INVESTIGATING SHAREHOLDERS’ ECONOMIC VALUE CREATION IN THE BANKING INDUSTRY: -

The case of the HSBC and Barclays plc, UK

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EXECUTIVE SUMMARY

This paper analyses shareholders’ economic value creation using two major banks; HSBC and Barclays plc of UK within a five-year period (2003-2007). We use both internal and external information such as auditors’ annual financial reports, designed control variables, stock market data, etc to analyse business activities and practices of the banks and how they influence shareholders value on the stock market. We applied both the innovative (EVA) and traditional accounting (ROA and ROE) methods to measure their respective performances, regress it against stock market returns and other control values to understand their explanatory power especially to shareholders’ economic value. Our empirical results were mix: Though both innovative and traditional accounting methods do explain the variations of the stock returns for both HSBC and Barclays, the information content of EVA per equity is superior to the variations of Barclays’ stock market returns whiles return on asset (ROA) provides more explanation power to variations in the stock market returns for HSBC.

At the comparative level both banks are creating values but Barclays provides higher average EVA per equity compare to HSBC. However Barclays operates under higher internal volatility which affects it performances measurements including stock market reactions and returns hence HSBC prove to be superior when shareholders measure them on risk-adjusted level.
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# Glossary of Terms and Abbreviations

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<td>BP07</td>
<td>Barclays Price 2007</td>
</tr>
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<td>BR07</td>
<td>Barclays Return 2007</td>
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<tr>
<td>C-C</td>
<td>Capital Charge</td>
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<td>EFF</td>
<td>Efficiency</td>
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<td>E(R)</td>
<td>Expected Return</td>
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<tr>
<td>EVA</td>
<td>Economic Value Added</td>
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<tr>
<td>FP</td>
<td>FTSE100 Price</td>
</tr>
<tr>
<td>FP07</td>
<td>FTSE100 Price 2007</td>
</tr>
<tr>
<td>FR</td>
<td>FTSE100 Return</td>
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<tr>
<td>FR07</td>
<td>FTSE100 Return 2007</td>
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<tr>
<td>HP07</td>
<td>HSBC Price 2007</td>
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<tr>
<td>HR07</td>
<td>HSBC Return 2007</td>
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<tr>
<td>IN</td>
<td>Interest income</td>
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<tr>
<td>KA</td>
<td>Equity /Asset</td>
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<tr>
<td>MR</td>
<td>Market Return</td>
</tr>
<tr>
<td>NIN</td>
<td>Non-interest Income</td>
</tr>
<tr>
<td>NP</td>
<td>Net Profit</td>
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<tr>
<td>OEXP</td>
<td>Operating Expense</td>
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<tr>
<td>PBT</td>
<td>Profit before Tax</td>
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<tr>
<td>PFT</td>
<td>Profit after Tax</td>
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<tr>
<td>P-L</td>
<td>Provisional for Loss</td>
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<tr>
<td>RAR</td>
<td>Risk-Adjusted Return</td>
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<tr>
<td>R_f</td>
<td>Risk-free rate</td>
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<tr>
<td>ROA</td>
<td>Return on Asset</td>
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<td>ROE</td>
<td>Return on Equity</td>
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<tr>
<td>TA</td>
<td>Total Asset</td>
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<td>TSE</td>
<td>Total Shareholders Equity</td>
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DEFINITION OF TERMS

Shareholder: A shareholder or stockholder is an individual or company (including a corporation) that legally owns one or more shares of stock in a joint stock company.

Shareholder Value: Shareholder value is a business buzz term, which implies that the ultimate measure of a company's success is to enrich shareholders.

Economic Value Added: Economic Value Added or EVA is an estimate of true economic profit after making corrective adjustments to Generally Accepted Accounting Principles, GAAP accounting, including deducting the opportunity cost of equity capital.

Stock Market: “A stock market or (equity market) is a private or public market for the trading of company stock and derivatives of company stock at an agreed price”.

Source: www.wikipedia.org
CHAPTER ONE

INTRODUCTION

SUMMARY

Various empirical results establish that the information content of value-added (EVA) is a major determinant of stock market returns, providing superior explanation variations beyond traditional or general accounting performance methods (Biddle, Bowen and Wallace (1997) Chen and Dodd (1997), Lehn and Makhija (1997), Rogerson (1997) and Bao and Bao (1996; 1998)). Shareholders value creation can be achieved if all functions of a firm utilized their resources effectively and efficiently to create a distinct-level competitive advantage. Our aim is to investigate how banking corporate creates economics values for their shareholders as they competitively utilized their fund and whether this internal value creation has any association with the stock market value creation using HSBC and Barclays plc of UK as our case study.

1.1 INTRODUCTION

Banks play an important role in the economy for two reasons: they provide a major source of financial intermediation and their checkable deposit liabilities represent the bulk of the nation’s money stock. Evaluating their overall performance and monitoring their financial condition is important to depositors, owners, potential investors, managers and of course, regulators.

Presently, financial ratios are often used to measure the overall soundness of a bank and the quality of its management. Bank regulators for example use financial ratios to help evaluate a bank’s performance. Evaluating the economic performance of banks, however, is a complicated process. Often a number of criteria such as profits, liquidity, asset quality, attitude toward risk, and management strategies must be considered. The changing nature of the banking industry has made such evaluations even more difficult, increasing the need for more flexible alternative forms of financial analysis.
1.2 STATEMENT OF PROBLEM

This thesis work will seek to investigate shareholder value creation by the banking industry. Thus it searches for correlation between EVA which is a measure of shareholders’ value and stock prices on the financial market. Also various control variables that influence EVA will be evaluated. Last but not the least information content of traditional accounting performance will be investigated in relation to that of EVA.

1.3 OBJECTIVES OF THE STUDY

The study will also seek to find out the following:

- The understand value creation methods in the banking industry and factors that affects them in the UK.

- The examine the economic structure of the banking industry in the UK

- To examine in detail the effect of the values creational activities of the retail banking in its financial performances (historical data, 2003-2007) and the shareholders’ value in the case of Barclays Plc, and HSBC.

1.4 MOTIVATION OF THE STUDY

The deregulation of the banking industry in most countries has created an unprecedented and vibrant competition in the industry. This competition has been very chaotic as Information Technology advances exponentially and customers’ expectation and satisfaction extremely varies beyond corporate decision-level threshold. The ability for the banking firms to create and maximise shareholders value has been a great concern. This means that all functions of the bank must be effectively and efficiently be utilised to ensure a distinct-level competitive advantage for corporate survival and sustenance.

According to Roach (1991) the massive IT investment within the service sector has transformed the cost structure of the service industry from variable cost to more fixed cost.
regime. This conclude that IT investment would economically benefit organisation if organisation increase transactional volume else the reduction in unit costs are passed to the final consumer as consumer surplus. (Griffiths & Remenyi, 2003) also explain that IT Investments should be aligned with value disciplines to promote value creation through revenue enhancement than cost reduction.

According to Revell (1987) the efficient of economies is based on the labour usage, technology, marketing or managerial functions. Firm value creation can therefore be understood by critical analysis of the three generic models (Stabell &Fjeldstad, 1998), the value chain (Porter, 1985), the value shop and the value network.

