2007).

The impact of the global economic crisis on banks M&A has a mixed effect in the US. It has in fact generated a process of creating thriving banks out of many troubled ones; and thus opened the avenue for big bank mergers. Hage (1991) had alerted that mergers could create a handful of megabanks with an advantaged position of exploiting cross border acquisitions and thus rejuvenating the bank sector. However, consolidations alone is not a panacea to the credit crisis. Both the US and EU have witnessed in recent past bank consolidations leading to poor performance and returns. However, costs cutting through mergers can be very helpful. Banks with low overheads earn higher profits and in turn attract more investors which increases the banks liquidity and loans to its customers. Two major issues in the banking sector are vital for the survival for the credit institution: the reforms in the banks and its credit risk management system as well as encouragement of survival of smaller banks who are known for their prudent lending.

#### **4.7 Conclusion**

The role of bank M&A in the EU economic community has been reviewed. The chapter also highlights different factors affecting domestic and cross border acquisitions. The domestic M&A are more common than cross border deals this is attributable to various factors such as the EU regulations and competitive advantage. The merit of any M&A is measured on the shareholder wealth created. Thus it is important especially for bank directors to ascertain that the aim of any acquisition meets the longterm objectives of the bank.

# Chapter Five

## Research Methodology

### 5.0 Introduction

Research method involves a systematic and orderly approach applied in the collection and analysis of data used in a study so that useful information and meaning can be derived from the data (Jankowicz, 2000). The object of this chapter is to explain the statistical methods and procedure used in carrying out the empirical analysis, as well the rationale for using such procedures.

In fact, the study combines the event study approach and regression methods to examine the impact of the cumulative abnormal returns on dividend policy. Since the study examines these two very important layers in finance: shareholders returns on mergers and acquisitions and dividend policy, the research design adopts a combination of regression and event study methods.

The study is a quantitative research. The design of the M&A aspect of the study follows the pattern of studies, such as Pillof (1999), Campa & Hernando (2006), Chong et al (2006) and DeAngelo et al (2006), in the use of an event study methodology with daily share price data and employing the market model. The dividend policy design used some vital variables employed by Rozeff (1980) and Olson & Pagano (2005), but in a more constructive format tailored to amplify the M&A effect. Unlike previous studies, however, this study uses the standardized abnormal returns in evaluating the shareholders wealth of the cross border and domestic bank acquirers. The chapter discusses the research design, data sources, sample, and the data analyses techniques used.

## **5.1 Research Design**

### **5.1.1. The Event Study**

The research methodology using the event window is very popular in the field of finance, insurance and accounting. The technique is particularly used in assessing the effect of market wide events such as regulations or government legislation, changes arising from M&A, sudden events in the economy such as recession or shocks in the industry. The methodology varies depending on the motives of the research.

Rad and Beek (1999) emphasise that the event study method has the advantage of separating two types of returns: the normal and abnormal returns as a direct consequence of an event; in this case a merger or acquisition. The technique has been adjoined as the most reliable in identifying the stock price reaction to specific events such as M&A, and the impact thereon on the firm. Henderson (1989) highlights among others; three major strengths of event studies. These include market efficiency, information usefulness and metric explanation studies.

The market efficiency event studies undertake the investigation of how fast and accurate the market reacts to new information and development. While the information usefulness considers the degree to which the returns of the bank is being affected by some piece of information. The method is also valuable in assessing the professional conducts of managers and accounting staff and the impact on the reputation of the business (Cross, Davidson & Thornton, 1988).

There are some identifiable problems associated with the event study method of research. The complexity and the intrigues of the approach create a strong demand for the justification of the method. Sometimes, the outcome of events can be so obvious that it paralyses the efficacy of conducting an event study. Another challenge of this method is the determination of the event date. This is not the date of the news but the date in which the market's reaction is established. The event window is the date of the occurrence of the event plus or minus the period it took the market to react to the news (Henderson, 1989).

In any case, the tenet of the method is mainly for empirical business research where economist and statisticians apply statistical theory to define the best approach to undertake a



test, often using simulations. The process involves the following steps as outlined by Henderson (1989) which were applied in the study:

- a) Clear definition of the date when the market would have received the news of the event,
- b) Characterization of the returns of the banks prior to the information of the event,
- c) Estimation of the difference between the observed returns and the situation without the event or news; this becomes the abnormal returns,
- d) Aggregation of the abnormal returns across the banks and within the time frame under consideration, and
- e) Statistical test to determine the extent of significance of the abnormal returns and the time span.

The above steps also incorporate some of the 8 listed procedures outlined by Seiler (2004) which include:

- 1) Identification of the event date; this is the date on which the event occurred.
- 2) Definition of the event window
- 3) Definition of the estimation period
- 4) Selection of the sample of firms
- 5) Calculation of the 'normal' (non-event) returns. These are the returns that would have occurred in the absence of the event.
- 6) Calculation of the abnormal returns. These are the actual returns that occurred because of the event minus the return that would have occurred without the event; the non-event returns.
- 7) Calculation of the cumulative abnormal returns (CARs), which is the aggregate of all the abnormal returns (ARs).
- 8) Finally, the determination of the statistical significance of the ARs and the CARs.

Each of the above procedures is briefly explained in relation to their applications in this study.

### 5.1.2 The Identification of the Event Date

The event date is the time the market first heard the news of the mergers and acquisitions. The news of the M&A may have infiltrated the market either formally or informally, such as through rumours from insiders, the media or a formal board announcements. The Reuters (2008) database describes such event dates as the announcement dates of the M&A deal.

The study identifies the announcement day as the date in which the M&A information reached the market. The dates were obtained from the Reuters database which contains such data while information regarding the dividend payouts was obtained from the Bankscope database<sup>26</sup>. The market model was used in estimating an Ordinary Least Square (OLS) model for the periods -130 days to -29 days before applying the coefficients estimates to compute the abnormal daily returns for the test period (event day -30 to +30).

In each of the events, daily frequency or stock data relating to the sample banks were obtained from the *Yahoo* finance. The use of daily stock data is preferred over weekly or monthly data. Weekly data have the characteristic of infrequency and inability to pinpoint the exact event time which invariably has the potential of weakening the result of the empirical test (Seiler, 2004).

### 5.1.3 Definition of the Event Window

The event window is the length of period preceding the date in which the event (M&A) occurred. This is usually stated in trading days<sup>27</sup>. While there is no consensus window or period for any study, a more specific period contributes to the strength and significance of the study (Seiler, 2004 & Well, 2006).

This study used an event window of  $\pm 30$  days with the event date as day zero. Some studies such as Becher (2000) have used event windows as short as  $\pm 5$  days. However, it is important that the event window should cover the entire effect of the M&A.

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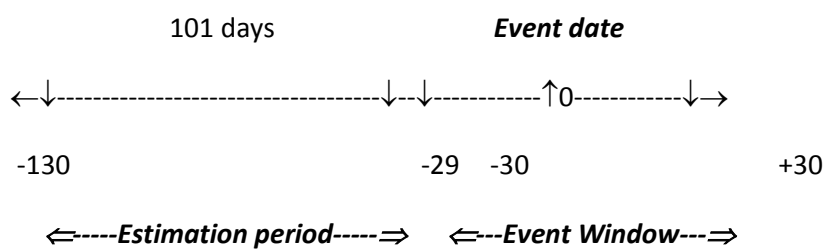
<sup>26</sup> Different databases are available which have information on the banks and market returns but on various parameters. For instance, the Reuters database holds weekly returns while the yahoo finance has daily returns on selected markets or stock indices. Other databases include zephyr, bankalmanac etc.

<sup>27</sup> The trading days are the official trading days of the stock market. This usually runs from Monday to Friday and excludes public holidays and weekends.

### 5.1.4 Estimation Period

The estimation period is used in measuring the expected or normal returns for each bank during the window. There are four available periods for making the estimates; these are at the time of the event window, after the event, around the time of the event window and before the occurrence of the event. In most M&A studies, the estimation period is used with a disclaimer clause to assure the end users of the research that the period was sufficient enough to avoid bias in the results (Henderson, 1989).

This study like most other M&A studies<sup>28</sup> used the period prior to the M&A to establish the estimation period. Thus, an estimation period of 101 days (-130 through -29) was used in determining the abnormal returns for the study. This is illustrated in Fig. 5.1 below. In order to avoid contamination of the event, care was taken not to allow any overlap of/between the estimation period and the event dates. Contamination is the overlap of the estimation period and the event window. The idea of ensuring that the estimation period and the event dates do not overlap is to ensure that the estimate of the abnormal returns is unbiased; and to show how the stock would behave in absence of the M&A event (Seiler, 2004).



**Figure 5.1** Graphical representation of the study time frame

<sup>28</sup> The most popular estimation technique used in M&A studies use the period before the event (Chong et al, 2006; Cybo-Ottone & Murgia, 2000; Becher, 2000 and Houston & Ryngaert, 2004). It is rare though to have estimation periods after the event except where the event was so dramatic that it changed the fundamental relationship between the behavior of the stock and the market.

### **5.1.5 The selection of the acquirer and target banks samples.**

Certain criteria were used in obtaining the sample banks in the study. In order to be included in the sample, both acquirer and the target banks had to meet the following criteria:

- i.) The M&A deal must have occurred between January 1, 1997 and December 31, 2007.
- ii.) The acquirer bank must have acquired a 10% stake<sup>29</sup> or more in the target bank.
- iii.) Both the cross border and domestic acquirers banks are commercial banks as classified by the Reuters database.
- iv.) The acquirer banks are member countries of the European Union and have available financial statements for the periods 1997 to 2007.
- v.) All the banks in the sample are listed and publicly traded in the financial market
- vi.) Only deals that are classified as completed are included in the list. That means that pending and cancelled deals are excluded from the list.
- vii.) The M&A value must exceed €500 million<sup>30</sup>.
- viii.) Banks in non EU countries which are acquired are removed in the list of target banks.

The initial total sample of the bidders was 108 banks in the EU. The sample was further subjected to checks as to determine whether the banks met the set out criteria and 62 banks made it to the final sample list. Table 5.1 shows the samples from the EU member countries.

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<sup>29</sup> The 10% is considered as the popular minimum acquisition stake in most finance studies involving M&A and was applied in the study. See also La Porta, et al (1999), Faccio, et al (2001) and Maury & Pajuste (2002).

<sup>30</sup> This €500 million cut off is based on the value of the mega M&A stored by the Reuters database.

**Table 5.1** List of commercial to commercial banks M&A deals in EU countries 1997 -2007

Year	Country of Acquirer	Type of Acquisition		Total per year	
		Cross border	Domestic		
1997	Italy	0	2	2	
1998	Spain	1	0		
	France	1	0	2	
1999	Spain	1	1		
	Italy	0	1		
	Germany	1	0		
	Austria	1	0	5	
2000	Spain	2	0		
	Slovenia	0	1		
	Italy	1	0		
	Germany	1	0		
	United Kingdom	0	1	6	
2001	France	3	0		
	Spain	1	1		
	Italy	2	0		
	United Kingdom	1	0	8	
2002	Greece	0	1		
	Belgium	1	0		
	Germany	1	0		
	Italy	1	1	5	
2003	Germany	1	0		
	France	1	1		

	Greece	0	1		
	Italy	0	1	5	
2004	France	1	0		
	Spain	0	1		
	United Kingdom	2	0	4	
2005	United Kingdom	1	0		
	Austria	1	0		
	Sweden	1	0		
	Italy	2	1		
	Germany	0	1	6	
2006	Germany	0	2		
	Italy	4	1		
	France	2	0		
	United Kingdom	1	0		
	Spain	2	0		
	Cyprus	1	0		
	Portugal	1	0	14	
2007	Italy	1	2		
	Greece	1	0		
	Belgium	0	1	5	
<b>TOTALS</b>		<b>42</b>	<b>20</b>	<b>62</b>	

### 5.1.6 Calculation of the normal, abnormal and cumulative abnormal returns

The normal returns are the non-event returns that would have occurred in the absence of the event. The abnormal returns are the actual returns that occurred because of the event less the returns that would have occurred without the event. The cumulative abnormal returns (CARs) are the aggregate of all the abnormal returns (ARs).

The abnormal return (AR) is estimated using the market model as:

$$AR_{jt} = R_{jt} - \alpha_j - \beta_j * R_{mt} \text{-----} 1$$

Where

$AR_{jt}$  = Abnormal return on share  $j$  for each day  $t$  in the event window

$R_{jt}$  = return on share  $j$  for each day  $t$  in the event window

$\alpha_j$  = intercept term for share  $j$  measured over the estimation period

$\beta_j$  = slope term for stock  $j$  measured over the estimation period

$R_{mt}$  = return on the market  $m$  for each day  $t$  in the event window

The AR was standardised to cater for the different degree of event impact. This is done by weighing the abnormal returns by the standard deviation. The purpose of the standardization is to ensure that each abnormal return has the same variance (Serra, 2002). Thus, by dividing each firm's abnormal residual by the standard deviation over the estimation period, each residual has an estimated variance of 1 and thus defined by the equation:

$$SAR_{jt} = \frac{AR_{jt}}{\sqrt{S^2 AR_{jt}}} \text{-----} 2$$

Where  $SAR_{jt}$  = SAR for firm  $j$  at time  $t$ .

$AR_{jt}$  = AR for firm  $j$  at time  $t$ .

$$\sqrt{S^2 AR_{jt}} = S^2 AR_{jt}$$

Square root of the variance of the AR for firm  $j$  at the time  $t$  equals the standard deviation of the AR for the firm  $j$  at the time  $t$ .

And the variance is given by the equation:

$$S^2 AR_{jt} = \sum_{t=-100}^{-31} \left[ \frac{(AR_{jt(est. period)} - \bar{AR}_{j(est. period)})^2}{D_{j-2}} \right] * \left[ 1 + \frac{1}{D_j} + \frac{(R_{mt(event window)} - \bar{R}_m(est. period))^2}{\sum_{t=-100}^{-31} (R_{mt(est. period)} - \bar{R}_m(est. period))^2} \right]$$

Where:

$S^2_{AR_{jt}}$  = variance of the AR for firm  $j$  at time  $t$ .

$\frac{AR_{jt(est. period)}}{AR_{j(est. period)}}$  = AR for firm  $j$  at time  $t$  over the estimation period

$D_j$  = number of observed trading day returns for firm  $j$  over the estimation period

$R_{mt(event window)}$  = return on the market at time  $t$  over the event window

$\bar{R}_m(est. period)$  = mean return on the market at time  $t$  over the estimation period

$R_{mt(est. period)}$  = return on the market at time  $t$  over the estimation period

To determine the significance of the standardized abnormal returns for each day in the event window, the Z-statistics was used which is expressed as:



$$z\text{-}Statistics_t = \frac{TSAR_t}{\sqrt{\frac{\sum_{j=1}^N D_j - 2}{D_j - 4}}} \text{-----} 3$$

where;

$Statistics_t$  = Z- statistics for the each day in the event window

$TSAR_t$  = TSAR for each day in the event window

$D_j$  = number of observed trading day returns for firm  $j$  over the estimation period

$N$  = number of banks in the sample

The cumulative abnormal returns (CARs) of the acquirers were obtained by first aggregating all the abnormal returns in the sample. This follows the suggestion of Campbell et al (1997) and MacKinlay (1997) that the CARs be aggregated in order to draw the total inferences for the event under consideration, which could be carried out through time and series. The cumulative abnormal returns (CARs) were calculated over event period to ascertain the effect on the period surrounding the announcement of the mergers. For the purpose of the panel set, the CARs are aggregated across time and bank samples.