Upon successfully completion of this project, it would serve as a brief and concise value creation material for strategic management and competitive tool in retail banking industry.

1.5 SCOPE AND LIMITATIONS

Investigating shareholders’ value creation in general can be studied from different perspectives. When studied from the shareholders perspective, the research is mostly based on the information collected from the shareholders. When it is the stock market perspective, the information used in the study is collected mainly from the stock market. If the study is based on the company perspective then the information used will mainly be collected from the company. Nonetheless each perspective is worthy of investigation. However due to the time limit and the scope of the problem we are obliged to make some limitations.

We tackled this research issue from the stock market perspective. We chose this point of view since we believe in a semi-strong market as UK all activities taking in a corporation have a reflection on it stock prices. Thus if the shareholder is well-off on the market then he/she is truly prospering. We therefore believe that our research problem would be well answered if we used the stock market perspective. Even though we are considering this problem on this perspective, we collected some secondary data in the form of financial statements from the banks used as case study.
Our study was limited to 2 banks that we believe information on can easily obtained and be used to better answer the research topic. Also those banks in our study are large, listed and a major players of UK market. Thus we believe that the conclusions from this study will provide an estimate on total reflection of shareholders’ value creation. We also acknowledge mathematical approximation and statistical errors imputed during the course our calculations and simulations. Many factors can affect shareholders value such as the environment surrounding the firm, weaker business climate, political situation, and currency fluctuations. Our study will not focus on those factors though background information partially covers some practices of the industry.

1.6 EMPIRICAL STUDIES

Traditionally, most studies have focused on accounting profits, earnings and accruals, but more recently cash flows and residual income have attracted attention. A number of additional variables have also been investigated within this construct, including capital expenditure, company profits and losses, and research and development expenditure. It is within this broad literature that all empirical studies of EVA® and other value-added information have been analyzed.

The overall finding of the value-relevance literature is that any number of accounting-based information sources can potentially influence share prices. The empirical literature, however, also suggests that earnings generally dominates most other measures in explaining stock returns, although the more recent literature indicates that earnings should not be relied upon, largely because of its discretionary nature. Research into the information content of other variables, especially cash flows, has increased because of the apparent limitations in earnings figures, and because of the increased demand for investors and analysts to correctly identify firm values.

While accounting profit measures such as earnings per share, return on equity, return on assets and return on investment are among the most commonly used performance measures, they are often criticized for not taking into consideration the total cost of capital and for being unduly influenced by accrual-based accounting conventions. In contrast, EVA®, the difference between after-tax operating profits and the total cost of capital, is promoted as a measure of a company’s real profitability. Since value is a primary concern to investors, proponents claim that EVA® is the only performance measure that ties directly to a stock’s
intrinsic value (Stewart, 1991). It has also been generally asserted that stock prices and EVA show a remarkable tendency to move up and down together. EVA® proponents insist on the superior information given by the EVA® figure when compared to normal accounting figures.

To start with, Bao and Bao (1998) investigated the usefulness of value added and abnormal economic earnings of 166 US firms. The results indicated that value added is a significant explanatory factor in stock market returns, and its explanatory power is higher than that of earnings. Riahi-Belkaoui (1993) also examined the relative and incremental content of value-added, earnings and cash flows in the US context. The results indicated that the information content of value-added is a major determinant of market returns, providing incremental information content beyond both net income and cash flow. Later, Riahi-Belkaoui and Fekrat (1994) also found that performance measures based on net value-added had lower variability and higher persistency than many corresponding accounting-based numbers, including earnings and cash flows.

In a closely related study, Riahi-Belkaoui and Picur (1994) confirmed the association between both relative changes in earnings and net value-added and the relative change in stocks prices. They also found that both the levels of net value-added and the changes in net value added play a role in securities valuation. Riahi-Belkaoui (1996) also compared the use of linear and non-linear models in specifying the relationship between value-added and market returns. He established that models relating accounting and stock market returns have more explanatory power when, firstly, the accounting returns are expressed by the relative changes in net value-added, and secondly, the relation is a nonlinear convex-concave function (Riahi-Belkaoui, 1996). The possibility of nonlinearity more-broadly-defined accounting relationships has also been investigated by Freeman and Tse (1992), Cheng et al. (1992), Das and Lev (1994), and Lipe et al. (1998).

Nonetheless the EVA model has been extensively used in US but not been tested outside that country. This thesis seeks to investigate economic value creation by HSBC and Barclays plc to their shareholders. EVA model would now be used outside US to attest a correlation between such performance measurement and stock market returns of these banks.
CHAPTER TWO
REVIEW OF RELEVANT LITERATURE

SUMMARY

Modern empirical studies are based on the Structure-Conduct-Performance (SCP) paradigm which tries to explain the relationship between conduct and performance of the firms and the industrial structure behaviour in which they operates. According to Mason, (1939, 1949) and Bain (1951) bank concentration impairs competition resulting in lower deposit rates, higher loan rates and greater profitability. Rhoades (1985) establishes positives relationships between profitability and market share, concentration and profitability, profitability and risk and between market growth and profit which arise due to barrier of entry. It suggests that products differentiation advantage is a critical factor for the relationship between the profit and the market share among the banks and not to be associated to the efficiency of the banks.

Value creation through Information Technology can be achieved by: (1) improving each value adding function, (2) linking customers and suppliers to increase their switching costs, and (3) creating new business through service or product. According to Petty and Martin (2001) shareholder value is managed by importantly identifying what drives shareholders value in the capital market. According to Dalborg (1999), shareholders’ value creation can be achieved through excellence in operations, practicing right financial structure, being focused, and credible earning growth. A banking firm will earn economic profit if the bank total earning exceeds its opportunity cost of equity employed. The use of economic profit metrics instead of traditional accounting application ensure that management consider banking business lines cost of equity in their decision making-process and allocate equity capital profitably and in direction of shareholders’ interest as whilst their managerial incentive are also monitored based on shareholders wealth maximisation (Ralph C. Kimball, 1998).

2.1 INTRODUCTION

In this chapter, the researchers aim at reviewing available literature on the banking management, economic value-added, shareholder value creation and value-based management in general to serve as a guide in the analysis so as to enable them form an
opinion. The analysis also considers various theories or generalisations to explain the dynamics in the shareholder value creation.

2.2 BANKING INDUSTRY, THE OVERVIEW

2.2.1 Banking, What Is It?

A bank is a generally describes as a financial institution that acts as a payment agent for customers, and borrows and lends money.

Banks' activities can be divided into retail banking, dealing directly with individuals and small businesses; business banking, providing services to mid-market business; corporate banking, directed at large business entities; private banking, providing wealth management services to High Net Worth Individuals and families; and investment banking, relating to activities on the financial markets. Most banks are profit-making, private enterprises. However, some are owned by government, or are non-profits.

Central banks are normally government owned banks, often charged with quasi-regulatory responsibilities, e.g. supervising commercial banks, or controlling the cash interest rate. They generally provide liquidity to the banking system and act as Lender of last resort in event of crisis. (www.wikipedia.org)

The focus of the thesis would be banking in universal term.

2.2.2 The Activities of UK Banking Firms

The deregulation of the UK banking industry has lead to a tremendous and substantial growth to support the economy at large. Major growth through challenging competition and structural include the transformation of the building societies to banks and the promoting of non-banking institution(such as Virgin, ASDA, TESCO etc.) to enter the financial industry. The Building Societies Act (1986) has provided a platform for the Building Societies to compete directly in the retail banking market hence changing the market structure of the banking industry over the years. This competition has enhanced and widen consumer choice spectrum. There has been also consolidation of the banking industry. According to Drake (2000), though the UK
financial industry proves substantial structural changes there is little research conducted on this industry.

The sector experiences a number of demutualisation, merging consolidation and diversification of building societies between 1987 and 2002. Abbey National (a building society) was then transformed to Plc whiles Halifax, Northern Rock and Alliance and Leicester were all demutualised. Lloyds-TSB Group was formed from merging between Lloyds and TSB whiles Woolwich was then acquired by Barclays Bank plc. The Royal Bank of Scotland acquired National Westminster and later merged with Halifax to form the HBOS Group.

Considering the UK banking industry, the total asset at the end of 2007 was amounted to £6.964bn indicating a growth of 11% of the previous year. Of this total asset, 58% is from foreign banks operating in UK. The banking industry consist of the UK incorporated banks (both the UK and foreign own banks authorised to operate in UK by the Financial Service Authority (FSA) under the Financial Service and Market Act 2000 (FSMA) and foreign banks. Between 1999 and 2007 there was a decline of UK incorporated banks from 254 to 157 banks due to mergers and closure of small banks in the industry (Ifsl Research: Banking report 2008). Empirical studies by McCauley and White (1997) and White (1998), explain that across the European countries banking sector, UK experienced more merger and acquisition activities between 1991 and 1996.

Across the foreign banks in the UK there were 254 banks recorded in March 2007 that have physically operating off in the UK. There are also more than 200 foreign banks from the European Economic Area operating in the UK under the Banking Consolidation Directive Regulation without an actual physical presence in the UK. Financial stability and the protection of depositors are essential components of a healthy economy. Supervision of the financial sector describes the monitoring and regulating of firms to ensure they are complying with the regulatory requirements.

The financial industry in UK is regulated by Financial Services Authority (FSA) which is an independent non-governmental body with statutory powers by the Financial Services and Markets Act 2000. The FSA Promote and maintain confidence in the financial system, ensuring that there is public awareness and understanding of
the financial system, securing the appropriate degree of protection for consumers and the reducing the extent to which it is possible for a business to be used for a purpose connected with financial crime (Financial Service Authority, UK).

2.3 ECONOMICS OF BANKING

The neoclassical theory of firms focuses on the analysis of competition and the market structure based on the number and size distribution of sellers in the market. Modern empirical studies are based on the Structure-Conduct-Performance (SCP) paradigm. The SCP paradigm tries to explain the relationship between conduct and performance of the firms and the industrial structure characteristics in which they operates.

According to this paradigm the structure of the industry focuses on the firm’s size, the concentration, entry and exit level characteristics, products differentiation, vertical integration, etc. The conduct of the industry also consider the policy, objectives, marketing strategies, pricing methods and policies and research and development needed for innovation and growth. On the basis of the performance of the firms, the SCP considers the critical analysis of the profitability, product quality, efficiency and technical progress of the firms within its industry. However the paradigm considers the market structure as imperfect competitive structure and therefore needs for regulation to check any abuse of power by individual or group of firms. Mason, (1939, 1949) and Bain (1951) worked on SCP and express that bank concentration impairs competition which then result in higher loan rates, lower deposit rates and greater profitability.

In applying SCP paradigm to the banking industry Molyneux et al (1996) explained that SCP relationship is use to assess the main policy issue on the type of banking structure, the best service to the public when cost and banking services is considered. He advanced that efficiency system and minimising the possibility of failure in the banking firm are the two major objectives.

Collusion hypothesis explains that if smaller number of banks dominate in a banking sector, then for the purpose of cost efficiency and higher profit they should collude (explicitly or implicitly) than if the number of banks is large. By collusion they can then charge higher rate on loans, charge higher fees (non-interest) and pay less interest on deposit. Berger and Hannah (1989) also conducted their findings and suggested that the alternative way of
researching into the collusion hypothesis is to concentrate on the level function between concentration and price. The findings explain that there is a negative relationship between market concentration and deposit interest rate. This provides an evidence that banks in a concentrated market exert market power by giving depositors lower interest rate. Upon research on both US and UK banking firms using SCP paradigm (Gilbert, 1984; Molyneux et al. 1996) concluded that there is some relationship between market concentration and profitability. Short (1979) did test whether firm profitability depends on the ownership type, concentration level, growth in asset and capital scarcity using 60 banks in Canada, Western Europe and Japan and came out with a conclusion that there is a positive relationship between concentration and profit. It explains that banking firms can make higher profit through the use of market power or collusion. The test also suggests that scarcity of capital leads banks to have the opportunity to grant higher interest rate loans to customers. Contrary the growth of the banking firm and has negative effects on its profitability whereas private own banks tends to be more profitable and the state-own-banks.

Further empirical studies taken by Rhoade (1985) also establish very important functions after collecting data on US banks between the periods of 1969-78. During his research he split the data into deciles based on the concentration of the market. These findings help him to examine the relationship between profit, market share and concentration and the following outcome were establishing the following results:

There is a positive relationship between profitability and market share and also between concentration and profitability. He also found a positive relationship between profitability and risk and also a positive correlation between market growth and profit which arise due to entry barrier. It suggests that product differentiation advantage is a critical factor for the relationship between the profit and the market share among the banks and not to be attributed to the efficiency between the banks.

2.4 CRITICAL FACTORS OF MARKET STRUCTURE OF THE BANKING INDUSTRY

Various empirical studies have been focus on the banking sector to understand the market structure which has mostly been measured by the market concentration. Banks with distinct differentiated product and a greater market share can exercise market power or collude in
price setting to earn higher profit irrespective of the degree of market concentration (Shepherd, 1982). In trying to explain the market structure various variable such as industrial lifecycle, market growth, strategic behaviour of individual banking firm, technological change, government regulation and supervision and economies of scale and scope are critical factors which need to be considered.

Importantly Baumol et al (1982) explains that economies of production can be grouped into two main parts: economies of scale and scope. Economies of scale result with the size of a firm and occur if the average cost of production falls as the firm’s output expands. Revell (1987) also advanced on this issue and points out that economies may result from technology, marketing and managerial functional levels and efficient use of labour. Banking firms can therefore realised economies of scale if they channel their resources to transact large services whereby their average cost of transaction will be reducing.

The economies of scope on the other hand is realised in a firm if they can jointly produce two or more product or services at a lower cost than if it were produced separately. In this case the same resources with excessive capacity are used to produce or process more but differentiated products or transactions. This reduces the fixed cost per unit product as the cost is spread in a wider spectrum of differentiated product. Carbo-Valverde et al. (2007) and Elsas et al. (2006) establish that banks generate higher profit when there is a wide spectrum of income streams over the banks’ income sources. Firm which well diversified perform better than those not relatively well diversified (Rumelt, 1972, 1982, 1986), however there must be a limit upon which firm should diversify, beyond this firm will suffer market value and reduction in diversification through refocusing is associate with value creation (Markides, 1992).