## 5.2 Methods of Measuring Returns

Both the abnormal and normal returns follow a peculiar process in their measurements. The methods of measuring both returns can be grouped under two broad categories: the economic and statistical models. While the former involves the application of statistical methods and assumptions, the latter rely on the reactions of the investors and do not totally lean on statistical proofs (Campbell et al., 1997). In reality though, it is very typical to combine both methods in undertaking any empirical work.

A number of models have been developed in the measurement of the firms' performance. These include but not limited to the following: constant mean return model, the market model, factor model, the market adjusted model etc.

The constant-mean-return model is the simplest model. This is perhaps because of its ability to give results that are similar to other sophisticated applicable models (Brown & Warner,

1985). The lack of the sensitivity to the choice of the model lies on the fact that the variance of the abnormal returns is frequently not effected by the choice of a more sophisticated model. The model can be applied when using daily data to measure nominal returns and when used in measuring monthly data. It can also be used in estimating both excess and normal returns. The model is expressed as:

$$R_{it} = \mu_i + \xi_{it} \dots\dots\dots 4$$

$$E(\xi_{it}) = 0 \quad \text{and variance}(\xi_{it}) = \sigma^2_{\xi i}$$

Where:

$R_{it}$  = the period t return on security i

$\mu_i$  = the mean return for the assets i and  $\xi_{it}$  = the time period t disturbance term for security i with an expectation of zero and variance  $\sigma^2_{\xi i}$

The market model is a statistical model which follows the return of any given security to the return of the market portfolio. It assumes a linear expression based on the joint normality of the assets returns which represent a potential improvement over the constant-mean-return model. The method eliminates the portion of the return that is related to variation in the market model and the variance of the abnormal return. This can thus increase the chances of predicting the effect of the events. The merit of this model lies on the market model regression because the higher the regression, the greater the variance reduction of the abnormal returns (see section 5.1.6. for the equation of the model).

The factor model stems from the attempt to reduce the variance of the abnormal returns by explaining more of the variation in the normal returns. The market model is a typical example of the factor model. A multifactor model can be formed by an addition of any factor such as the industry indexes. The model calculates the abnormal returns by taking the difference between the actual return and the portfolio of the firms of similar size. However, as Campbell et al (1997) noted, the use of the multifactor model in event study is naïve. This is because the marginal explanatory power of the additional factors beyond the market factor is small; hence there is little reduction in the variance of the abnormal return.

The market adjusted model is a restricted market model which has the pre-specified coefficients. This implies that estimation periods are not required to obtain parameter estimates. The model is best used to study the under pricing of initial public offer. The model is most applicable when there is a restriction imposed by limited data availability.

Following Chong et al (2006), this study adopts the market model in measuring the abnormal returns. A univariate comparison of the cross border and domestic acquirers is undertaken in order to give an insight on the characteristics and performances of each bank before the merger. Then, the model is employed in determining the cumulative abnormal returns which are then used accordingly with other variables in regression, depending on the hypothesis tested.

### **5.3 Sources of Data & Sample Period**

The starting point in the data sourcing and collection was by comparing the available M&A databases. The initial lists of M&A deals in the EU were drawn from Thomson Financial Banker One, Reuters, Bankers Almanac, and Zephyr.

While each of the databases is unique in the type and range of data provided, the nature of the study required combination of two or more data sources<sup>31</sup> at least for the comparison and because of the nature of the variables. The interest of this study is aligned to bank mergers returns and dividend policy as such; relevant data relating to shareholders' value, profitability, and dividend policy of the cross border and domestic acquirers were considered at the same time.

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<sup>31</sup> Some studies implore different databases to fill in the gap that might be created by omission. Pillof (1999) used data from IDD M&A Database, Wall Street Journal index, M&A Sourcebook and the Moody's Banks and Finance Manual in constructing detailed merger histories of the banks. Gulger (2003) combined data from two sources; the CDAX and the Reuters to explore the dividend payout policy among German banks while Valkanov and Kleimeier (2006) used data from five sources: Zephyr, DataStream, Edgar, Bankscope and annual reports in studying cross border M&A. The danger though is that since the databases are provided by different sources, their approximations and often basis of calculation may create huge disparity in the data. Caution was therefore exercised in order to ensure that the difference in the databases did not adversely affect the dataset.

The relevant M&A list of all commercial banks in the EU was obtained from the Reuters database from 1997 to 2007. The list comprises basically of commercial banks to commercial banks deals of domestics and cross border deals. The total number of M&A deals is 62, of which 42 are cross border and 20 are domestic deals within the EU member countries. Table 5.1 provides a summary of the list.

Since the study is focused on mega M&A deals, coupled with the limited availability of sample of deals involving only commercial to commercial banks, the criterion on the minimum value of the included deals was pegged at €500,000 million. The period of the deals covers from 1997 to 2007. Most of the sample deals were obtained from the Reuters database while other sources were used to check for consistency (see appendix for list of domestic and cross border acquirers). The database stores list of the EU commercial to commercial banks M&A deals, as well as others. In addition, commercial banks<sup>32</sup> are easily identified from other banking institutions such as mortgage and merchant banks.

Some of the financial data of the cross border and domestic acquirer banks were also obtained from the bankscope database which contains standard and audited balance sheets, cash flow statements and profit and loss data. These data were used in conjunction with those obtained in the Reuters and FAME (Financial Analysis Made Easy) databases. In addition, the daily return before and the after the merger announcement was obtained from the Yahoo finance.

In accordance with similar studies on mergers and acquisitions, this empirical study applies some profitability and accounting variables<sup>33</sup> such as net interest margin, return on equity,

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<sup>32</sup> In reality, the difference between commercial banks and other banking institutions seems blurred and obscure in some databases but this is not so in the Reuters financial database.

<sup>33</sup> Different studies on M&A as well as on dividend policy have applied range of variables most of which seek to measure profitability, efficiency and to shareholders wealth. Pillof (1999) used personnel cost, premises & fixed assets expenses, total noninterest expenses, capital to assets, loans to assets and deposits to assets in measuring the changes in performance of shareholders wealth following bank mergers. DeAngelo et al (2006), Olson & Pagano (2005) and Gugler (2003) used cash dividend, payout ratio (DPS/EPS), dividend yield (DPS/Mkt value/share), stock dividend, cashholding/TA; TE/TA, sales growth rate, assets growth rate, profit /sales ratio; dividend/earning ratio; dividend/cashflow, dividend/sales and number of employees in investigating dividend policy in the banks.

cost efficiency ratio, net loans to total assets expenses, equity to total assets, loans to assets, deposits to assets and total assets, as well as dummies to examine the pre and post merger performance of the banks. On the other hand, the dividend policy hypothesis is examined using two dependent variables (payout ratio and dividend yield)<sup>34</sup> and other independent variables such as insider shareholding, stock beta, liquidity, taxes, capital & financial structures, debt, equity ratio, EPS, ROE, PE, CARs and dummy variables.

#### **5.4 Data and Model**

The cross sectional regression model was used to test the profitability and dividend policy hypotheses. This follows the methods applied by previous studies. For instance, Olson & Pagano (2006) used the cross sectional model to regress the BHAR (Buy-Hold Abnormal Returns) over changes in equity, risk, growth and dividend variables in following an M&A; Delong & Deyoung (2007) applied same model in measuring the post-merger performance relative to the bank CAR on announcement of merger; Cybo-Ottone & Murgia (2000) used the cross sectional OLS regression of weighted CARs on set of target variables. Chong, Liu and Tan (2006) used the cross sectional regression model to test the impact of CARs on some profitability variables of forced mergers while Goddard et al (2004) compared the results of the cross sectional model with other models in measuring the EU bank profitability.

The data relating to M&A were built into 4 distinct categories which comprise pre merger and post merger data for the domestic acquirers and same for the foreign or cross border acquirers. The data set includes the financial ratios for both domestic and cross border banks which were extracted from the Reuters and Bankscope databases for the relevant years. Banks size, growth and investments ratios, debt and financial structures, risk, ownership, taxes, CTSAR and other such financial variables are used in the comparison of domestic and cross border acquirers' profitability.

Different sets of data are constructed for the purpose of testing the 3 hypotheses. The dataset for the dividend policy consist of data extracted from their financial statements and other financial databases and comprises of the 2 dependent variables: dividend payout and dividend

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<sup>34</sup> Chapters two and three contain detailed discussions on the two dependent variables (the dividend yield and dividend payout) used as proxy for dividend policy in the study.

yield. It also contains the CTSAR used as an independent variable in addition to other variables for both the cross border and domestic banks.

The results of the regressions are also presented in different models. In most cases, up to 6 models are constructed, each containing different independent variable(s) while controlling for other factors. The variables are introduced in the models in sequence (sequential regression) to determine the contributions each makes to the regression model and also controlling for any exogenous variables. For example, in the testing the profitability hypothesis, 4 models were constructed each containing the predictor variables. The coefficients, ANOVA and the result summary are all presented in the models. The dividend policy hypothesis is presented in 6 models, with each model painting a statistical picture of the regression results.

### **5.5 Data Analysis Techniques**

The research hypotheses and questions are analyzed using different statistics and econometric models. The wealth effect and geographical diversification hypothesis was analyzed using the total cumulative standardized abnormal returns (CTSAR). The process of obtaining the abnormal returns has been explained in section 5.1.6 and requires some extensive application of econometric models such as the market model. Both the *Z statistics* and the *p value* are used in evaluating the significance of the CTSAR obtained. However, the CTSAR pooled data was aggregated over time and bank samples to test the profitability and dividend policy hypotheses.

The analyses of the profitability hypothesis involved the use of descriptive and parametric statistics to evaluate the impact of specified independent variables on the financial performance of the cross border and domestic banks acquirers. The return on equity (ROE) which is used as a proxy for measuring profitability and is designed to reflect the returns on the shareholders investments. The independent variables include the net interest income (NII), equity to total assets (EQTASS), cost to-income ratio (CIR), net loans to total assets (LOANTAS), Leverage, loan loss provision to net interest revenue (RISK) and the total assets. The methodology applied follows similar studies such as Rhoades (1998), Vander

Vennet (1996), Pillof (1996), Diaz et al (2004), Olson & Pagano (2005) and Campa & Hernando (2006) in examining the balance sheet ratios.

The NII measures the changes in the ratio of the net interest income to the book assets while the net loan to total assets gives an indication of the proportion of the balance sheet consigned to the lending. The loan loss provisions to total loans and the loans provisions to net interest revenue are indicatives of how prepared the banks are in event of credit losses (Delong & Deyoung, 2007). Both variables measure the liquidity of the bank. The regression model follows similar studies in M&A. for instance, Cornett and Tehranian (1992) used ROE and capital to assets. Altunbas and Marques (2008) included loan to total assets (liquidity proxy), total assets, while Vander-Vennet (1996) adds loan loss provision to net interest revenue (credit risk proxy) among the profitability variables.

The profitability hypothesis was tested on unbalanced panel data using the specification below to evaluate the profitability model equation (See section 6.4 for the explanation of the equation variables):

$$\begin{aligned} \text{Profitability}_i = & \beta_0 + \beta_1 \text{NII}_i + \beta_2 \text{SIZE}_i + \beta_3 \text{EQTASS}_i + \beta_4 \text{CIR}_i + \beta_5 \text{LOANTAS}_i + \beta_6 \text{RISK}_i \\ & + \beta_7 \text{PROVTAS}_i + \beta_8 \text{CTSAR}_i + \beta_9 \text{Dummy}_i + e_i \end{aligned}$$

Where: *NII* is the net interest income, *SIZE* is the total assets, *EQTASS* is the equity to total assets ratio, *CIR* is the cost to income ratio, *LOANTAS* is the loan to total assets, which is a proxy for liquidity, *RISK* is the loss provision to net interest revenue, indicating the ratio of risky lending, *PROVTAS* is the Loan provisions to total assets; this represents the liquidity of the bank, *CTSAR* is the cumulative total standardised abnormal return, proxy for M&A, *Dummy* 0 for pre-merger and 1 for post-merger events + *e* is the error term.

The results are then presented in tables and analyzed using their ANOVA values. The standardized beta coefficients were used to estimate the contributions of each of the variables. The variables with higher standardized beta coefficients are adjoined to exert more influence and thus affect the models. The *p* values of the variables are set at 5% and 1% degrees of freedom to test their significance.

The sequence is repeated for both the domestic and cross border acquirers. The difference in the significance of results of both samples (cross border and domestic acquirers) and highlights the common differences in their respective performances following the M&A events. A regression combining both sets of data is obtained using the appropriate dummy variables distinguishing between domestic and cross-border M&A, as well as cash and non-cash acquisitions.

The univariate statistics and hierarchical regression were used to test the CTSAR and dividend policy hypothesis which follows similar pattern as with the profitability analyses. Two dependent variables; the dividend yield and payout are used as proxies for dividend policy and regressed against the CTSAR and other independent variables of the cross border and domestic acquirers. The predictor (independent) variables include the beta, liquidity, insider shareholdings, taxes, equity to total assets, total assets, debt to equity, earnings per share, return on equity, price earnings and the dummies variables<sup>35</sup>.

A further check on the results identified in the regression is undertaken to convincingly establish that the effects exhibited by the predictor variables on the dividend policy of the merged banks were not just by chance. Thus, the Granger Causality test was applied to rigorously examine that there is a temporal cause-and-effect relationship among the CTSAR and the dividend policy variables. The equation of the CTSAR and dividend policy hypothesis is as stated<sup>36</sup>:

$$DivPolicy = \beta_0 - \beta_1 Beta_i + \beta_2 Liquidity_i - \beta_3 Insider_i + \beta_4 Tax_i - \beta_5 Cap\&FnSt_i + \beta_6 Size_i + \beta_7 Profit_i - \beta_8 Growth_i + \beta_9 CARs_i + \xi_i$$

where: *Beta* is the estimated beta coefficient of the banks (with negative sign to indicate its expected effect), *Liquidity* is the availability of physical cash in the bank measured as the

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<sup>35</sup> Due to collinearity problem, only 2 of the dummy variables, the DumGeoCARs, which measures the domestic acquirer's CTSAR and the PreDumTass, which measures the premerger total assets of the domestic acquirers were finally used in the analyses. The DumGeoCARs takes the value of 1 for cross border acquirers and 0 for the domestic acquirers. The issue of collinearity has been explained in section 5.7 (test of multicollinearity).

<sup>36</sup> See section 7.2 for the explanation of the variables used in the dividend policy regression model. The mathematical sign(s) before the variable indicates the expected outcome of the result of the variable.



dividend/net cash operating, *Insider* is the percentage of insider shareholdings in the acquiring banks (with expected effect being negative), *Tax* is the total tax liabilities of the banks as well as the relevant tax ratios, *Cap&FnSt* the bank's capital and finance structures measured by the Debt/Equity ratio (capital structure) while the finance structure is debt + equity/total assets, *Size* the natural log of the total assets is used as the proxy for size of the bank, *Profit* is the profitability of the bank as measured by the ROE and EPS, *Growth* is the price earnings (PE),(with negative expected effect on dividend policy), *CTSAR* is the Cumulative total standardized abnormal returns (CTSAR) is a proxy for M&A and  $\xi$  is the error term.

The inclusion of these variables in the dividend model follows the pattern of other studies. For instance, Gugler (2003) and Casey & Dickens (2000) models include percentage of institutional ownership (insider) as well as bank beta and tax variables. Pattenden and Twite (2008) used profitability, size, taxes, and credit risk in their dividend policy models. Other studies that have applied similar variables include McManus et al (2004) and Anil and Kapoor (2008) respectively.