Across Europe various empirical studies have been taken on the scale and scope of economies. There has been indication that economies of scope exist for banking group compare with non-group banking (Casu and Gramley (1998)). The European Commission (1997) also establish the fact that there is a strong economies of scope in large banks across the European banking sector. Calomiris and Karceski (1998) on the other hand did not find any significant positive relationship between the scale of bank’s activities and its performance. In UK the building societies became the area of focus for research into the economies of scope and scale in the 1970s. A cost function date was collected on building societies and no evidence of economies of scale was found (Gough (1979)). Again no
evidence of economies of scale was established by Barnes and Dodd after advancing on similar project using banking data from 1970-78. According to cooper (1998) economies of scale for building societies whose assets is less than £100million whiles larger banks did experience diseconomies of scale. Economies of scope can therefore be achieved through the reduction of firm risk, information and consumer cost economies and spreading of fixed cost (Berger et al (1987)). Drake (1995) also conducted research on scale and scope economies on UK building societies using translog multi-product function cost function to find the expense-preference behaviour and find no evidence of scale and scope economies.

Several empirical studies considered on the market structure-performance relationship which in totality result in mixed findings. Bikker and Haaf (2002) establish that there is monopolistic competition in all European banking market. There also advance there that the deposit and loan market hypothesis in Europe are perfectly competitive and can not be rejected although the power of the test against the alternative of Cournot equilibrium is not very high. Four important types of entry barrier have been established by Bain (1956). These are the economies of scale, absolute cost advantage, product differentiation and capital requirement. Banking firms which enter the market below the minimum efficient scale (MES) will likely to experience an average cost which is 5% higher compare with banking firm operating with least MES. Barriers may also be established in the banking market if substantial switching cost are involve in moving from one bank to another (Klemperer, 1987). Roade (1980) find that there would be rapid market growth, very competitive market, and reduced concentration if there is free market entry to market. However Smirlock (1985) advance that restricted banking market entry result the larger incumbent banks creating opportunity to dominate increasingly concentration market as the market grows rapidly. According to Kay (1993) firms can use ‘distinctive capabilities’ such as firm’s internal organisation, suppliers and distributors contact and reputation (such as high quality, brand, personnel, etc) then they can achieve competitive advantage. In this case they may dominate in the market making it difficult for any new firm to enter the market. Incumbent banking firm may also create entry barrier by engaging in high advertisement to create product awareness and hence deter new entry firm. At the macroeconomic perspective many banks’ profitability depends on the business cycle. There have been various empirical studies to establish the effect of profitability on the cyclicality of the aggregate economy. Bikker (2004) tried to analyses ROA, lending and loan loss provisions using data collected between 1979
and 1999 from 26 OECD countries at an aggregated level. He then concluded this research with as strong evidence that profitability moves movement depends on the business cycle. Llewellyn (2005) explains that the strong performance of the banking sector in the United Kingdom compared to European banking can be attributed to the business cycle, structural factors and mix and strategy and the practices applied by the banks. The profitability of the UK banking sector largely depends on the degree of bad debt which in turn depends on the level of stability and health of the UK economy. This is because large proportion of their income is generated from the provision of credit facility to customer. The results of Kosmidou and Pasiouras (2005) and Hassan and Bashir (2003) are consistent with the impact of the GDP or aggregate output growth of the economy on the financial sector. Demirgüç-Kunt and Huizinga (1999) and Claessens et al. (1998) also establish a positive relationship between banking performance and inflationary rate of the economy.

2.5 CREATING SHAREHOLDER VALUE

2.5.1 What is Shareholder Value?

This is the value of the company (firm) minus the future claims (debt). This value can be calculated as the Net Present Value (NPV) of all future cashflows plus the value of the nonoperating asset of the company.

Thus

\[ \text{Shareholder Value} = \text{Corporate Value (firm value)} - \text{Future Claims (Debt)} = (\text{NPV of all future cash flows} + \text{value of nonoperating assets}) - \text{Future Claims (Debt)} \]

2.5.2 Value Drivers

Value drivers are the operating factors with the greatest influence on the operating and financial results and they also incorporate the entire decision-making dynamic. Value drivers help make the strategy real at all level of specificity that is meaningful and actionable. Value drivers include aspects of the operating decisions and are used to understand non-financial operating measures. Value drivers occur in all parts of the company (Knight, 1998).

Value drivers are in fact at the root of value creation. Rappaport (1998) explained that value audit permits the managers to monitor the overall value creation and value
drivers’ analysis is a very critical step in searching for strategic initiatives with highest value-creation leverage. He made it clear that the shareholder value analysis helps management to determine the areas of business which need to be managed most; otherwise it is not easy to set priority since many factors can influence the value of a business. Petty and Martin (2001) recognized that if one wants to manage for shareholder value, the first and foremost thing is to identify just what drives shareholder value in the capital market. A key issue that frequently arises in this regard involves whether share value reflects a firm's quarterly earnings or encompasses the future cash flow generating potential for the firm.

Dalborg (1999) identified three fundamental drivers of value creation. These are profitability, growth, and free cash flow. According to him, normally the value of a company is determined by its current profitability, expectation for profit growth and he added also that free cash flow could be considered to be a determinant of value in certain situations.

According to Rappaport (1998) there are seven critical value drivers in determining the value of any business: sales growth, operating profit margin, incremental fixed capital investment, incremental working capital investment, cash tax rate, cost of capital and value growth duration. However, he mentioned that for the operating decisions these factors are broad and in order to be useful there is a need to determine the micro value drivers that influence the above 7-macro value drivers. This means that the manager needs to set micro value drivers at the business unit level. It is seen to be very crucial since it presents a variety of advantages. It allows focusing on the activities that maximize the value, that have significant value impact that are most easily controlled by management. It also helps to eliminate cost in activities that provide marginal or no potential for creating value.

2.5.3 What is Value Creation?
According to Copeland et al (2000) value is created in the real market by earning a return on the investment greater than the opportunity cost of capital. Thus the more you invest at a return above the cost of capital the more value you create. This implies that growth creates more value as long as the return on the capital exceeds the cost of capital. They go on to mention that one should select the strategies that maximize the present value of expected cash flows or economic profits. The returns that
Shareholders earn depend primarily on changes in the expectations more than actual performance of the company.

Dalborg (1999) pointed out that value is created when the returns to shareholder, in dividend and share-price increases, exceed the risk adjusted rate of return required in the stock market (the cost of equity). He said that the total shareholder return must be higher than the cost of equity to truly create value. Hogan et al (1999) state that in a competitive environment, shareholders value is created when a company invests in projects that earn a return in excess of the cost of capital.

2.5.4 Facts about Shareholder Value Creation

Shareholder value creation is seen as vital in many organizations. Before stating describing different ways to create shareholder value, it is important to first capture the following ideas about shareholder value creation. Knight (1997) said that higher profitability does not guarantee value creation for shareholders in a company. That is because creating value for shareholder operates under three rules, which are the slippery slope of value creation: the first rule is that the level of profitability has nothing to do with value creation. When it comes to creating value for shareholders, companies that are very profitable have no advantage over companies that are less profitable. Second rule, all management teams start on a level playing field for creating value. Last rule is that different companies face different challenges in creating value. Companies are handicapped based on the results to date. Clarke (2000) added that what it is important is that a company adhering to shareholder value principles concentrates on cash flow rather than profits.