### **5.7 Test of multicollinearity**

The regression variables were subjected to a multicollinearity test in order to ensure that the results do not suffer from the mishaps of multicollinearity. The problem usually occurs among explanatory variables that have linear relationship. Multicollinearity represents the extent to which the effect of any variable can be explained by the other variables in the analysis. It diminishes the ability to determine the right effect of the variable on the model (Hair et al, 2005). In practice, the symptoms of multicollinearity include false signs of coefficients, smaller than expected *t-values* and larger than expected insignificant *p values* (Albright, Winston & Zappe, 1999).

The preliminary analyses include the collinearity diagnostics test; the residual statistics and The Cook's Distance in the Residual table were cross checked to ensure that the maximum value is not more than one (1). Tabachnick & Fidell (2001) suggest that values more than one (1) may constitute some problems in the analysis.

Since the coefficient represents the impact of the independent variables on the model in addition to the effects of the other variables in the regression equation, it was imperative to ensure that there is an established correlation among them. Tabachnick & Fidell (2001) advise that a correlation coefficient above 0.7 or below 0.3 may be worrisome. Therefore, variables that show signs of ‘improper correlations’ were eliminated from the list.

Some data were deleted from the panel either because they are outliers or were particularly spurious<sup>37</sup>.

The scatter plot was used in detecting the outliers while the residual and collinearity statistics were employed to examine any further multicollinearity in the result. The Coefficient Tables 6.6 and 6.15 (Chapter 6) contain the collinearity statistics (see the top right section of the tables) to help check that the results are free of any multicollinearity. Multicollinearity problems are usually detected by the **VIF** (variance inflation factor) and the Tolerance values. The **Tolerance** value measures the extent of the variability of the specified independent variables which are not measured by the rest of the independent variables and calculated as  $1 - R^2$ . Any value less than **0.10** indicates high correlation with other variables and indicating a multicollinearity issue. The VIF is the inverse of the Tolerance value. Pallant (2006) advised that the VIF value should be below 10.00 for a reliable result. All the variables included in the analyses meet up with the criteria. .

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<sup>37</sup> The data were collected and compiled from different sources. The major sources include the websites of the banks, Bankscope, Reuters, Thompson Financial and financial analysis made easy (FAME). In some cases, the differences in the values of data are so wide that the data is treated with suspicion or totally eliminated as an outlier in the analyses. Some data were removed due to the multicollinearity problem. One of the dependent variables, dividend payout was eliminated from the panel due to the issue of collinearity with the predictor variables.

# Chapter Six

## Data Analyses and Discussion of Results

### 6.0 Introduction

This chapter presents the empirical analysis undertaken in the study and discusses the results obtained. Many studies on mergers and acquisitions have over the decades preoccupied the financial literature, but the approaches to the studies have often been methodological and focused on identifying gains to shareholder wealth. This study has adopted the approach of pairing the subject of M&A not only to shareholder wealth and the profitability of acquirers but also to the controversial issue of dividend policy.

Different studies have diagnosed a multitude of reasons for mergers and acquisitions. Financial institutions, particularly banks, are very central to the economy of countries and therefore decision to undertake a merger is usually considered with utmost seriousness. Chapter 4 discusses some reasons for M&A and problems and challenges of merged entities. For the empirical work, this study has focused on issues related to domestic mergers as well as foreign or cross border mergers. To this effect, three testable hypotheses, discussed in Chapter 1, are tested and analysed in this and the next chapter. The hypotheses and the expected outcomes are listed in Table 6.1 below.

**Table 6.1 Research Hypotheses, Proxies and their Expected Outcomes.**

<u>Hypothesis</u>	<u>Proxies</u>	<u>Expected outcome</u>
<i>H<sub>1</sub> The wealth effect &amp; geographical diversifications hypothesis</i>	<b>CTSAR:</b> Cumulative total standardised abnormal returns of both domestic & cross border merged banks	<b>Positive</b> (cross border) <b>Negative</b> (domestic)
<i>H<sub>2</sub> The profitability hypothesis of cross border and domestic acquirers.</i>	<b>ROE:</b> Return on equity	<b>Positive</b> (cross border) <b>Negative</b> (domestic)
<i>H<sub>3</sub> Dividend policy hypothesis</i>	<b>- Dividend Yield &amp; Dividend Payout</b>	<b>Positive</b> (both)

## 6.1 The Wealth Effect and Geographical diversification Hypothesis

This section tests the wealth effect and geographical diversification hypothesis using the standardized abnormal returns of the cross border and domestic acquirers. It also discusses the result obtained from the market model of the event study. The event study method was described in Chapter 5 of the research methodology.

The AR was standardised to cater for the different degree of event impact. This is done by weighting each abnormal return by their standard deviation. The purpose of the standardization is to ensure that each abnormal return has the same variance (Serra, 2002). Thus, by dividing each firm's abnormal residual by the standard deviation over the estimation period, each residual will have an estimated variance of 1 and thus defined by the equation:

$$SAR_{jt} = \frac{AR_{jt}}{\sqrt{S^2 AR_{jt}}} \dots\dots\dots 1$$

Where  $SAR_{jt}$  = SAR for firm  $j$  at time  $t$ .

$$AR_{jt} = \text{AR for firm } j \text{ at time } t.$$

$$\sqrt{S^2 AR_{jt}} = S^2 AR_{jt}$$

Square root of the variance of the AR for firm  $j$  at time  $t$  = the standard deviation of the AR for the firm  $j$  at time  $t$ .

**6.1.1.  $H_1$ :** *The wealth effect and geographical diversification hypothesis: In contrast to domestic acquisition, cross border acquisitions will not create more value. Where diversification and possible reduction in financial distress is achievable, foreign acquisitions are not expected to outperform domestic acquirers.*

The above hypothesis was tested using the results of the cumulative total standardised abnormal returns (CTSAR) of both the cross border and domestic bank M&A, as shown in Table 6.2. The shareholders value, proxied by CTSAR of the cross border (international) acquirers is compared with the domestic acquirers.

The results obtained provide empirical insight on the pattern of the returns. The cross border acquirers show significant negative CTSAR, while the domestic acquirers have insignificant CTSAR. Using 61 days window (30 days before and after plus the event day), it can be established that many of the significant returns of the cross border occurred after the announcement of the M&A. Only few significant returns occurred before the mergers announcement date. The domestic banks show no significant returns throughout the event window.

Out of the 21 significant results, 5 occurred prior to the mergers while 16 occurred after the merger event. Some reasons can be adduced as to why there are more significant abnormal returns of the cross border banks after the announcement date. The public confidence may have been affected which may trigger upward shock in the share price of the banks. Since the cross border bank samples are made up of large international banks, it is apparent that their targets would be similar banks with substantial market share. The news of the M&A would either build or decrease the confidence in the public. Table 6.2 shows the significant results of the cross border and domestic acquirers.

**Table 6.2 Result of the Cumulative Total Standardised Abnormal Returns of Cross border & Domestic M&A**

Event days	Cum TSAR+	Z-stat	P-Value		Event days	Cum TSAR	Z-Stat	P-Value
-30	-12.25 (-0.74)#	-2.86 (-0.16)	0.004* (-0.87)		18	-34.14 (-10.35)	-2.80 (-0.50)	0.005* (0.61)
-26	20.78 (1.87)	2.17 (0.38)	0.03* (0.71)		21	-27.37 (-5.86)	-2.18 (-0.32)	0.03* (0.75)
-25	29.02 (5.14)	2.76 (0.91)	0.006* (0.36)		22	-33.82 (-7.39)	-2.37 (-0.38)	0.018* (0.71)
-12	-38.19 (-6.01)	-3.11 (-0.49)	0.002* (0.63)		23	-25.37 (-8.85)	-2.07 (-0.49)	0.038* (0.62)
-11	-25.38 (-6.3)	-2.89 (0.33)	0.004* (0.74)		25	-28.09 (-9.101)	-2.43 (-0.38)	0.015* (0.70)
10	-28.03 (-4.63)	-2.27 (-0.33)	0.023* (0.74)		26	-26.61 (-11.63)	-2.68 (-0.52)	0.008* (0.60)
11	-32.03 (-5.57)	-2.23 (-0.3)	0.026* (0.77)		27	-30.57 (-14.62)	-2.47 (-0.58)	0.014* (0.56)
12	-34.81 (-8.5)	-2.66 (-0.45)	0.008* (0.65)		28	-39.90 (-16.86)	-3.03 (-0.69)	0.002* (0.49)
13	-38.6 (-12.9)	-2.83 (-0.68)	0.004* (0.5)		29	-38.41 (-18.33)	-2.96 (-0.75)	0.003* (0.45)
14	-27.3 (11.43)	-2.51 (-0.59)	0.012* (0.55)		30	-25.23 (-21.44)	-2.25 (-0.98)	0.024* (0.33)
15	-28.2 (11.93)	-2.79 (-0.66)	0.005* (0.51)					
16	-24.7 (11.61)	-2.88 (-0.66)	0.003* (0.51)					
17	-41.5 (-8.6)	-3.42 (-0.47)	0.006* (0.64)					

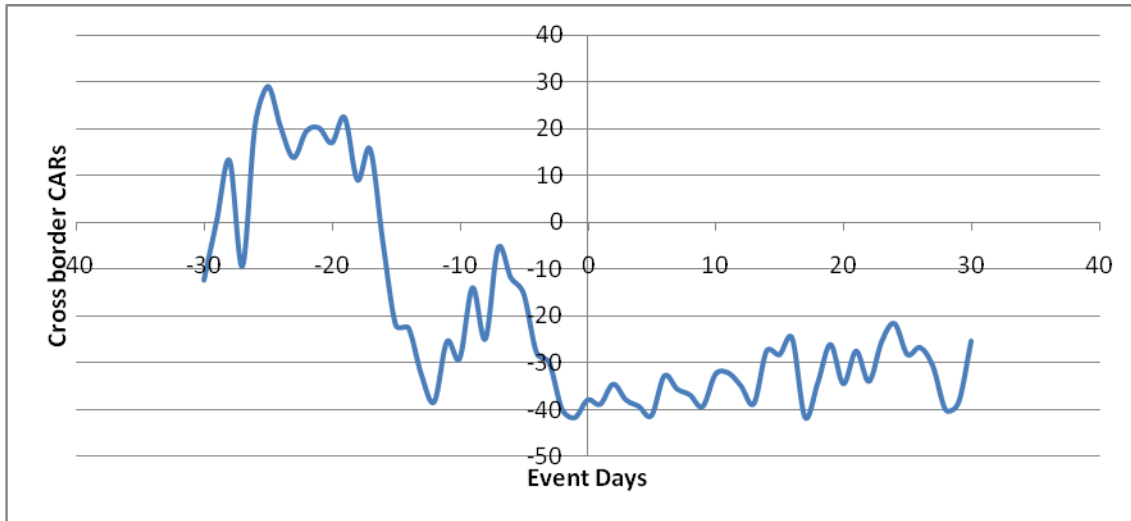
\*Significant at 0.05. Only significant returns are shown in the table.

#Figures in parentheses are for domestic M&A

+CTSAR (cumulative total standardized abnormal returns).

The graphs of the abnormal returns are represented in Figures 6.1 and 6.2. Note the rise and fall in the slope of the curves of the cumulative total standard abnormal returns after the event date. Figure 6.1 illustrates the curve of the cross border acquirers. The graph slopes down deep into negative CTSAR to about -41.5%, just after the mergers but with an initial rise after the 10<sup>th</sup> day before falling back. But prior to the M&A, the CTSAR was 29.02% which occurred on the 25<sup>th</sup> day before the merger news infiltrated the market. The abnormal returns were at peak just before the announcement date when the information filtered into the market. But fell slowly before day zero.

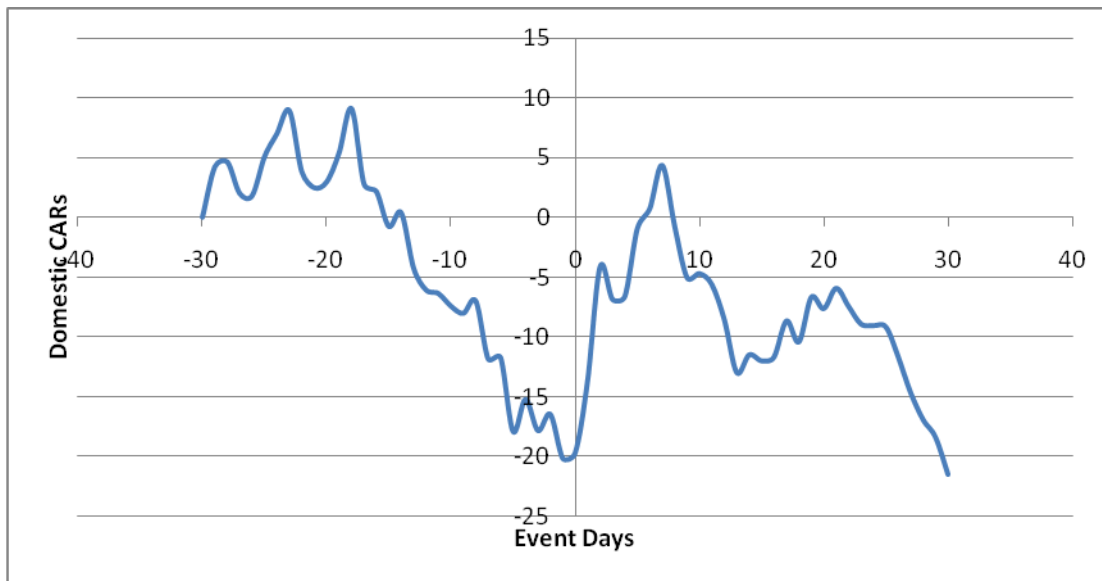
**Figure 6.1 Graph of the Cross border Cumulative Total Standardized Abnormal Returns**



The graph depicts the nature of the CTSAR of the cross border acquirers. There are more significant results as shown in the Table 6.2, most of them are negative abnormal returns. The news of the mergers triggered an initial increase but with a subsequent fall in the cumulative total standardized abnormal returns before the event day. The CTSAR of the cross border continues to fall even after the mergers.

Figure 6.2 gives a similar illustration of the shape of the graph of the domestic mergers. However, the graph of the domestic CTSAR shows a more sustained positive growth. This is paradoxical as the growth shown in the graphs is not significant. Note also that the news of the merger triggered an initial growth in the curve of the CTSAR before its lowest fall on the event day to up to 20%. The fall was reversed by a steady growth after the event day before eventually stepping downwards.

**Figure 6.2 The Graph of the Domestic Cumulative Total Standardized Abnormal Returns**



The graphs do not reflect the significance of the results but shows the growth trend in the abnormal returns of the bank domestic acquirers. It shows that the slopes of the domestic acquirers move faster above zero (positive) than the cross border acquirers. Though, the latter has more negative significant results than the former.

Domestic acquirers have been adjudged to possess more knowledge of the local market than foreign acquirers. This may explain the jump in the CTSAR before the mergers announcement news infiltrated the market prior to the eventual fall. Das & Sengupta (2001) averred to asymmetric information as an underlining variable for the disparity in the growth of the abnormal returns of the domestic and foreign acquirers. The domestic banks are likely to know more about the preferences of domestic consumers than would the cross border acquirers. Their presence in the domestic market in related lines of activity often results in greater experience regarding household income and expenditure patterns, and household preferences for new products and brands. All of this adds up to private information in the possession of the domestic banks and their advantageous position in the market during the



merger period. Some studies have asserted that the growth in abnormal returns is hugely influenced by the method of payment and the influence of tax in the M&A deal<sup>38</sup>.

The result obtained from the event study in relationship to the wealth effect and geographical diversifications hypothesis confirms that although the cross border acquirers have more negative significant CTSAR, on aggregate basis, the domestic acquirers bring relatively better returns to their shareholders. Some of the returns of the cross border acquirers are in high negative while those of the domestic are in relatively low negative CTSAR.

**Table 6.3 Cumulative Total Abnormal Returns (CTSAR) in Quartiles**

The table shows the CTSAR in quartiles of the cross border and domestic acquirers. The 1<sup>st</sup> and 2<sup>nd</sup> quartiles are in the pre merger periods while the 3<sup>rd</sup> and 4<sup>th</sup> quartiles are in the post merger periods. The quartiles are split into 60days of the event window.

	1 <sup>st</sup> Quartile (-30+0) days		2 <sup>nd</sup> Quartile (-15+0) days		3 <sup>rd</sup> Quartile (0+15) days		4 <sup>th</sup> Quartile (30+0) days	
	Pre-cross	Pre Domestic	Pre-cross	Pre Domestic	Post-cross	Pre Domestic	Post-cross	Pre Domestic
	-12.26	0.07	-21.84	-0.69	-38.70	-13.55	-24.66	-11.61
	0.41	4.30	-22.46	0.44	-34.43	-4.07	-41.48	-8.60
	13.23	4.71	-32.38	-4.20	-37.79	-6.79	-34.14	-10.35
	-9.28	2.07	-38.19	-6.01	-39.14	-6.53	-25.97	-6.62
	20.78	1.87	-25.38	-6.31	-41.11	-0.88	-34.34	-7.57
	29.02	5.14	-28.92	-7.36	-32.65	0.80	-27.37	-5.86
	20.32	7.08	-13.86	-7.96	-35.47	4.41	-33.82	-7.39
	13.85	8.98	-24.81	-6.95	-36.70	-0.65	-25.37	-8.85
	19.45	3.87	-5.44	-11.79	-39.20	-4.98	-21.50	-8.99
	20.18	2.54	-11.74	-11.67	-32.30	-4.63	-28.09	-9.10
	17.00	3.03	-15.14	-17.83	-32.03	-5.57	-26.61	-11.63
	22.80	5.47	-27.68	-15.16	-34.81	-8.50	-30.57	-14.62
	9.10	9.16	-29.84	-17.78	-38.60	-12.90	-39.90	-16.86
	15.61	2.87	-39.77	-16.42	-27.32	-11.43	-38.41	-18.34
	-4.35	2.24	-41.58	-20.09	-28.18	-11.93	-25.23	-21.44
<b>AVG CTSAR</b>	<b>175.43</b>	<b>63.40</b>	<b>-379.03</b>	<b>-149.75</b>	<b>-528.43</b>	<b>-87.21</b>	<b>-457.47</b>	<b>-167.83</b>

<sup>38</sup> Huang and Walkling (1987) observe that the larger abnormal returns for cash acquisitions are consistent with tax explanation. That is, target shareholders are taxed for capital gains in cash mergers, but the taxes are deferred in mergers involving stock transactions. A cash offer would have to be larger than a stock offer to offset the tax liability. However, Davidson & Cheng (1997) conclude that a cash offer is not inherently more valuable than a share exchange that offers the equivalent amount of shares. Cash contains no additional information, provide no additional value, and do not seem to alleviate the asymmetric information problem any more than offers made with payments of stock. Cash offers are the source of larger returns only because cash targets received larger payments from bidders and concluded that the link between abnormal returns and payment method is indirect, rather than direct.

Table 6.3 shows the CTSAR values in quartiles. The pre M&A periods constitute the first two quartiles while the post M&A periods are in the last two quartiles. The result indicates that the 1<sup>st</sup> quartile produces the highest CTSAR of 174.43 for cross border acquirers' shareholders followed by the 2<sup>nd</sup> quartile with a CTSAR value of 63.40 for domestic acquirers.

The worst period for the cross border acquirers is in the 3rd quartile with a CTSAR of -528.43. The domestic acquirers recorded their lowest CTSAR in the last quartile with a CTSAR value of -167.83. The results therefore corroborate the earlier argument that the CTSAR of the cross border acquirers fall at a greater speed than those of the domestic acquirers. This thus reduces the wealth effect or benefits of their shareholders from such M&A.

Thus, based on the result of the acquirers in Table 6.2, the *null hypothesis* that the cross border acquirers **do not** create more values than the domestic acquirers is thereby *accepted*.

The result obtained is though similar to some other studies on cross border and domestic acquirers but it uses the CTSAR as against the traditional cumulative abnormal return which is common in many studies. The findings concurs with Lensink & Maslennikova (2008) that domestic transactions create more value than the cross border. Using a window of 41 days, they found that the cross border acquirers never created value to their shareholders. Mangold et al (2008) concludes that cross border acquirers destroy wealth while domestic acquirers create value. Some studies (Anand, Capron & Will, 2005 and Conn et al, 2005) have also found that both acquirers exhibit similar pattern or have no statistical difference in their abnormal returns to the shareholders.

## 6.2 Descriptive Analysis of the Financial Performance of the Cross Border and Domestic Bank Acquirers

The descriptive analysis of the financial performance of both domestic and cross border acquirers is measured by their profitability. The summary statistics is presented in Table 6.3 and makes comparison of the cross border and domestic acquirers using key profitability variables as well as their CTSAR.

**Table 6.4 Summary Statistics of the Abnormal Returns and Merger Performance of the Domestic and Cross Border Banks for the period 1997 -2007.**

The table presents the summary statistics of the acquirers' financial performance using key ratios. The profitability is measured using the traditional measures of Return on Equity (ROE) which is a key profitability variable. Others include the Net interest income (NII) and the Cost to- income ratio or the cost to income ratio (CIR) which show the profitability arising from the savings due to the banks efficient operations. The Equity/total assets (EQTASS) and the measure the contribution of the capital structure of the bank to its performance. It also explains the profits arising from the quality of the banks' assets. Net loans to total assets (LOANTAS) and the Loan loss provision to total assets (PROVTAS) measure the liquidity of the banks. They capture the banks financial position, investments strategy and funding methods. The Loan loss provisions to net interest revenue (RISK) pictures the risky nature of the banks loan and the net effect on its liquidity and profitability while the total assets indicates the size of the banks.

<b>Panel A:</b>	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Standard Deviation</b>
<b>Pre-merger performance of domestic banks</b>					
<i>Return on Equity (ROE)</i>	86	-18.36	34.06	9.35	8.28
<i>Net interest Income (NII)</i>	85	-10.01	4.85	1.73	2.20
<i>Equity/total assets(EQTASS)</i>	85	1.71	15.14	6.74	3.95
<i>Cost to-income ratio(CIR)</i>	86	41.44	94.72	66	18.48
<i>Net loans to total assets(LOANTAS)</i>	81	5.41	85.21	52.18	19.80
<i>Loan loss provision to total assets (PROVTAS )</i>	83	0.80	8.78	2.40	1.23
<i>Loan loss provisions to net interest revenue (RISK)</i>	88	-1.51	99.42	19.57	15.27
<i>Total assets</i>	83	1,129.80	1,681,490	218,426.52	390,800.02
<i>CTSAR</i>	30	-20.09	9.16	-2.88	8.68
<b>Panel B:</b>					
<b>Post-merger performance of domestic banks</b>					
<i>Return on Equity (ROE)</i>	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Standard Deviation</b>
<i>Return on Equity (ROE)</i>	130	-42.80	23.76	8.92	10.79
<i>Net interest Income (NII)</i>	129	0.68	4.51	2.06	0.94
<i>Equity/total assets(EQTASS)</i>	128	1.42	11.13	6.15	2.54
<i>Cost to -income ratio(CIR)</i>	130	30.85	116.83	62.02	15.65
<i>Net loans to total assets(LOANTAS)</i>	129	10.65	94.49	60.28	20.32
<i>Loan loss provision to total assets (PROVTAS)</i>	129	0.71	15.30	4.08	3.44
<i>Loan loss provisions to net interest revenue (RISK)</i>	128	-14.31	26.11	25.45	32.34
<i>Total assets</i>	132	2,587.40	2,766,076.00	526,142.09	758349.62
<i>CTSAR</i>	30	-21.44	4.41	-8.50	5.60

<b>Panel C: Pre-merger performance of Cross border banks</b>	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Standard Deviation</b>
<i>Return on Equity (ROE)</i>	129	0.09	45.92	14.71	7.30
<i>Net interest Income (NII)</i>	130	0.72	3.71	2.27	0.69
<i>Equity/total assets(EQTASS)</i>	132	2.59	11.54	5.52	1.75
<i>Cost to –income ratio(CIR)</i>	127	45.88	93.52	64.40	9.20
<i>Net loans to total assets(LOANTAS)</i>	130	26.76	82.18	52.27	11.85
<i>Loan loss provision to total assets (PROVTAS )</i>	130	0.28	5.97	2.68	1.34
<i>Loan loss provisions to net interest revenue (RISK)</i>	126	-4.46	52.37	15.71	9.86
<i>Total assets</i>	131	85,966	288,454	153,414.44	83,444.89
<i>CTSAR</i>	30	-41.58	29.03	-6.79	21.95
<b>Panel D: Post-merger performance of Cross border banks</b>					
<i>Return on Equity (ROE)</i>	326	-18.47	28.72	11.20	9.36
<i>Net interest Income (NII)</i>	331	0.49	4.33	1.54	0.79
<i>Equity/total assets(EQTASS)</i>	302	2.57	10.67	5.38	2.25
<i>Cost to –income ratio(CIR)</i>	315	44.56	112.67	64.83	12.04
<i>Net loans to total assets(LOANTAS)</i>	325	27.33	87.02	51.86	15.42
<i>Loan loss provision to total assets (PROVTAS)</i>	326	0.07	4.87	2.39	1.43
<i>Loan loss provisions to net interest revenue (RISK)</i>	333	-1.78	54.01	16.97	12.90
<i>Total assets</i>	321	6,427.80	968,733	393,055.04	284,477.90
<i>CTSAR</i>	30	-41.48	-21.50	-32.86	5.70

The table makes a comparison between the financial performance of the domestic and cross border acquirer samples in the study. Using key performance variables, the result shows a reduction in the ROE, EQTASS and CIR of the domestic acquirers. The mean of the ROE fell after the M&A from 9.35% to 8.92% and the EQTASS reduced from 6.74% to 6.15% while the CIR fell from 66% to 62.02% after the merger process.

The decrease in ROE indicates that on average, the market investors did not efficiently price the bank mergers during the period. This is a phenomenon based on previous merger performance studies. This decline is not surprising as on average, the post merger financial performance of banks as measured by the ROE rarely improves (DeLong & DeYoung, 2007). The fall of EQTASS is very marginal and therefore does not paint a gloomy picture in terms of the equity structure of the merged entity.

CIR is the cost to-income ratio and shows a substantial decline. This is an indication of more efficiency in the control of costs and expenses. Since mergers are often set out to achieve palpable reduction in costs and increase in efficiency, thus reduced expenses would be expected to translate into higher profitability though reported incomes do not often reflect the actual earnings (Pillof, 1996). The table shows a significant increase in the NII of domestic acquirers from 1.73% to 2.06%. The NII measures the difference between the revenues on the assets and the cost of servicing the liabilities. This increase could be attributed to a higher interest charge on loans which increased substantially after the M&A. It represents the interest payments received by the banks on loans and those made by the banks on customers' deposit and reflects the success of core intermediation activity (Vander Venet, 1989).

The variables LOANTAS, PROVITAS, RISK and the total assets of the domestic acquirers also shows increases after the merger process. LOANTAS rose from 85.21% to 94.49%, PROVITAS 8.78% to 15.30% while the RISK increased from 19.57% to 26.11% respectively. LOANTAS shows an increase in the amount of loan held by the banks which can be explained by the proportional increase in NII and depicts the assets quality of the banks (Pillof, 1996).

The variables PROVITAS and RISK measure the exposure to credit risk of the banks after mergers. Banks use loan loss provisions to create reserves to cushion the expected losses in their loan portfolios (Perez et al, 2006). The increases are indications that the mergers invoked anticipations in loan losses to customers and thus creating further provisions in bad and doubtful debts after the mergers. However, these increases are by no means accidental but suggest that the mergers have a significant shift in the debts and investment strategy of the banks.

The post merger profitability variables of the cross border acquirers also show similar pattern except in the variables NII, CIR, LOANTAS and PROVITAS. NII fell from 2.27% to 1.54%, LOANTAS dropped from 52.27% to 51.86% while PROVITAS decreased from 4.08% to 2.39% respectively. However, CIR records a marginal increase from 64.40% to 64.83%. The fall in NII has an adverse effect on the overall profitability of the bank. The net interest income is presumed to be inversely related to the level of interest rates. Thus the decrease can be attributed to as the variation in net interest income resulting from interest rates volatility (Albert & Pamela, 2007).

CIR of the domestic acquirers shows a marginal increase; which represent less managerial efficiency in the control of costs. It measures how effective the banks cost operations are. It remains the traditional measure of banks efficiency and measures non-interest expenses as a proportion of operating revenue. The costs include salaries, technology, buildings, supplies, and administrative expenses. While revenue includes net interest income (interest revenue less interest expenses) plus fee income revenue (Finerran, 2006). Thus the increase in CIR is a negative signal in the management of cost.

Studies (Ahmed at el, 1989; Beaver et al, 1989) have shown that the decrease in LOANTAS and PROVITAS has a signal effect and portrays that the banks as weak. This is consistent with the signalling hypothesis and provides support that LOANTAS and PROVITAS are used as capital management and smoothing techniques. In comparison with the domestic acquirers, cross-border acquirers show weak financial position in their LOANTAS and PROVITAS. The increase in the total assets of both the domestic and cross border acquirers is not surprising as mergers expand the size of the banks assets base.

The mean of the CTSAR of the domestic acquirers sloped down from -2.88 to -8.50 after the M&A. This is better when compared with those of the cross border which plummeted deep into negative from -6.79 to -32.86. This result leans support to the rejection of the wealth effect and geographical diversification hypothesis ( $H_{1,}$ ) and provides further evidence that domestic acquirers at aggregate create more value to their shareholders than their cross border counterparts.

### **6.3 Performance Analysis of the Domestic Acquirers**

The starting point of the performance analysis was to ascertain the extent of correlation among the financial performance variables (ROE, NII, CIR, EQTASS, LOANTAS, PROVITAS and total assets used as a proxy for SIZE). A correlation matrix was performed using the Pearson product moment correlation coefficient. Tables 6.5 and 6.6 shows the results of the correlation matrix of the pre and post M&A performance variables of the domestic acquirers used in the study.

**Table 6.5 Correlation Matrix of Cumulative Total Standardised Abnormal Returns (CTSAR) with the Pre Domestic Performance Variables**

Variables	ROE	NII	EQTASS	CIR	LOANTAS	PROVTAS	RISK	SIZE	CTSAR
ROE	1.000								
NII	-.035	1.000							
EQTASS	-.212	.762**	1.000						
CIR	-.472**	.207	.264	1.000					
LOANTAS	-.012	.118	.220	-.450**	1.000				
PROVTAS	-.561**	.304*	.492**	.258	.080	1.000			
RISK	-.733**	.025	.039	.099	.177	.480**	1.000		
CTSAR	-.055	-.027	-.028	-.045	-.023	.069	.062	.053	1.000

\*\*significant at 0.01 levels, \*significant at 0.05 levels.