Petty and Martin (2001) state that, value creation involves much more than merely monitoring firm performance. Value is created where managers are actively engaged in the process of identifying good investment opportunities and taking steps to capture their value potential. Value creation requires management to be effective at identifying, nurturing and harvesting investment opportunities. In addition to this a capital–market focused measurement and reward system that ties employee-level performance to owners rewards will promote the establishment of a continued cycle of value creation that benefits everyone.
To be able to develop an effective strategy for increasing shareholder value, there is a need to first, understand the factors that determine shareholder value, then assess by what means managers may create an environment where increased shareholder value is made possible (Michael et al, 2000).

Concerning creating shareholder value in the future, it is becoming increasingly more difficult to create value in the future since investors will realize no matter how good is getting in creating value and they will price the stock accordingly. By increasing the stock price, investors are giving managers credits for performance to date, but they are also increasing the degree of difficulty in creating future value. “What have you done for me lately?” is what the shareholders are asking. Even though operating returns may have improved but investors gave credit for that by increasing the value of the company and yet they still want to know what is going to be done to create more value in the future. Companies face challenges in creating shareholder value such as increased complexity, greater uncertainty and risk, time compression, conflicting priorities. Managers are being required to make the complex simple, to reduce uncertainty and risk, to speed decisions making and to balance conflicting priorities. Companies have been trying to face these considerable challenges through different ways such as capturing the business strategy in performance measures, paying management for value creating performance and focusing managers on the business strategy (Knight, 1998).

2.5.5 Creating Shareholder Value – The Strategy

Different ways are identified in which companies create shareholder value. Dalborg (1999) identified general four cornerstones in creating value for shareholders. Those are excellence in operations, getting the financial structure right, being focused, and credible earning growth. He believed that being successful in creating shareholder value; the company needs to be well positioned in both the four areas. Furthermore, other ways to create shareholder value are also identified under this section.

2.5.5.1 Superiority in Operations

Dalborg (1999) states that excellence in operations means running the current business to produce maximum sustainable profitable growth from the current assets base. Operating
efficiency presents a great importance for value creation since it contributes to the overall profitability and also when growth initiatives are being considered operating efficiency is also a prerequisite.

He explained that one key to achieving excellence in operations is to decide an outlay that promotes current and future revenue-generation capabilities while simultaneously enhancing cost efficiency, which is a difficult balancing act. This is because cost-cutting is never ending since new technologies oblige improvement continuously. Thus, the culture of change must be introduced as a norm rather than an exception. Excellence in operation is closely related to profitability since with that profitability is maximized within the scope of a given product area and geographical markets (Dalborg, 1999).

2.5.5.2 Right Financial Structure

Dalborg (1999) based the discussion of getting the financial structure right on the cost of equity; it is seen as important because it is used as a discount factor in the calculation of value. A company’s cost of equity is equal to the expected rate of return that investors require to purchase the company’s stock. Although the cost of equity is not discernible from the market data, the information is needed to manage risk capital in the interest of shareholders.

Under the assumption that markets are efficient, a company that aims at maximizing shareholder value should pursue investments that are in line with company’s strategy and have a risk adjusted rate of return that exceeds the cost of equity. Thus to make right investment decisions the company need to know its cost of equity, it is also important to know that the cost of equity varies with a company’s risk level and debt structure. The risk level of a company needs to be carefully chosen since it is an important determinant of the cost of equity. Managing the level of risk capital is also important because companies get into problems when equity is too low. The solvency ratio must be kept appropriately high in relation to the risk in operations and expansion plans for the near future, and not higher than that (Dalborg, 1999).

According to Dalborg (1999) a company should keep the structure of equity as simple as possible in order to provide maximum value for shareholders. The structure of equity capital should not be an obstacle to a take-over in a company that maximizes value; instead a high share price should provide such an obstacle. He also added that getting the financial structure
right is closely related to free cash flow since it deals with issues of capital, risk, and dividends, the important point being to manage the company’s capital in the interest of shareholders.

2.5.5.3 Being focused

Dalborg (1999) states that focus has become one of the building blocks in valuing the shares since investors are becoming increasingly aware that all customers need for different products cannot be met by one company. In order to maximize value, companies need to be focused. Therefore, they need to have clear strategy on where to concentrate efforts. This must be effectively communicated to the companies’ staffs and then adequate mechanisms for follow up can be subsequently achieved. Companies can enter areas where they have competitive advantage and downsize, divest, or close operations that do not have the potential to create value, this has to start at the group strategic level and it must be understood and accepted by the successive layers of the hierarchy. Being focused is linked most closely to the profitability since to better manage a company one needs to focus on its areas of profitability otherwise profits would deteriorate.

Adding to the above ideas of Dalborg, other authors had also some views on this issue. Van and Linde (1998) stated that cutting back on investment (and divert capital from) activities and lines of business which are uneconomic meaning that they do not generate returns in excess of the required cost of equity can also create value. Zook and Allen (2000) added that profitable core could be an extremely durable engine for profitable and value creation driving a company for many decades.

2.5.5.4 Grow the Earnings

Growth adds new assets that provide for future profits; therefore a company’s growth prospectus is very important in creating shareholder value. Innovations that provide new rather than improved products are one of the explanations why companies achieve spectacular results in creating shareholder value. The market rewards investments for growth when expansion plans looks as if they will create value. Except for some exceptions, generally business with higher P/E ratios will expand faster than other businesses and companies that aim at value creation should direct their resources towards growth areas. Growth can be achieved through merger and acquisition and also it can be an organic growth
meaning that it is the growth generated by the company itself. Credible earning growth matches the fundamental driver growth since the growth prospect has to involve sustainable profitable growth not just growth per se (Dalborg, 1999).

According to Doorley and Donovan (1999) if a company does aspire to a high level of achievement, it must grow and companies with a near-fanatical focus on the growth outperform all others. Companies with high growth rates are mostly likely to have high returns to shareholders and companies with low growth rates are likely to realize low returns. However, he said that not every business could generate value by growing all the times. He also indicated that there can be value destroying growth. Therefore, before committing to developing a specific business, it is important for the company to determine whether or not its returns exceed the cost of capital. Rappaport (1998) discussed that Shareholder value creation in external growth such as merger and acquisition depends not on the pre-merger market valuation of the target company but on the actual acquisition price the acquiring company pays compared with the selling company’s cash-flow contribution to the combined company. Zook and Allen (2000) discussed the potential series on growth and shareholder value creation and found out that sustainable revenue and net income growth is the only reliable way to create shareholder value.

2.5.5.5 Quality Information

The way companies present the information or the degree of disclosure of information can also create the value. Van and Linde (1998) state that it is important to tell investors about the strategies being followed and what is actually being done in the company. Directors must ensure that all interested parties are fully informed of any material matter affecting the company’s business, with openness and substance over form being their guideline”. By “Any material matter” the author means one, which affects shareholders’ expectations, and the market prices that are based on those expectations. Failure to properly inform shareholders can be severe since investor confidence is difficult to regain.