The pre merger profitability correlation matrix table also show some significant correlation among the profitability variables and the ROE. Both the NII and the EQTASS variables have a correlation of -0.223 respectively with the ROE. The LOANTAS and RISK correlate with the ROE at -0.193 and 0.196. The negative correlations of the variables imply that the higher the profitability of the domestic acquirers, the less is the NII, EQTASS and LOANTAS values. RISK has a positive relationship with ROE; implying that a high performance attracts a higher RISK. This findings leans support to previous profitability studies (Zhou & Wong, 2008; Delong & Deyoung, 2007, Deyoung, 1999).

However, the post merger profitability correlation matrix Table 6.6 shows that the CTSAR does not have significant correlation with the profitability variables of the domestic acquirers after the M&A. The implication of the result is that while the merger announcement could influence the financial performance of the domestic acquirers, it does not have similar influence after the merger. Interestingly, there are remarkable changes in the correlations of

Table 6.6 Correlation Matrix of the Cumulative Totals Standardised Abnormal Returns (CTSAR) with the Post Domestic Performance Variables

ROE	1.000								
NII	-.223 <sup>*</sup>	1.000							
EQTASS	-.223 <sup>*</sup>	.507 <sup>**</sup>	1.000						
CIR	-.142	-.002	.185	1.000					
LOANTAS	-.193 <sup>*</sup>	.054	.143	-.086	1.000				
PROVTAS	-.174	.166	.122	.045	.051	1.000			
RISK	.196 <sup>*</sup>	-.011	-.022	-.008	-.015	-.157	1.000		
SIZE	.001	-.060	-.399 <sup>**</sup>	.140	-.407 <sup>**</sup>	.226 <sup>*</sup>	-.074	1.000	
CTSAR	.396	-.119	-.754 <sup>**</sup>	-.334	-.738 <sup>**</sup>	.181	-.157	.239	1.000

**\*\*significant at 0.01 levels, \*significant at 0.05 levels.**

NII, EQTASS and LOANTAS with ROE as all diminishes to insignificant values after the M&A.

RISK shows a significant negative correlation of -0.733 with ROE after the M&A. This indicates that there is a relationship between profitability and risk, as high risk investments will commonly be expected to yield a higher profit. CIR and PROVTAS indicate a high negative correlation with ROE at -0.561 and -0.733 respectively. This is not surprising as the liquidity of the bank (proxied by PROVTAS) and effective costs savings (CIR) are key variables in the banks financial performance. This finding confirms existence of a relationship between bank liquidity and profitability. In fact, Goddard, Molyneux & Wilson (2004b) assert that banks that maintain high liquidity are more than likely to record a low profitability. This also impairs growth as cash assets are not invested into productive projects and therefore rendered dormant.



In summary, M&A influences the performance of NII, ETQASS, CIR, LOANTAS and PROV TAS of the domestic acquirers. However, it would appear that the decrease in the profitability reduces CTSAR of the banks.

#### 6.4 Test of Hypothesis on Financial Performance of Bank Acquirers

*H<sub>2</sub>: The financial performance of cross border acquirers is significantly correlated with M&A, and significantly higher than the domestic acquirers.*

Given their access to capital through their foreign partners and investments, cross border bank acquirers are expected to outperform domestic acquirers. The cross sectional regression model is used to test the above hypothesis and examine the contributions of the independent variables to the financial performance of the merged banks.

Using profitability (proxied by ROE) as the dependent variable, the regression equation is more generally specified as:

$$\text{Profitability}_{it} = \beta_0 - \beta_1 \text{NII}_i + \beta_2 \text{SIZE}_i + \beta_3 \text{EQTASS}_i + \beta_4 \text{CIR}_i + \beta_5 \text{LOANTAS}_i + \beta_6 \text{RISK}_i + \beta_7 \text{PROVTAS}_i + \beta_8 \text{CTSAR}_i + \beta_9 \text{Dummy}_i + e_i$$

**Where:**

**B<sub>0</sub>** = intercept term

**NII** = Non interest Income which measures the percentage of profits from off-balance sheet operations.

**SIZE** = proxy for total assets

**EQTASS** = equity over total assets

**CIR** = Cost to- income ratio, indicating the efficiency in management of expenses relative to income.

**LOANTAS** = Loan deposits over total assets to show the percentage of deposits that are returned to the banks through loans.

**RISK** = Loan loss provision to net interest revenue, indicating the ratio of risky lending.

**PROVTAS** = Loan provisions to total assets; this represents the liquidity of the bank.

**CTSAR** = Cumulative total standardised abnormal returns, proxy for M&A.

**Dummy** = 0 for pre-merger and 1 for post-merger events.

$\varepsilon$  = error term.

#### 6.4.1 Performance Analysis of Domestic Acquirers

The above specifications<sup>39</sup> were used to determine the contributions of the SIZE, EQUITY, LOANTAS, RISK, PROVITAS, CTSAR and dummy variables on the financial performance of the merged banks. The results are shown in Tables 6.7.

The table provides an indication of the significance of the regression used in assessing the domestic acquirers' financial performance. Model 1 shows that two variables (NII and SIZE) contribute 15.1% to the performance variance and Model 2 makes a 5.2% contribution to the variance. Models 3 and 4 explain 33.4% and 49.1% of the variances of the financial performance of the domestic acquirers respectively. These are indicated by the value of the *Adjusted R Square* which are used in determining the level of effect exerted by all the variables included in that particular model .

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<sup>39</sup> The essence of the segmentation was to assess the impact of each of the independent variables on performance. At the same time, the multiple regressions allow for ease of control for some factors or variables while assessing the rate of impact on the overall result by some other variables of interest (Pallant, 2005).

**Table 6.7 Model Summary of the Hierarchical Regression of Financial Performance of Domestic Acquirers**

The model summary shows the beta value and the t-values (in parentheses) of the profitability variables. Independent variables for the first model consist of the NII and the SIZE. In the second model, an additional variable; EQTASS was added. Three further independent variables i.e. CIR, LOANTAS & RISK were also included in the third model. While the fourth model has in addition to the above, PROVITAS, CTSAR and DUMMY variables.

Variables	Model 1	Model 2	Model 3	Model 4	Tolerance	VIF
<b>NII</b>	-0.224*	-0.164	-0.157	-0.141	0.692	1.445
	(-2.318)#	(-1.456)	(-1.424)	(-1.239)		
<b>SIZE</b>	-0.142	-0.12	-0.137	-0.117	0.854	1.171
	(-1.472)	(-1.216)	(-1.417)	(-1.144)		
<b>EQTASS</b>		-0.118	-0.077	-0.128	0.528	1.892
		(-1.026)	(-0.682)	(-0.984)		
<b>CIR</b>			-0.378	-0.381**	0.736	1.358
			(-1.859)	(-1.940)		
<b>LOANTAS</b>			-0.095	-0.101	0.813	1.230
			(-0.989)	(-0.673)		
<b>RISK</b>			0.174	0.189	0.967	1.035
			-1.829	-1.757		
<b>PROVTAS</b>				-0.403**	0.490	2.040
				(-0.764)		
<b>CSTAR</b>				-0.208	0.821	1.115
				(-1.411)		
<b>DUMMY</b>				0.006	0.711	1.406
				-0.054		
<b>Constant</b>	4.478**	4.594**	4.591**	3.537**		
Mean Sq	326.08	247.75	242.83	188.92		
F-Value	13.77	12.86	92.97	97.28		
Sig. ANOVA	0.027*	0.041*	0.000**	0.000**		
<b>Change Statistics</b>						
R Square	0.17	0.08	0.356	0.496		
R Sq Change	0.17	0.082	0.377	0.406		
Adj. R Sq.	0.151	0.052	0.334	0.491		
Std. Error	9.306	9.303	9.046	9.11		
Sig.F Change	0.027*	0.307	0.000**	0.000**		
Df1	2	1	3	3		
Df2	100	99	86	94		

# Figures in parentheses are t-values,\*significant at 0.05 level.

\*\*significant at 0.01 level.

The *Model Summary* also shows that Model 3 variables make a high contribution of 35.6% to the financial performance as indicated by the *R Square*. Three variables: CIR, LOANTAS and RISK were introduced while controlling for NII, SIZE and EQTASS. The *R Square Change* indicates that the 3 variables introduced in the model made an additional input of 37.7% to the performance variance. This is quite significant as the *Sig. F Change* is  $p=0.007$ .

It is thus apparent from the *Adjusted R Square* that Model 4 exerts the most influence on the performance of the acquirer banks as it makes the highest contribution of 49.1% of the variance. Three variables, **PROVTAS**, **CTSAR** and **DUMMY**, are additional variables of interest. The *R Square Change* indicates that these variables explain an additional 40.6% of variance in the financial performance after controlling for **NII**, **SIZE**, **EQTASS**, **CIR**, **LOAN** and **RISK**.

The overall regression result is significant as confirmed by the *Sig. F Change* value. Table 6.6 of the *ANOVA* statistics also confirms the significance Model results.

The beta coefficient values in Table 6.6 provide further insight on the extent of contribution made by each of the variables of the domestic acquirers. This is determined by the beta<sup>40</sup> value of the variables. The beta values of **PROVTAS**, **CTSAR** and **DUMMY** in Model 4 are 40.3%, 20.8% and 0.6% respectively. The results clearly indicate that **PROVTAS** makes the highest significant contribution to profitability. Thus, **PROVTAS** is confirmed as the most significant variable in the financial performance of the domestic acquirers.

Further examination to ascertain the percentage contribution of other significant variables was undertaken. The beta values show that **CIR** has a significant beta value of 38.1% in the model. Other **LOANTAS** and **RISK** have insignificant betas of 10.1% and 18.9% respectively. The *Sig.* shows that the **CIR** is significant at  $p=0.005$  while the others are not.

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<sup>40</sup> Beta values are generally used in finance to examine the risk and thus the expected returns. Similarly, in statistics, this measure could specifically be applied in measuring the extent of contribution or the effect exuded by individual variables in an equation. Though used as a measure of systematic risk, it also employed in equating specific returns relative to the overall regression (Seiler, 2004). The higher the beta value, the more contribution and thus impact of the variable on the regression result.

Thus, in summary, the regression result shows that **PROVTAS** and **CIR** are the most significant variables affecting the financial performance of domestic bank acquirers. This implies that the bank's liquidity, including its financial position, investments strategy and funding methods proxied by **PROVTAS**, are critical to its post merger performance. Merged bank entities with good liquidity level and well thought out investment strategy are more likely to outperform those banks with poor liquidity level. Controlling bank expenditure pattern in relation to the bank income, as measured by the **CIR**, is also essential if the domestic merged banks are to strive in their financial performance. As indicated by the significance of **CIR**, costs should be matched with the income level of the banks to generate good performance. The efficiency in management of expenses relative to income is thus important.

#### **6.4.2 Performance Analysis of Cross Border Acquirers**

As in the case of domestic acquirers, the initial stage of the financial performance analysis of cross border acquirers was to determine the extent of correlation among the performance variables using the Pearson moment correlation coefficient and to test for any multicollinearity<sup>41</sup> in the regression.

Tables 6.8 and 6.9 show the correlation coefficients of the performance variables of the cross border acquirers. The pre-merger correlation matrix shows significant high correlation of **ROE** with **CIR** and **LOANTAS** at -0.639 and -0.305 respectively. These depict that the higher the profitability of the cross border acquirers, the lower the **CIR** (used as proxy for cost to income ratio) and the **LOANTAS**.

The result shown on the Table 6.8 indicates that the profitability variables do not correlate with pre merger **CTSAR** of the cross border acquirers. This simply implies that the events leading to the M&A announcement do not strongly affect the financial performance of the cross border acquirers. This position however changes after the merger event. The coefficients of the post cross border acquirers (Table 6.9) indicate that **CTSAR** has a significant correlation at -0.425, 0.574, 0.397 and -0.453 respectively with **ROE**, **CIR**, **LOANTAS** and **SIZE** of the bank as measured by the total assets.

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<sup>41</sup> See the Chapter 5 for discussion on multicollinearity tests

**Table 6.8 Correlations of the Cumulative Total Standardised Abnormal Returns with Pre Cross Border Performance Variables**

Variable	ROE	NII	EQTASS	CIR	LOANTAS	PROVTAS	RISK	SIZE	CTSAR
ROE	1.000								
NII	.108	1.000							
EQTASS	-.185	.568**	1.000						
CIR	-.639**	-.254*	-.028	1.000					
LOANTAS	-.305**	.009	.191	.346**	1.000				
PROVTAS	.020	-.172	-.098	-.136	-.037	1.000			
RISK	.026	.111	-.007	-.167	-.166	-.009	1.000		
SIZE	-.117	-.112	-.062	.020	.124	.098	.126	1.000	
CTSAR	-.105	.009	-.058	.101	.130	-.157	-.132	.163	1.000

\*\* . Correlation is significant at the 0.01 level (2-tailed); \* Correlation is significant at 0.05 level (2-tailed)

This indicates that there is a relationship between abnormal returns and thus shareholders wealth and cost to-income of the acquirers (CIR) as well as the liquidity of the banks (LOANTAS). However, such increase in CTSAR attracts a reduction in the profitability and the total assets of the cross border acquirers. In the same vein, profitability (ROE) is related to the level of CIR, RISK and CTSAR as each significantly correlates negatively with the

ROE at -0.473, -0.469 and -0.425 respectively. The beta values are used in assessing the contributions of each of the independent variables in predicting the financial performance of the cross border acquirers. Table 6.10 shows the beta coefficient results and empirically

**Table 6.9 Correlation matrix of the Cumulative Total Standardised Abnormal Returns with Post Cross border Performance Variables**

Variables	ROE	NII	EQTASS	CIR	LOANTAS	PROVTAS	RISK	SIZE	CTSAR
ROE	1.000								
NII	.061	1.000							
EQTASS	.061	1.000	1.000						
CIR	-.473**	-.287	-.287	1.000					
LOANTAS	-.302	.142	.142	.476**	1.000				
PROVTAS	-.069	.064	.064	.067	.377*	1.000			
RISK	-.469**	-.176	-.176	.084	.078	.413*	1.000		
SIZE	-.076	-.113	-.113	-.362*	-.455**	-.012	.523**	1.000	
CTSAR	-.425*	.024	.024	.574**	.397*	-.238	-.146	-.453*	1.000

\*\*Significant at 0.01 level (2-tailed), \*Significant at 0.05 level (2-tailed).

evaluates the percentage contributions of each of the variables as measured by the level of their betas.

Table 6.10 shows the beta values and the t-statistics in parentheses of the cross border profitability variables. Four models were used to examine the contribution of NII, SIZE, EQTASS, CIR, LOANTAS, RISK, PROVTAS, CTSAR and dummy variables in the regression. Model 1 contains two variables; **NII and SIZE**. **Model 2** has, in addition,

**EQTASS** and **Model 3** has three more variables; **CIR**, **LOANTAS** and **RISK**. The final Model has **PROVTAS**, **CSTAR** and **DUMMY** in addition to all the previous variables.

Whilst the *Adjusted R Square* measures the contribution of the models, the *R Square Change* estimates the impact of each of the variables in the model. The variables in model 1 make a 33.9% impact on the model result while the additional variable in model 2 which is **EQTASS** makes a 10.5% contribution to the model result. The additional 3 variables; **CIR**, **LOANTAS** and **RISK** make a total of 8.5% in model 3. The final model contains in addition, **PROVTAS**, **CTSAR** and **DUMMY** made a 15.2% contribution to the regression result.