According to Clarke (2000) giving out information will benefit individual shareholders as well as the company. He then suggested that management should report both why their strategies are expected to lead to the creation of value over the long term and their own view over actual performance. It will also facilitate the stock Exchange in allocating scarce capital resources. Knight (1997) states that information controls value since value is based on
expectations of the future and what investors expect to happen to the company’s cash flow is the largest determinant of value. He went on to mention that information is the most single factor in determining value and that information about the past is objective while information about the future is subjective.

2.5.5.6 Stock Repurchases

Rappaport (1998) pointed out that one of the guiding principals of shareholder value management is to return cash to the shareholders and when the value creating investments are not available, share repurchase becomes a considerable supplement to the dividend in returning cash to shareholders. Companies may repurchase their shares as a signal to the market that their stock is being undervalued since average stock prices respond positively to the announcement of share repurchases and premium tender-offer share repurchase are most appropriate for reducing significant market undervaluation. Furthermore when the market undervalues company’s shares, a share repurchase transfers wealth from the exiting shareholder to continuing shareholders. Then, in this case management objectives to maximize long-term value for continuing shareholders are put in action. The continuing shareholders will thus get a return, which is greater than the required rate of return if the exiting shareholders sell at that undervalued price.

The companies may carry out stock repurchase since it is a more tax efficient means for distributing cash to shareholders. In most cases, taxes are lower on capital gains than on ordinary income. However this tax efficiency idea does not apply to some institutional investors such as pension funds with no tax status. Companies also use stock repurchase since it enables them to increase leverage and move towards a more desirable capital structure. Here, the management must first make sure that this would be the least costly way of

2.5.6 Value Based Management

Knight (1998) defined the value-based management as a way of focusing managers on the company’s strategy to achieve a better alignment and create value. He goes on to say that managing for value means using the right combination of capital and other resources to generate cash flow from the business. This is an ongoing process of investing and operating decision making that includes focus on the value creation. In the value based management the focus on value is introduced into each of the three decisions making areas: objectives, alternatives, and information. These help improve the quality of the decision and create value.
Managing for value means imposing on the existing businesses the same type of discipline applied to new project approval. Value based management companies focus on the value oriented decision-making in the four key management processes of planning, budgeting, compensation, and management reporting. When all of them are focused on the value they reinforce the value mind-set.

Value based management means operating the company to create shareholder wealth and also take specific actions across the corporation to increase returns to shareholder. To take specific actions across the corporation to increase returns to shareholder-who after all, are the owners of the corporation and providers of its capital lifeblood. The thorough value based management approach increases the firm's future cash flow net of investment, with measures and tools specifically suited to that challenge. Management process and systems encourage the managers and other employees to behave in a way that maximizes the value of organization. They include the planning, target setting, and performance evaluation, incentives system, which every company needs in its running business (Copeland et al, 2000).

2.5.8 Measuring Shareholder Value – The Metrics

Throughout the late 1980s and 1990s there have been a growing number of concerns raised about traditional accounting measures. These criticisms are primarily concerned with the scope for subjectivity that even the most comprehensive accounting standards allow. A number of consultants, such as Rappaport (1986) and Stewart (1991), recognized these problems. As a result, they turned to the concept of shareholder value and how this can be created and sustained. He has, in turn, led to the development of a number of “value metrics”, the most significant of which are:

- Shareholder Value Analysis (SVA)
- Economic Profit (EP) and Economic Value Added (EVA)
- Cash Flow Return on Investment (CFROI)
- Total Business Returns (TBR)

2.5.8.1 Shareholder value analysis (SVA)

The shareholder value analysis (SVA) approach was developed by Alfred Rappaport in the 1980s. It can be used to estimate the value of the shareholders’ stake in a company or business unit, and can also be used as the basis for formulating and evaluating strategic decisions. The value of the operations of a business is determined by discounting expected
future operating “free cash flows” at an appropriate cost of capital. In order to find shareholder value, the value of “marketable securities and other investments” must be added to, and the value of debt must be subtracted from, the business valuation.

Free cash flow reflects the cash flow from the operations of a business for a period i.e. before taking into account any financing-related cash flows, such as those relating to share or debt issues, dividend and interest payments, etc.

2.5.8.2 Economic profit (EP)

Another method for determining shareholder value is by using the economic profit (EP) approach. Economic profit has been used, usually under the name “residual income”, as a means of measuring divisional performance for more than 30 years.

Economic profit describes the surplus earned by a business in a period after the deduction of all expenses, including the cost of using investors’ capital in the business. It is the difference between the return on capital and the cost of capital and can be calculated in two ways, as shown below:

\[ EP = Invested \text{ capital} \times (\text{return on capital} - \text{WACC}) \]

\[ EP = \text{Operating profits after tax less capital charge} \]

2.5.8.3 Cash flow return on investment

In essence, CFROI is a “real” (i.e., adjusted for the effect of inflation) rate of return measure, which identifies the relationship between the cash generated by a business relative to the cash invested in it. It is argued that CFROI provides an accurate measure of the economic performance of a business, free from potential accounting distortions relating to issues such as inflation and variations in asset ages. As well as providing a “superior” measure of current performance, it is also promoted as “the performance measure which best predicts future cash generation” (Braxton, 1991).

In its more sophisticated form, CFR OI incorporates the principles of the internal rate of return (IRR) concept, which is more often associated with the appraisal of capital investment opportunities. Specifically, CFR OI represents the “discount rate” that “discounts” the future annual cash flows that are expected to arise over the average life of a firms’ assets, back to current cash value (i.e. adjusted for inflation) of the firm’s net operating assets.
2.5.8.4 Total business returns (TBR)

Total business returns (TBR) is the internal equivalent of the external total shareholder returns (TSR) measure, which considers capital gains and dividends received by shareholders. The (TBR) approach is claimed to overcome the principal weakness with any short-term performance measure (including cash flow, EP/EVA, and CFROI), as it incorporates the long-term effect on the value of the business of decisions and actions taken in a particular period. This is because TBR combines the cash flow performance of a business with the change in value that occurred during the period.

Effectively, TBR represents an internal rate of return measure that equates the beginning value of a business with net free cash flows arising in the period, plus the value of the business at the end of the period. The accuracy of TBR therefore depends upon the accuracy of the valuation of the business at the start and end of the relevant period.

2.6 TECHNOLOGY AND VALUE CREATION IN BANKING

Technology plays a key role in the performance of banks. Recent technologies being exploited by banks include, mobile banking, telemarketing/banking, ATMs, telephone banking, and internet banking.

From researched literatures it appears that technology investments of the past purely aimed at improving productivity and reducing costs, do not usually lead to value creation for the forms, the benefits are frequently passed to their customers in the form of consumer surplus.

There is nonetheless a positive correlation between technology and value creation in banking. Information technology investments that target prices, market share and revenues through attractive product differentiation and / or by reducing the amount of searching by customers create value (Rowston & Treacy, 1986). This can be represented graphically as show below;
This, in order to translate technology into shareholder value creation, banks should aim at using the technology at supporting producing ease of search for the customers and prospective one.