The significance of each of the variables is determined by their beta values shown in the coefficient table.

This result implies that the models are all significant and thus highly influence the financial performance of the cross border acquirers. However, it is important to further evaluate the extent of contribution in the variation of each of the variables by isolating their beta values. Not that the variable with the highest beta value makes the most significant impact to the model result. The interpretation of the result is based on the model 4, which is the summation of the models result.



**Table 6.10 Model Summary of Hierarchical Regression of Cross border Acquirers**

The variables were introduced in a sequential order. The Model summary shows profitability variable of the cross border acquirers, change statistics and ANOVA. The R Square shows that Models 1 and 2 make 33.9% and 44.4% contribution respectively to the dependent variables while Models 3 and 4 explain 45.8% and 51% respectively of the variance in the dependent variable (ROE). These contributions are very significant as depicted by their Sig. ANOVA values.

Variables	Model 1	Model 2	Model 3	Model 4	Collinearity Statistics	
					Tolerance	VIF
<b>NII</b>	0.084 (0.981)#	0.286** (3.096)	0.287** (3.034)	0.212* (2.240)	0.603	1.657
<b>CIR</b>	-0.553** (-6.437)	-0.561** (-7.075)	-0.521** (-5.713)	-0.618** (-6.634)	0.621	1.611
<b>EQTASS</b>		-0.382** (-4.246)	-0.356** (-3.676)	-0.387** (-4.132)	0.614	1.628
<b>LOANTAS</b>			-0.073 (-0.826)	-0.141 (-1.582)	0.677	1.477
<b>PROVTAS</b>			0.044 (0.528)	0.082 (1.011)	0.825	1.212
<b>RISK</b>			-0.092 (-1.174)	-0.059 (-0.783)	0.939	1.065
<b>SIZE</b>				(0.222)* (-2.685)	0.77	1.298
<b>CSTAR</b>				-0.217* (-3.012)	0.825	1.287
<b>DUMMY</b>				-0.139 (-1.647)	0.758	1.319
<b>Constant</b>	7.656	9.077	7.968	7.432		
Mean Sq	1126.77	982.7	507.49	423.45		
F-Value	24.88	25.51	13.11	11.83		
Sig. ANOVA	0.000**	0.000**	0.000**	0.000**		
<b>Change Statistics</b>						
R Square	0.339	0.444	0.458	0.51		
R Sq Change	0.339	0.105	0.085	0.052		
Adj. R Sq.	0.325	0.426	0.423	0.467		
Std. Error	6.729	6.206	6.222	5.983		
Sig.F Change	0.000**	0.000**	0.479	0.011*		
Df1	2	1	3	3		
Df2	97	96	93	91		

# Figures in parentheses are t-values, \* significant at 0.05 level, \*\*significant at 0.01 level

The *beta* values of the variables depict their level of predictions. Thus, Model 4 shows that CIR has the highest beta value of **0.618**. This is followed by EQTASS with beta of **0.318**; SIZE with beta of **0.224**; CTSAR with beta of **0.217** and NII with a beta of **0.212** respectively.

The significance of the models is corroborated by the ANOVA which shows the overall significance of the models. Each model in the ANOVA is significant. This is an indication that each of the performance models of the cross border banks has a significant level of effect on its profitability. However, the level of contribution or significance of each variable is measured by the beta value in the coefficient table.

This significant level shows that in the order of predictability, **CIR** followed by **EQTASS** is the strongest predictors of financial performance of the cross border bank acquirers. The relative contributions and significance of their betas (0.618 and 0.387 respectively) in Table 6.10 which are confirmed by the *sig.* value of 0.000. This result indicates that controlling expenditure pattern in relation to the banks income, as measured by the **CIR**, is essential if the cross border merged banks are to improve their financial performance (same result was also obtained in the case of the domestic acquirers). As indicated by the significance of CIR, costs should be controlled at the level of the banks earnings, if good financial performance is to be achieved. Management must strive to be efficient in their control of expenses in the merged entity.

Profitability will also be achieved when the banks are able to use its capital effectively. The significance of **EQTASS** is an indication that profits' arising from the quality of the banks' assets is an important variable in enhancing the performance of the cross border acquired banks. This finding leans support to Goddard, Molyneux & Wilson (2004a) which assert that an increase in capital-to assets ratio (CAR) will subsequently increase the profitability of the banks.

Interestingly, **CTSAR** also impacts significantly on the financial performance of the cross border acquirers. This implies that the abnormal returns consequent on the merger announcement affects the financial performance of the merged entity. The significant of the variable highlights the sensitivity of the news of the mergers to the operations and financial results of the banks involved in any M&A.

### 6.4.3 Summary of Analyses on the Financial Performance

The empirical analysis shows that CTSAR of the cross border acquirers rose to above 20% after the announcement date but fell to its lowest of -40% on event day. It does not show any substantial rise thereafter but maintained a steady trend of between -20% and -38%. The domestic acquirers show a more volatile trend in their CTSAR. The CTSAR rose fast after the announcement to about 10% but fell to about -20% on the event date. The fall is followed by a fast recovery to about 5% before plummeting downwards to about -23% within the event period. This indicates that the cross border acquirers have higher as well as steep returns for their shareholders than domestic acquirers.

The cross border post merger profitability variables (ROE, CIR, LOANTAS, SIZE) show more significant correlation with CTSAR compared with the few domestic post merger profitability variables (EQTASS and LOANTAS ) which also significantly correlate with the CTSAR. The cross border acquirers also show greater significance with profitability measures as well as more significant correlation with CTSAR than the domestic acquirers. The highest abnormal returns occurred in the 1<sup>st</sup> quartile for both acquirers while the 4<sup>th</sup> and 3<sup>rd</sup> quartiles give the most negative returns for the post cross border and domestic respectively.

The CIR, with a beta of 38.1% makes the strongest impact to the financial performance of the domestic merged entities. The fact that the CIR appears significant in both the cross border and domestic acquirers indicates that management of costs remains a significant variable in the financial performance particularly after M&A which reflect the investors' expectations. Thus, the regression result shows that cross border acquirers on aggregate, show higher profitability than their domestic counterparts. CIR, SIZE and the EQTASS are the most significant variable affecting financial performance of merged banks. In addition, the CTSAR of the cross border acquirers significantly affect the financial performance of the merged banks whilst the domestic CTSAR has no significance on the banks performance. Thus, the null hypothesis ( $H_2$ ) that the cross border acquirers have better financial performance and show more significant correlation with the CTSAR, than their domestic counterpart is thereby *accepted*.

## Chapter Seven

### Factors Influencing Bank Dividend Policy and the M&A Effect

#### 7.0 Introduction

The purpose of this chapter is to apply the results of the cumulative total standardized abnormal returns (CTSAR) of the cross border and domestic M&A in measuring the impact of shareholders perception on the dividend policy of bank acquirers. The dividend yield and payout are used as proxies for dividend policy of the acquirer banks. Other variables such as agency costs, bank liquidity, profitability, growth & investments, beta (risk), taxes, debt & financial structures, ownership, size and geographical factors affecting dividend policy are also analysed. The results of the summary statistics are presented into different panels while the regression results are based on different specification of the models.

#### 7.1 The Descriptive Analysis

The dividend payout ratio represents the proportion of the earnings that the banks pay out to shareholders in the form of dividends. It is usually the net profit after taxation and after the preference dividends announced during the period; expressed as a percentage. The dividend yield relates the cash return from a share to its current market value. This is often stated at the grossed up rate.

The descriptive statistics on the measures of dividend policy<sup>42</sup> of the sample commercial banks are presented in Table 7.1 below. The table compares the key dividend policy measures

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<sup>42</sup> The concept of dividend policy has been dealt with in the chapter 2. It is important to re-emphasize that in finance literature, different dividend policy measures have been applied depending on the perspective of the researchers. However, three measures; yield, payout and EPS have commonly been used in part or jointly to describe dividend policy. Chen et al (2005) used payout and yield; Gugler and Yurtoglu (2003) used payout; while La- Porta et al (2000) used series of dividend ratios such as dividend to sales, dividend to earning etc as instruments of measuring a firm's dividend policy. This study uses the dividend yield and dividend payouts to measure dividend policy, as these are the most commonly used.

(dividend payout and yield) of the pre and post mergers of both the domestic and the cross border sample of commercial banks during the period 1997 to 2007. The table shows a decline in the two dividend policy measures of dividend payout and yield in the cross border merged banks. For instance, the mean of the dividend payout fell from 6.63% to 5.44% while the dividend yield also fell from 0.59% to 0.23% after the mergers.

This result suggests that cross border banks are often under difficulty to increase dividend after mergers. The length of time to consolidate and recapitalise the banks in an effort to gain market share may be factors for this decline in the dividend policy. Foreign acquirers would usually require building a solid capital base in a new market to compete favourably. This may account for the reduction in the returns and earnings available to the shareholders.

The results for the cross border sample are contrasted with the results of the domestic acquirers. The means of the dividend policy measures indicate an increase in both the dividend payout and yield. The dividend payout rose from 7.15% to 8.33% and the dividend yield also grew from 0.05% to 0.80% respectively.

**Table 7.1 Descriptive Statistics on Measures of Dividend Policy for Domestic & Cross border M&A (1997-2007)**

<b>Cross border M&amp;A</b>					
	<b>Observations</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Standard Dev</b>
<b>Pre-mergers</b>					
Dividend payout %	77	0.04	56.00	6.63	13.03
Dividend yield	64	0.00	5.11	0.59	1.22
<b>Post-mergers</b>					
Dividend payout %	79	0.03	25.32	2.87	5.44
Dividend yield	72	0.01	3.29	0.23	0.58
<b>Domestic M&amp;A</b>					
	<b>Observations</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Standard Dev</b>
<b>Pre-mergers</b>					
Dividend payout %	57	0.05	86.60	7.15	13.59
Dividend yield	22	0.02	0.12	0.05	0.03
<b>Post-mergers</b>					
Dividend payout %	43	0.00	58	8.33	15.81
Dividend yield	24	0.00	3.91	0.80	1.15

The rise in the dividend payout and yield in the case of domestic bank M&A may be a bold attempt to consolidate in the domestic market. Since dividend has a signalling effect, a rise will be an indication of positive growth and a reassurance to the shareholders<sup>43</sup>. The trend in payout and yield over time are often used to evaluate the potential of a business. Atrill & McLaney (2004) assert that increase in profit through shareholders investments does not necessarily imply that the dividend yield will rise as a result.

Dividend policy cannot be considered in isolation. Other factors affecting dividend policy must be considered in tandem to evaluate the effect of merged entities on dividend policy. Table 7.2 gives a summary of the merged entities' dividend policy and the various factors<sup>44</sup> affecting it.

It is important to note that the coefficients of variations<sup>45</sup> (CV) in the two dividend policy measures are similar though their means differ. While the CV of the dividend payout is 0.426 the yield shows a variation of 0.551. This implies that the probability differences of the mean of the variables from their standard deviation lie on the same range. In addition to the dummy variables, the PE ratio (PER), FNST and the DebtEquity also show same pattern in their coefficient of variations of 0.496, 0.58 and 0.493 respectively. The beta variable has a mean of 1.108 and a CV of 0.213.

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<sup>43</sup> The signalling effect of dividend was discussed in Chapters 2 & 3 on the review of dividend policy literature. However, some studies have revealed that increase in dividend does not necessarily indicate better performance of the firm. Management often sticks to a pattern of dividend payout. This can be explained by the signal conveyed by an alteration in dividend payment of the company particularly for new foreign banks. A cut in dividends will give a negative signal to investors on the future prospect of the company (Hutchinson, 1995). This might affect the share price of the company. Thus Chang and Rhee (1990) added that financial leverage is a crucial factor in dividend policy of firms. A firm that has a high financial leverage tends to have a high dividend payout ratio.

<sup>44</sup> The factors affecting dividend policy are quite huge in finance literature. These include cash flow; voting rights of shareholders, share ownership, Tobin's Q, debt ratio, corporate size (Gulger & Yurtoglu, 2003). Others are civil laws, dividend tax advantage (La Porta et al, 2000), profitability, ownership structure, investment and growth opportunities, and the assets structure of the firm (Myers and Majluf, 1984; Rozeff, 1982; Jensen et al 1992; and Barclay et al, 1995 and Fama & French, 2000). Baker & Powell (2000) also classified them into economic and industry specific factors, McManus et al (2003) add beta (risk) factor while Anil & Kapoor (2008) consider earnings (current and future), liquidity, corporate tax. See chapter 2 for discussion on factors affecting dividend policy.

<sup>45</sup> The Coefficient of Variation (CV) is computed as standard deviation/mean

**Table 7.2 Univariate Statistics of Measures and Factors Affecting Dividend Policy**

The table presents the results of the univariate statistics of factors affecting dividend policy. The variables are presented in different panels. These include dividend , profitability, CTSAR, risk, taxes, debts & financial structure, growth & investment, size, ownership and liquidity variables.

Variables	Variable Code	Minimum	Maximum	Mean	Standard Deviation	Coefficient of Variation
<b>Panel A: Dividend Policy Variables</b>						
Dividend Payout ratio	Payout	5.79	100	50.78	21.663	0.426
Net Dividend Yield	Yield	2.3	27.25	9.015	4.968	0.551
<b>Panel B: Profitability</b>						
Earnings Per Share	EPS	-4.26	41.2	3.224	4.929	1.528
Return on Equity	ROE	-42.8	45.92	10.942	9.489	0.867
<b>Panel C: Cumulative total standardized abnormal returns</b>						
	CTSAR	-48.14	29.02	-11.274	15.986	-1.418
<b>Panel D: Risk</b>						
Beta	Beta	0.6	1.55	1.108	0.236	0.213
<b>Panel E: Taxes</b>						
Tax	Tax	0.01	8.62	1.108	1.3	1.173
Pre-Tax Operation/ Average Assets	Pre	-5.56	67	1.055	5.207	4.935
Non operation item & Taxes/Average Assets	Nonoptax/ Ass	-2.36	1.6	-0.134	0.389	-2.908
<b>Panel F: Debt &amp; Financial Structure</b>						
Debts + equity/total assets	FNST	0.07	15.14	5.289	3.072	0.58
Total Debt/Equity	DebtEquity	1.34	16.17	5.761	2.842	0.493
<b>Panel G: Growth &amp; Investment</b>						
Price Earning Ratio	PER	0.35	15.96	5.958	2.956	0.496
Market to Book Value Ratio	MBR	0.06	40.79	3.94	9.937	2.522
<b>Panel H: Size</b>						
Nat. Log of Total Assets	NLTOTASS	0.01	7.43	0.42	0.98	2.33
Nat. Log Total Cap.	Capitalisation	0.03	10.37	1.999	2.848	1.424
<b>Panel I: Ownership</b>						
% Insider holdings	INSIDER	0.07	68.5	30.116	21.617	0.717
<b>Panel J: Liquidity</b>						
Net Cash/Total Assets	NetcashASS	-39.88	62.19	-0.14	8.034	-57.066

The CTSAR shows a negative mean of -11.274 and a CV of -1.418. This result implies that the banks CTSAR make no significant contributions to the dividend received by the shareholders from the merger activities. To verify the assumption, the results are subjected to further analyses.