Similarly Griffiths and Remeiny in their book information technology in financial services: a model for value creation stated that in order to convert IT investments not share holder value, financial services organization should focus on revenue enhancement initiatives, than by cost reduction.

Another aspect of critical for value creation through IT investments is the strategic intent of a firm. Defining the value discipline of the organization, and having a clear vision understood by its members are well known pre-requisites for any major organizational transformation, but more so when it is a transformation enabled by technology (Scott Morton, 1991) Griffiths & remenyi, 2003)

As already mentioned, above, IT investments for cost reduction are not always effective. And defining a value discipline is a pre-requisite to deciding and making the investment. Then it can be agreed that cost- leadership or real option, and incumbent bank should orient themselves toward customer intimacy or product leadership as their value discipline (Treacy and Wiersema, 1995).

Finally, and in practical terms ICT (investments) that assist innovation like those that lead to expanding the product range, to customize the services to be offered and to better respond to demand by customer lead to marker power (OECD 2003) and value creation.

2.7 INFORMATION TECHNOLOGY AND COMPETITIVE STRATEGY TO INCREASE SHAREHOLDER VALUE

A number of authors have identified opportunities for the application of information technology to create competitive advantage. Two general approaches can be distinguished: a
value-added chain analysis of the firm’s operations and Porter’s framework for competitive analysis.

Rockart and Scott Morton have introduced the use of the value-added chain to describe the potential opportunities arising from information technology. They identify three types of opportunities that can create competitive advantage: (1) improve each value adding function, (2) link customers and suppliers to increase their switching costs, and (3) create new business through service or product. Ives and Lear month further this effort by using a generic, thirteen function resource lifecycle model to identify competitive opportunities. It should be noted that these value-added chain analyses, geared toward operational efficiency and functional effectiveness, are closely related to internal strategy.

Porter advanced the idea that competition in any industry is rooted in this underlying economic structure, and thus it is more than a superficial game of moves and countermoves among participating firms. This approach is the framework he proposed to explain the dynamics of competition in an industry. The Figure below illustrates, five major forces underlying competition: rivalry among exiting competitors, threat of new entrants, threat of substitute products or services, barging power of suppliers, and bargaining power of customers.

Source: Michael Porter Competitive Strategy
An important implication of this framework is the idea of extended rivalry. To understand competition in an industry, one must look beyond current competitors to include customers, suppliers, firms producing substitute products, and potential entrants. Firms generally try to manipulate the competitive forces in their industry in order to achieve comparative advantage over competitors. There are certain generic strategies that can be employed to that end. Porter has identified cost leadership and product differentiation as two such strategies. He identifies a third strategy, the pursuit of niche markets, which is similar to product differentiation strategies. Other such strategies may include the exploitation of potential synergies with a firm’s customers or suppliers, or the notion of gaining bargaining advantage over one’s customers and suppliers.

Parsons uses Porter’s competitive forces framework to identify six generic categories of opportunities for competitive advantage: (1) increase customer’s switching costs through value-adding IT-based information or service, (2) decrease one’s own switching costs against suppliers, (3) use IT to support product innovation for purposes of maintaining one’s position or deterring potential substitutes, (4) cooperate with selected rivals through shared IT resources, (5) substitute information technology for labour, and (6) use information to better segment and satisfy one’s customer base.

Parsons, Rockart and Scott Morton, Ives and Learmonth, and others each have different categorizations of competitive opportunities created by information technology. From these we have distilled four areas of opportunity IT to support competitive strategy, which are:

(1) Improvement of operational efficiency and functional effectiveness,

(2) Exploitation of inter-organizational synergies,

(3) Product innovation with IT, and

(4) Acquisition of bargaining advantage over one’s customers and suppliers.

2.8 PERFORMANCE AND EFFICIENCY MEASURES IN BANKING INDUSTRY

2.8.1 The performance measurement application in Banking Industry
The ultimate goal and mission of a firm is to create value for its shareholders. These value creation objectives can be measured in two ways: the economic performance which describes or measures the internal value creation through increasing business economic profitability and finding profitable growth opportunity through strategic allocating of resource for a competitive advantage. The other way of measuring value creation performance is evaluating the market performance of the firms stock. This external method of shareholders return is the difference between the market value at the beginning of the shareholders period to the end also known as the capital gain plus the dividends paid out during this time horizon in question. Various empirical studies suggest the important of the effect of dividend policy that management consider in maximising shareholders wealth. According to Asquith and Mullins (1983) there is a significant positive impact on shareholder wealth for dividend increases and dividend initiations. Studies have explained that dividend increases convey information about the firm's current and future cash flows (Bhattacharya (1979) and Miller and Rock (1985)). Ofer and Siegel (1987) also examine the changes in dividend policy in relation to future earnings and made a conclusion which is in consistent with this information-signal hypothesis.

Importantly, for a firm to be economically successful in its functions the management must consider the trade-off between the growth, return and risk. Two important innovative performance metric has been considered to have informative content that shareholders and management can apply to analyse how firm the shareholders’ value maximise; The Risk-Adjusted Return on Capital (RAROC) and the Economic-Added-Value (EVA). The use of economic profit metrics ensure that management consider banking business lines cost of equity in their decision making process and allocate equity capital profitably and in direction of shareholders’ interest whilst their managerial incentive are also monitored based on shareholders wealth maximisation.

A banking firm will earn economic profit if the bank total earning exceeds the opportunity cost of equity employed. Considering the accounting or traditional method of measuring performance a firm will be profitable in its business yet economically unprofitable because its profit can not cover the cost of capital employed in that business period. In a firm where management interest is not in line with the shareholders’ interest (agency cost) then managers will maximise the
profitability of the firm instead of maximisation of shareholders value. In Ralph C. Kimball (1998) literature, he explains that management investing additional cost of equity capital if there is positive marginal contribution to earnings. This implies that the marginal contribution obtains by employing the last equity capital will be zero or less than the opportunity cost employed and the magnitude of the average return on equity compare to the opportunity cost is influence by the amount of equity capital employed.

On the other hand management who focus on maximising shareholders value will use additional unit of equity capital employed only until it generate marginal contribution which is equal to the opportunity cost of equity and the average return on equity capital is equal or exceed the opportunity cost of the capital employed.

EVA application is also dominating by securities analysts compare with the use of the dividend discount approach which models firm value by considering the fact that firm is for ongoing wealth creation rather than just for wealth distribution (Herzberg, 1998, p. 45). Again, Clinton and Chen (1998) made a suggestion after comparing share prices and returns to economic value-added (EVA), residual cash flow and other traditional accounting performance measures (ROE, ROA) that companies using EVA must also consider residual cash flow as an alternative of performance evaluating metric.