## **7.2 Test of the Hypothesis of the Effect of M&A on Dividend Policy**

*H<sub>3</sub>: The dividend policy hypothesis: There is no significant difference in the shareholders perception of dividend policy of cross border and domestic bank acquirers following a merger or acquisition.*

There are no known studies which have focused on the impact of M&A on the dividend policy of banks, although there are many studies that have devoted enormous strength in researching on different aspects of M&A as well as dividend policy.

The hypothesis was formulated using key dividend variables from known studies (Rozeff, 1982; Casey & Dickens, 2000; Chang & Rhee, 1990; DeAngelo, DeAngelo & Stilz, 2006; Chen et al, 2005) and applying CTSAR as a proxy for bank M&A effect. The dividend yield and payout are two variables commonly used in the finance literature as measures of dividend policy<sup>46</sup>.

The regression model on the effect of M&A on dividend policy has the following specifications below and the results are presented in Tables 7.3.

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<sup>46</sup> See Chapters 2 & 3 for the literature review on dividend policy for discussion on the measures of dividend policy.



$$DivPolicy = \beta_0 - \beta_1 Beta_i + \beta_2 Liquidity_i - \beta_3 Insider_i + \beta_4 Tax_i - \beta_5 Capst + \beta_7 FnSt_i + \beta_8 Size_i + \beta_9 Profit_i - \beta_{10} Growth_i + \beta_{11} CTSAR_i + \xi_i$$

Where the effect of each of each explanatory variable is positive except where otherwise indicated:

$\beta_0$  - intercept term;

$\beta_1$  Beta - Estimated beta coefficient of the banks (with negative sign to indicate its expected effect)

$\beta_2$  Liquidity – the availability of physical cash in the bank measured as the dividend/net cash operating,

$\beta_3$  Insider – the percentage of insider shareholdings in the acquiring banks (with expected effect being negative);

$\beta_4$  Tax – the total tax liabilities of the banks as well as the relevant tax ratios;

$\beta_5$  CapSt - bank's capital and finance structures measured by the Debt/Equity ratio.

$\beta_6$  FnSt – the finance structure is debt + equity/total assets;

$\beta_7$  Size – the natural log of the total assets is used as the proxy for size of the bank;

$\beta_8$  Profit – the profitability of the bank as measured by the ROE and EPS;

$\beta_9$  Growth – the price earnings (PE), which also represents the market to book ratio (MBR) which is a proxy for Tobin's Q measure future growth and investment of the bank (with negative expected effect on dividend policy);

$\beta_{10}$  CTSAR – the Cumulative total standardized abnormal returns (CTSAR) is a proxy for M&A;

$\xi$  - error term

**Table 7.3 Model Summary of Hierarchical Regression of Dividend Policy**

The two dependent variables (DVs); dividend payout and dividend yield, were used to regress against a number of dividend policy factors, and the using the CTSAR as the independent variable (IV). The IVs were introduced in sequence to identify 5 different models. *The figures in parentheses are for the values obtained using the yield as the dependent variable while the others are for the values obtained using the payout as the dependent variable.*

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Insider</b>	0.033	0.035	0.043	0.029	0.008
	(-0.017)	(-0.077)	(-0.088)	(-0.098)	(-0.131)
<b>Liquidity</b>	-0.087	-0.090	-0.098	-0.132	-0.09
	(0.299)	(0.383)**	(0.362)**	(0.325)*	(0.325)*
<b>Beta</b>	-0.131	-0.145	-0.149	-0.158	-0.143
	(0.452)**	(0.491)**	(0.523)**	(0.519)**	(0.538)**
<b>Tax</b>		0.055	0.057	0.036	0.04
		(-0.304)*	(-0.275)*	(-0.291)*	(-0.308)*
<b>TaxToTass</b>		-0.039	-0.041	-0.02	-0.062
		(0.328)*	(0.314)*	(0.337)*	(0.377)**
<b>NonTAX</b>		-0.03	-0.024	-0.004	-0.019
		(-0.084)	(-0.053)	(-0.028)	(-0.010)
<b>FnSt</b>			-0.028	-0.042	-0.044
			(-0.324)*	(-0.328)*	(-0.370)**
<b>TotalAss</b>			0.055	0.075	0.04
			(-0.017)	(0.003)	(-0.009)
<b>CapSt</b>			0.005	0.034	-0.045
			(0.001)	(0.025)	(0.060)
<b>EPS</b>				0.07	0.035
				(0.126)	(0.155)
<b>ROE</b>				-0.164	-0.144
				(-0.159)	(-0.170)
<b>PE</b>				-0.054	-0.046
				(-0.046)	(-0.056)
<b>CTSAR</b>					0.097
					(0.250)
<b>Constant</b>	1.372	1.336	1.191	1.281	1.245
	(1.277)#	(1.539)	(2.013)	(2.003)	(2.093)*
Mean Sq.	10.295	6.059	4.513	5.914	7.315
	(17.525)	(15.501)	(12.349)	(9.798)	(9.266)
F-Value	0.429	0.237	0.164	0.204	0.246
	(4.633)	(5.449)	(4.937)	(3.851)	(3.662)
Sig. ANOVA	0.733	0.962	0.997	0.997	0.996
	(0.008)**	(0.001)**	(0.001)**	(0.002)**	(0.003)**
<b>Change Statistics</b>					
R Square	0.028	0.033	0.037	0.065	0.094
	(0.290)	(0.513)	(0.613)	(0.649)	(0.665)
R Sq Change	0.028	0.005	0.004	0.028	0.029
	(0.290)	(0.223)	(0.100)	(0.035)	(0.016)
Adj. R Sq.	-0.038	-0.108	-0.191	-0.255	-0.290
	(0.228)	(0.419)	(0.489)	(0.480)	(0.483)
Std. Error	4.896	5.059	5.244	5.384	5.458
	(1.945)	(1.687)	(1.582)	(1.595)	(1.591)
Sig. F Change	0.733	0.975	0.984	0.790	0.595
	(0.008)**	(0.008)**	(0.087)	(0.484)	(0.267)
Df1	3	3	3	3	1
Df2	144	141	138	135	134

*\*Significant at 0.05 level, \*\*Significant at 0.01 level. #Values in parentheses are for results obtained using dividend yield.*

Table 7.3 shows the Summary Model of the hierarchical regression models and compares the results of both the payout and yield. The yield results are in bracket which indicates the extent of significant impact of the regression model. The results of the regression are presented in 5 different models, by including additional variables into the successive models. This serves as a robustness check by evaluating the specific impact of any variable added to the model.

The Model Summary table shows that at a glance, the **R** values of the dividend yields are quite higher than the dividend payout. The **R** value shows the linearity in the correlation between the observed and the model predicted values of the dependent variables. A larger size will indicate a stronger relationship. Thus the independent variables show a higher effect with dividend yield than they do with the dividend payout.

This position is further highlighted by the **R Square**, which shows that more than half of the variation of the dividend yield is explained by the model. For instance, the *R value* of the dividend yield is 0.665 (the Model 5 of the *Model Summary* table). This indicates the strength of the model fit and is corroborated by the low Standard Error of the Estimate of the dividend yield which is below 2.

The discussion of the results follows a sequential order by examining each of the independent variables in the models. Since CTSAR is in Model 5, which is the proxy for M&A and the variable of main interest to the hypothesis, the discussion of the results begins with that model.

### **7.3 The Effect of CTSAR on the Dividend Policy**

The behaviour of the abnormal returns as hypothesized in the study is a reflection of investors' expectations about dividends. Thus, the accuracy of such expectations is tested by the dividend regression results. Dividend policy here is measured by the dividend yield rather than dividend payout<sup>47</sup>. The Model 5 results show that the introduction of CTSAR in the

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<sup>47</sup> Dividend payout as a measure of dividend policy is excluded from discussion here because most of the explanatory variables are insignificant in the regression models. The Coefficient table (Table 7.5) also shows

regression had a slight improvement on the strength of the relationship and accounts for 25% of the variance in the model. The *R Square* barely changed from 64.9% to 66.5%. The *Sig. F Change* shows that the contribution is insignificant at  $P= 0.267$ . Specifically, the CTSAR makes just a 0.003% impact on the model as shown by the *R Square Change* after controlling for the effect of the other variables.

However, the ANOVA result in shows that Model 5 as a whole is very significant at  $P=0.003$ . This shows the acceptability of the model from a statistical perspective, though it does not directly address the strength of the relationship of each of the individual independent variables. This relationship is determined by the beta coefficient values.

Since model 5 makes a significant contribution to the regression, it is important to isolate the impact of the individual variables particularly the CTSAR. The last model<sup>48</sup> summarises the contributions of each variable. The *Beta* of the standardized coefficients of CTSAR is **0.250**. This indicates, however, that the contribution<sup>49</sup> of CTSAR in the overall model development is insignificant and the null hypothesis that shareholder perfection from M&A (which uses CTSAR as a proxy) has no significant effect on the dividend policy (measured by the dividend yield) of banks is therefore accepted.

### 7.3.1. Robustness check of the Merger Effect on Dividend Policy

The Granger Causality effect is applied to check more vigorously the existence of any temporal cause and effect relationship between two variables (Seiler, 2003); in this case, the dividend yield and the CTSAR. Therefore, a Granger Causality model is employed to check the presence of any

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that several of the dividend payout predictors are not significant, thus indicating that the variables do not contribute much to the model.

<sup>48</sup> Model 6 is a summary of the results of the variables used in the regression. It specifies the contribution and thus the significance of the predictor variables. Thus, the analyses of the variables are based on the data in Model 6.

<sup>49</sup> The Beta of the Standardized Coefficients offers an indication of the relative strength and contribution of the predictor variable to the model. A high Beta value indicates that the variable exerts more influence on the model. Beta values of at least *to 0.300* generally make significant contributions (Pallant, 2004).

causality relationship between the CTSAR variable and the dividend policy. The result is shown in Table 7. 4.

**Table 7.4 Granger Causality Test Result**

Pairwise Granger Causality Tests			
Samples: 1/1/1997 – 31/12/2007			
Lags: 5			
Null Hypothesis:	Obs	F-Statistics	<b>Probability</b>
CTSAR does not Granger Cause Dividend yield	155	1.9650	<b>0.1231</b>

The *p-value* (probability) of the result shows a value of 0.1231 which is not significant. In statistical terms, this implies that the banks’ dividend policy is not significantly affected by the share price reaction from the news of mergers and acquisitions.

This result concurs with the results of the regression model. Thus, the null hypothesis that announcement effects of mergers & Acquisitions have no impact on dividend policy is accepted.

The rest of the discussion focuses on the other dividend variables used in the models; to ascertain the extent of their individual impact on the dividend policy of the banks.

### **7.3.2. The Impact of Insider Shareholdings (Agency Costs), Liquidity and Beta on Dividend Policy**

The result of Model Summary in Table 7.3 indicates that the insider shareholdings percentage (which is a proxy for the agency costs) is an important variable in the determination of the dividend policy. The *Model 1* result (which contains in addition to the *Insiders* variable, *Liquidity* and *Beta* variables) has an *R Square Change of 29%* and significant *p-value of 0.008*. This signifies that the combined set of variables in the model exert a significance

impact on the dividend policy of the banks. This position is further supported by the ANOVA result which shows that the model shows a significant *p-value* of **0.008**.

However, to obtain the actual contribution of the agency costs variable. The variable *Insider* shows a standardized beta coefficient value of **-0.131**. This is insignificant and shows that although the overall *Model* has a significant impact (ANOVA of 0.003) on dividend policy, the *Insider* variable does not make any significant contribution to the model.

Although the initial expectation predicted by the model is that the *Insider* would make a significant impact on the dividend policy, however the result obtained is totally not surprising. Finance literatures<sup>50</sup> have been agog on the issue of agency costs and its impact on dividend policy of firm. Rozeff (1982) found that agency costs (*Insider*) and beta have no significant effect on the dividend of banks. This result corroborates Casey and Dickey (2000) who also found that Insider makes no impact to the dividend policy of banks. Others, such as Baker, Gary & Powell (2000) and Johnson, Lin & Song (2006) also confirm that the percentage of *Insider* has no bearing on the dividend policy of firms. Dempsey & Laber (1992) add that while the dividend yield is negatively related to the *Insiders*, it has a positive significance to the proportion of the ordinary shareholders.

However, there are also quite a number of opposite findings asserting that agency cost is a significant element on the dividend policy of firms. Results obtained by Wei, Zhang & Xiao (2003) and Gugler (2003) indicate that the agency costs is an influential variable in dividend policy considerations. Brunarski, Harman & Kehr (2000) assert that a higher number of insider helps to curtail the wasteful spending and channel funds towards positive projects and thus determine greatly the dividend policy. Additionally, a recent study by Cornett, et al (2008) affirms that the number of insiders is an important variable in the dividend decisions of public banks.

It is therefore apparent that the extent of the insider influence on dividend policy decisions is inconclusive as well as debatable. Any position taken must be justified in conjunction with other variables.

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<sup>50</sup> Many studies on the role of insiders on dividend policy have been undertaken over the past three decades. Short (1994) and Gugler (2003) present an extensive survey of studies in dividend policy cum agency costs.

The ANOVA and the *Model Summary* results also confirm that at  $P=0.008$ , the *Liquidity*<sup>51</sup> variable in Model 1 is a significant factor in the dividend policy of banks. The strength of its contribution is denoted by its beta coefficient of 32.5. Model 5 summarises the contributions of each of the variables, shows that liquidity makes a significant contribution to the dividend policy decisions of the banks.

The result obtained is consistent with the majority of findings on the impact of liquidity or cash flow on dividend policy. Lie (2000) asserts that cash dividend declaration is positively related to the firm's level of liquidity. Gugler (2003) attributes the liquidity of a firm as very fundamental in its dividend payout. While La Porta, et al (2003) affirm that the cash position of the firm is very crucial in its dividend decision.

A recent study by Anil & Kahoor (2008) also confirm that good liquidity position increases a firm's ability to pay dividend as those firms with unstable cash flows are less likely to have a regular dividend. The aforementioned studies thus confirm that the result on the liquidity is in conformity with previous studies.

The table also shows that the Beta variable, which is a proxy for risk, is a very significant factor in the dividend policy of bank acquirers. It has a significant standardized beta coefficient of 0.538. The result finds support from previous studies such as Rozeff (1982), Blume (1980) and Massa & Zhang (2009) all of which found the effect of risk represented by beta very significant in dividend policy.

Pang, et al (2008) posit that the dividend yield always follows the pattern of the beta and employ the coefficient of variation to measure the stability of the yield. This procedure highlights the importance of the beta variable. Pandey (2001) using 1729 Malaysian firms in a panel data analysis found that beta is significant in measuring the dividend yield. Watson & Head (2004) affirmed that firms such as banks that operate in high business risk ventures, which are susceptible to cyclical swings in profit, tend to respond by paying low dividends in order to avoid the risk of reducing dividend in the future.

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<sup>51</sup> The liquidity is measured as the dividend / net cash operating. It denotes the cash available after all capital expenditures have been undertaken before payment of ordinary dividend. The ratio does not take into account stock dividend payments as those do not require cash and previous period under/over provision payments.

However, the issue of the role of beta in dividend is no less contentious in finance studies. There have been a number of opposite findings. Casey and Dickens (2000)<sup>52</sup> found no significance in the role of beta in dividend policy of banks and challenged the earlier findings of Rozeff (1982). In the same vein, Chen, Grundy & Stambaugh (1990) investigated the cross sectional relationship between the dividend yield and market risk (beta) using the market and changing risk premium approaches and found that none has a significant effect on the other in both methods. Despite the above opposing views, most contemporary studies are in agreement that beta is an important variable in dividend decisions.

### 7.3.3. The Impact of Taxes on Dividend Policy

Apart from the actual tax paid, two additional tax variables are included to provide a robust check<sup>53</sup> on the actual tax effect on dividend policy. The additional variables include the Pre-tax operation income to Average assets (TaxToTass) and the Non operational items & taxes to Average assets (NonTAX).

The *Model Summary* table shows that after controlling for the effect of the previously considered variables (insider, liquidity and beta), taxes are very significant at  $P=0.008$ . This is further confirmed by the *ANOVA* table of  $P=0.001$ . To determine the strength of each of the tax variables in the *Model 2*, the beta coefficient shows that the actual *Tax* and *TaxToTass* liabilities of the banks all make a significant input  $-0.308$  and  $0.307$  respectively. The *NonTAX* variable showed no significance. The result is not surprising as taxes generally influence the dividend payout of firm, hence dividend are usually paid from profit after tax (PAT).

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<sup>52</sup> Much of Casey & Dickens (2000) findings was a cross examination of the earlier study by Rozeff. They used similar variables as Rozeff and found differences in the results. Three outstanding variables were particularly of interest in their findings (the firm's growth rate, insider, and beta) all of which were insignificant and opposite of Rozeff's findings.

<sup>53</sup> Both the TaxToTass and NonTAX were incorporated to assess the operational and non operational impacts of incomes before the provision and payment of taxes by the banks. It is expected that the 2 variables will balance off any differences resulting from the fluctuations in the tax regimes.



However, previous studies relating to the tax effect on dividend decisions have produced very conflicting results<sup>54</sup>. Casey & Dickens (2000) affirmed that taxes have significant impact on the dividends of commercial banks in the US. Their findings concurred with an earlier study by Rozeff (1980). The assumption is that the lower the taxes, the higher the dividend payout. In addition to the dissident findings, Anil & Kapoor (2008) maintain that the imposition of taxes on dividend has no significant impact on the dividend policy of any organisation.

Wu (1996) investigated the impact of eliminating the preferential capital gain tax treatment of 1986 in the US and found some structural changes in the pattern of dividend which coincides with changes in the tax laws. The study concludes that such a shift significantly affects the aggregate corporate dividend payout. Wilkinson, Cahan & Jones (2001) recommended a reduced tax policy for firms in New Zealand as a strategy for dividend imputation. In a recent study, Pattenden & Twite (2008) evaluated the tax effect on dividend policy in Australia under different tax regimes for the period 1982-1997. They found that the increase in dividend payout and initiation differ among different firms. However, the study affirms that the higher the level of available franking tax credits, the higher the dividend initiation and payout.

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<sup>54</sup> La Porta, et al (2000) & Poterba & Summers (1985) chronicled various studies and highlight the various divergent views among economists of the tax effect on dividend policy. The traditional views assert that high taxes (either on personal or corporate bases) particularly in the US often serve as a bulwark to dividend payments. But this position is not without objections. Miller & Scholes (1978) held that investors employ various dividend tax avoidance techniques that make them escape from taxes. The ‘‘new view of dividends and taxes’’ proponents such as Harris, Hubbard, and Kemsley (1997), assert that taxes do not deter dividend payments. They agreed that cash must be paid out as dividend to shareholders at some point so, the payment of such dividends imposes no great burden on the shareholders.

#### 7.3.4. The Impact of Capital & Finance Structures and Size on Dividend Policy

The capital structure (*CapSt*) generally refers to the composition of the debt and equity in the banks' financial statements. The variable consists of the total debts/ total shareholders' equity (*DebtEquity*) ratio<sup>55</sup>. Model 3 contains in addition to the capital structure, the finance structure and size variables. The Model Summary shows that all three variables combined make an insignificant impact on the dependent variable. The *R Square Change* of Model 3 makes **0.100** (10%) of the regression total model.

However, the ANOVA table shows that all the 3 variables (debt/equity structure, capital structure and size), while controlling for the earlier variables in the Models 1 and 2, have a significant value of **0.001**. The beta coefficient provides a clue on the individual significance of each of the variables and shows that the *CapSt* has a standardized coefficient beta of **0.060** which is insignificant. This means that the level of debt/equity does not influence dividend policy; the higher the debt, the higher the dividend yield.

The result concurs with the findings of Baker & Powell (2000) and Brunarski, Harman & Kehr (2004) that the leverage level of firms has no significance on the level of their dividends. Their argument is based on the principle of the information content of dividend which opines that a reduction in the dividend may send a signal of cash flow problems to the public.

The debt structure of firms has constituted a platform in finance for divergent arguments. Not all agree to the non significance of a firm's leverage on dividend policy. Gugler (2003) and Pattenden & Twite (2008) affirm that leverage greatly influences the dividend pattern of the firms. The composition of the debt structure is thus very important. Due to the cost of raising equity, banks that have higher proportion of external financing than equity capital are likely to pay more dividends.

In fact, Kanatas & Qi (2004) posit that the firms' debt financing can be greater or less than the funding needs if the difference is paid to shareholders. A low debt structure increases the

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<sup>55</sup> The ratio fundamentally provides a fundamental test of the financial strength of a company. Its purpose is to create a picture of the measure of the mix of funds in the balance sheet and to make a comparison between those funds that have been borrowed (debts) and those that have been supplied by the owners (equity). As debts cost less than the equity funds, the inclusion of debts could improve profitability, add value to the share price, increase the wealth of its shareholders and develop greater potential for growth (Walsh, 2008).

firm's value and increases the cash available for disbursement as dividend. Conversely, a default in meeting up the debt obligations of the firm may trigger the suspicion of their lenders to inspect the firm's debt covenants; any serious violation on the part of the firm may jeopardise its going concern.

The finance structure of the banks as measured by the (debt + equity) / total assets (*FnSt*)<sup>56</sup>, makes a significant impact. This implies that the banks' finance structure is significantly important in the dividend decisions. The variable has a beta coefficient of **-0.370**, which is statistically significant.

Most past studies on the role of finance structure and dividend lean support to this finding. Brunarski, Harman & Kehr (2004) and Pattenden & Twite (2008) investigated the optimal finance structure of firms and assert that the assets and equity composition of the finance and capital structures as well as its fixed and current proportions are very important in its decisions on dividend. When the equity/ asset ratio increases, the dividend decisions will be reviewed upwards. As the number of shareholders increase, their stake also increase in the organisation, thus this affects the review of the dividend policy of the banks.

The *TotalAss*, which is used as proxy for size, shows a non significant value and a standardized beta coefficient value of -0.009. This indicates an insignificant contribution and points out that size of a bank is not a *siquanon* in its dividend policy. Chang & Rhee (2003) and Johnson et al (2006) argued in support, that the size does has no bearing on the dividend. Pattenden & Twite (2008) found the same result and observed that large firms, with their high level of debts, do not necessarily pay better dividend. Also firms with many high equity capitals do not guarantee a higher dividend policy. The result however is inconsistent with the findings of Reeding (1997) and Fama & French (2001) that large firms are likely to pay dividends.

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<sup>56</sup> This is often confused with capital structure. It refers to the financing of the firm's assets based on the totals of the short-term borrowing, long-term debts and owner's equity. The capital structure is primarily focused on the long-term debt cum assets.

### 7.3.5. The Impact of Profitability and Growth on Dividend Policy

Two variables, *ROE* and *EPS*, are used as measures of profitability<sup>57</sup>. The *PE* variable is used as proxy for growth. The *Model Summary* Table 7.3 shows that the three variables combined make no significance difference to the model, given their significance of  $P=0.484$ . The **R Square Change** is 3.5% while the **ANOVA** indicates however, that in combination of the previously considered independent variables, **Model 4** turns significant at  $P=0.002$ . Furthermore, Model 5 of the coefficient Table 7 shows that **EPS** and **ROE** have beta values of 0.155 and -0.170 respectively while the **PE** has a beta value of -0.056. Both the profitability and growth variables show no significance as dividend policy measures.

The result is contrary to the conventional wisdom, as profit is expected to influence the dividend decision of the banks and growth reduces the total amount of dividend available to the shareholders of the banks. However, previous studies have found similar results. In fact, there are two schools of thought on the influence of profitability on dividend policy. One opposes the hypothesis that profitability affects dividend while the other supports it.

Studies opposing profitability as a determinant of dividend, and thus giving credence to the result obtained in the study include Change & Rhee (1990), Baker & Powell (2000) and Anil & Kapoor (2008). The justification of their argument lies in the fact that a reduction in dividend due to a decrease in profit gives a bad signal about the bank. Banks would maintain a sustainable level of dividend such that a downturn in the organisation would not lead to a reduction in dividend. In fact, these proponents believe that firms would rather increase their leverage than reduce their dividends.

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<sup>57</sup> Different measures of profitability have been used in profitability studies. The earnings per share (EPS) relate the earnings generated by the bank which is available to the shareholders to the number of shares in issue. It is measured by the after tax profit less any preference dividend divided by the number of ordinary shares. The EPS measures the absolute return delivered to the shareholders. Growth in the EPS indicates the progress and profit of the bank. It is a very powerful indicator of financial performance of a firm (see also studies by Kumar & Sopariwala, 1992 and Kaufmann, Gordon and Owers, 2000). At the level of the individual firms, the ROE keeps in place the financial framework for a thriving and growing enterprise and drives industrial investment, growth in GNP, employment, government tax receipts at the macro economic level (Walsh, 2008). Apart from the ROE and EPS, the ROCE, returns on net worth and net profit margin are also profitability measures (See Chander and Priyanka, 2007).

Findings supporting profitability as an influential element in dividend policy include Gaver & Gaver (1993), Fama & French (2001, 2002), Gugler (2003) and Pattenden & Twite (2008). Azhagaiah & Sabari (2008) also found profitability as an important element in the dividend decision of Indiana chemical industry. The argument portrayed in these studies is that profit is directly related to the dividend. Thus, a fall in profitability will amount to a decrease in the amount of dividends declared and paid, thus a decline in the dividend yield. The argument does not however take into consideration that a reduction in dividend due to a fall in profit would send a wrong signal to the public and could thus jeopardise the growth of the bank.

The growth variable<sup>58</sup>, **PE** ratio, is also not significant. It has an insignificant standardised beta coefficient of **-0.059**. The negative beta coefficient implies that the banks' growth and dividend are negatively correlated. An increase in the bank's growth will decrease the dividend.

Baker & Powell (2002), Anil & Kapoor (2008), Chang & Rhee (1990), Pattenden & Twite (2008) and Casey & Dickens (2000) are all in agreement that growth of a firm has no significance on its dividend policy. The dividend signal hypothesis eliminates any idea of dividend reduction. Thus, the argument is that when a bank grows, it increases both capital and finance structures at the same level with its dividend policy.

However, like in many other studies, there are contradictory findings against this view. Some studies (Gaver & Gaver 2003, Grullon, et al 2002, Fama & French 2002 and Brunarski, Harman & Kehr 2004) have found that increase in growth would potentially drain the earnings available to shareholders and thus reduce dividend. Rozeff (1982) and

Gugler (2003) add that the significance is negative as the increase in one causes a reduction in the other. However, this argument does not lean support to the market reaction to any significant negative impact on dividend.

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<sup>58</sup> Different growth proxies that can be used include retained earnings as a percentage of owners' equity, current assets/ sales; retained earnings/sales (Walsh, 2008). But most studies agree that the PE ratio is a credible measure of growth of a firm. The ratio measures the future earning growth of the firm. A modified ratio, the PEG also measures the firm's growth by dividing the PE by the short term earnings growth rate. Increases in sales and total assets are also often used to measure growth (Easton, 2004). The argument is that when a bank grows, it requires capital for expansion. Such funds will thus reduce the available sum set outside for dividend.

## 7.5. Summary of Discussions

Thus in summary, CTSAR does not affect the dividend policy of the both the domestic and cross border acquirers. The coefficient result shows that it has an insignificant impact on the dividend policy of the sample banks. This finding is corroborated by the Granger causality test result, which showed that M&A does not affect the dividend policy of banks.

CSTAR is insignificant on both measures of dividend policy used in the study (dividend yield and payout). The insignificance of the cross border and domestic CTSAR variable implies that the dividend policy is not influenced by the geographical locations or national boundaries of the banks and remains same even after the event. In the same vein, the profitability, capital structure (debt/equity), size (total assets), growth (PE) do not also influence the dividend policy of both the domestic and cross border acquirers.

However, other variables such as the beta, liquidity, taxes, equity to total assets and the finance structure of the acquirers are significant variables in the formulation of the dividend policy of the banks. These findings confirm the results of previous studies on dividend policy. The *beta*, which a proxy for risk, is the most significant factors affecting the dividend policy of the banks.

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## Appendix 2

### List of Cross Border Acquirers

<b>S/N</b>	<b>Announcement Date</b>	<b>Acquirer</b>	<b>Acquirer country</b>
1	20/08/2005	Raiffeisen International Bank-Holding AG	Austria
2	29/10/1999	Erste Bank der Oesterreichischen Sparkassen AG	Austria
3	28/09/2007	KBC Groep NV	Belgium
4	19/04/2002	KBC Bancassurance Holding SA	Belgium
5	20/09/2006	Cyprus Popular Bank Public Company Ltd	Cyprus
6	13/06/2006	Credit Agricole SA	France
7	24/03/2006	Societe Generale	France
8	14/05/2001	Societe Generale	France
9	07/01/2001	BNP Paribas SA	France
10	03/05/2004	Societe Generale	France
11	14/01/2001	Societe Generale	France
12	26/09/2002	Societe Generale	France
13	03/03/1998	Societe Generale	France
14	03/11/2003	Societe Generale	France
15	22/07/2000	Bayerische Hypo-und Vereinsbank AG	Germany
16	15/02/2002	Unicredito Italiano SpA [and others]	Germany
17	09/11/2003	Commerzbank AG	Germany
18	01/08/2007	National Bank of Greece SA	Greece
19	06/12/2005	Unicredito Italiano SpA	Italy
20	01/09/2007	Unicredito Italiano SpA	Italy
21	23/03/2006	Unicredito Italiano SpA	Italy
22	08/04/2004	Unicredito Italiano SpA	Italy
23	06/12/2005	Unicredito Italiano SpA	Italy
24	20/01/2003	Unicredito Italiano SpA	Italy
25	15/06/2001	IntesaBci SpA	Italy
26	04/01/2002	Unicredito Italiano SpA	Italy
27	13/04/2000	Unicredito Italiano SpA	Italy
28	21/03/2001	Unicredito Italiano SpA	Italy
29	04/05/2006	Banco Comercial Portugues SA	Portugal
30	23/07/2004	Banco Santander Central Hispano SA	Spain
31	06/12/2006	Banco Bilbao Vizcaya SA	Spain
32	29/12/2002	Banco Santander Central Hispano SA	Spain
33	02/10/2000	Banco Santander Central Hispano SA	Spain
34	06/12/2006	Banco Bilbao Vizcaya SA	Spain
35	21/01/1999	Banco Santander Central Hispano SA - BSCH	Spain

36	09/08/2005	Skandinaviska Enskilda Banken AB	Sweden
37	23/09/2004	Barclays PLC	UK
38	01/10/2005	Standard Chartered PLC	UK
39	28/10/2003	HSBC Holdings Plc	UK
40	17/07/2006	Standard Chartered PLC	UK
41	20/09/2001	HSBC Holdings Plc	UK
42	14/05/2001	Societe Generale	France