A firm which focus on only the traditional accounting method of evaluating business or investment by selecting the highest return on equity (ROE) might under-invest and grow slowly, however shareholders value is maximised in banks can concentrate on maximising the difference between the ROE and the opportunity cost of equity capital hence generate growth base on economics profitability. Mathematically, EVA is expressed as:

\[
EVA = adjusted \text{ Earning} - C*K
\]

This implies that to improve the economic value creation of each business line of the whole firm it is very important to consider three critical conditions: the ability to increase the adjusted earnings through sales or margins, the ability to reduce equity
capital required per each business line or reducing the cost of equity (Ralph C. Kimball, 1998). Uyemura, Kantor and Petit (1996) provide evidence that the is high correlation between EVA and the difference between the firm’s value and firm market capitalisation (Market-Added-Value (MVA)) and hence stock price. On the basis of providing a platform for financial report debate, Biddle et al. (1997, p. 303) express that the data on the information content of EVA provide potential and useful input to debate on the normative policy on what performance measurement metrics should be reported in financial statements. Bao and Bao (1998, p. 262) also try to critically analyse price levels and firm valuations and came out with a conclusion which is not consistent for earnings and abnormal economic earnings but contrary consistent for value added (value added is significant in both the stock price and firm valuation levels) and changes deflated by price analyses. Other interesting areas to ground the information content of the EVA methods have been considered by O’Byrne (1996) who suggested that the changes in EVA explain more variation in long-term stock returns than changes in earnings whiles Herzberg (1998) estimated that the residual income valuation model (such as EVA) seems to have been very effective in uncovering firms whose stock is underpriced when considered in conjunction with expectations for strong earnings and growth.

2.8.2 Capital allocation and banking performance

‘Allocation of capital means assigning a notional amount of capital to each business unit, requiring that they remunerate this capital adequately so as to meet the expectation of shareholders’ (Andrea Resti and Andrea Sironi, 2007 p693). They also advance that the capital allocation provide a strong foundation for effective system of measuring risk-adjusted performance to enable the firm determine which business unit are creating shareholders wealth and which units are using scarce resourcing inefficiently. Many major banks report consolidated annual report of their operations. This implies that for the bank to be economically healthy or create shareholders value it is important to devolution it decision-making process and operation and critically (re) allocate their equity capital base on their unit level. There are two important critical factors in capital allocating processing: the level of risk of the business line and the scale of the operation. The capital allocation method (internal beta, stand-alone risk, marginal capital, etc) applies to the business lines will also have effect on
the EVA reported on each business unit, the measure of the precise economics contribution and the incremental risk (volatility of economic earnings) of the bank. However due to the discrepancy between the actual capital of the banking firm and the sum of the market-bases capital allocation it is difficult to evaluate the management of the business line. It is also important to understand that the larger the capital allocated for the business line the difficult it is to earn enough profit that can cover or meet the require rate of return on equity to generate the economics value of the firm. A measured of the book value of equity divided by lagged total assets (capital ratio) has a positive impact on ROA (Demirgüc-Kunt and Huizinga (1999)). This establishment is consistent with the microeconomic studies conducted by Davis and Zhu, (2005) and Goddard et al. (2004). Berger (1995) stress that well-capitalized banks experience lower expected bankruptcy and therefore reduce their costs of funding.

2.8.3 Stock market value and banking operation performance

Due to the inefficiency of the market structure it is very important to measure the stock market performance of a firm and its correlation with the firm operational performances. A financial market is describe as efficient if all publicly available information is fully reflected in the stock prices so that there are no abnormal profits. Two types of the financial market efficiency have been established as the allocational efficiency and the operational efficiency. The allocational (which are weak, semi-strong and strong) efficiency describes that the securities prices are such that they equalise the risk-adjusted rates of return across all securities. This implies that securities with the same level of risk will offer the same expected return. Again all market participant benefit under the allocational efficiency since there is an optimal allocation of savings for productive investment. On the other hand the operational efficiency describes that the participants supplying and demanding funds are able to carry out transactions cheaply and this is measured from the bid-ask spread and commission rates of the transactions.

According to Brealey and Myers (1991) the semi-strong market efficiency is where most publicly available information is incorporated into the stock prices and hence the best measure of estimating whether the firm is creating value for its shareholders or
not. For a strong efficient market the prices of stock fully reflect all relevant information both the publicly available or not. This implies that no investor (including insider with firm’s material information) ever earn consistently superior returns whiles for a weak efficient market the security prices fully reflect the information contained in past price movements. This implies that the stock price movement do not follow patterns which repeat and hence no profitable trading is possible if historical price information is used.

According to Clarke (1996) more risky project or investment requires higher expected return on a comparable financial investment hence higher opportunity cost of capital is required. The prices of stock is subject to the market it operates and the investment or activities the bank undertaken. The sensitivities or the volatility of the stock price is captured in the standard deviation of the stock returns measured. This standard deviation (total risk) has two important risk compositions: the beta (β) component which captures the market/systematic or non-diversifiable risk of the firm. Beta value is obtained by regressing common stock returns of the firms against the market returns. The other component is the specific or diversifiable risk of the firm due to the bank’s investment undertaken. Brailsford and Josev, (1997) establish that is important to consider the interval over which the beta value was measured from since the interval considered has effect on the beta value obtained. On the other hand the specific or diversifiable risk of the bank can be eliminated or minimised if there is a large internally diversification of investment activities. Shareholders would be only concern on the systematic risk if they hold a well-diversified portfolio. The total risk of the bank is a concern to regulators and supervisory bodies because market disruption and default is due to the effect of systematic and specific risk of the bank. According to Stulz, (1984) risk-averse managers will be concerned about total risk if they hold large portion of their wealth in equity or if they cannot diversify their human capital or skills as describes by Cummins et al. (1998). Bank borrowers will also be concerned about the total risk of the bank if internal capital frictions reduce lending and efficient allocation of the bank’s scarce resources (Houston et al. (1997)). Again the non-linearity of cost of external fund, cost financial distress, non-traded risk and the convexity of corporate tax code have effect on the total risk of the firm and therefore shareholders would be concern about this total volatility (Froot, Scharfstein and Stein (1993) and Froot and Stein (1998)).
In an attempt to establish the relationship between various performance metrics and the stock market return, Lehen and Makhija (1997) found that the EVA and MVA are highly correlated with the stock market returns with coefficients of correlation of 0.59 and 0.58 respectively compared with ROE of 0.455 and ROA of 0.455. Garvey and Milbourn (2000) also tried to establish the relationship between EVA and earnings with the compensation systems instead of the performance measures considered in other studies. They advanced that a strong statistical relationship with stock returns does not establish (a priori) that a performance measure adds value to a compensation system. They however made an additional conclusion that companies attempting to apply EVA method (in the first place) evaluate or analysed the EVA’s $R^2$ (coefficient of determination) with its stock returns.
CHAPTER THREE

METHODOLOGY

SUMMARY

This chapter discusses the general methods which will be applied in our empirical studies including the calculations of Economic-Value-Added (EVA) tailored for banking sector, ROA, ROE and control variables for each bank. Methods of calculating value creation on the stock market such as stock market return and risk-adjusted market returns and their level of correlation with respective bank’s activities and performance was also established. Data for these calculations were collected from ‘Yahoo’ and each bank’s official websites.

3.1 INTRODUCTION

This section of our investigation into value creation will focus on the methods used in various empirical investigations. It has been structured as follows:

1) The procedure for calculating the Economic Value Added (EVA) particularly in the banking sector
2) Traditional accounting method of performance measures will also be considered in our investigation and the information content relative to the innovative performance measure such as EVA analysed.
3) Various control variables which influence EVA Values will also be evaluated and the respective regression analysis considered in understanding their estimated influence on values creation of a banking firm.
4) On the basis of the semi-strong hypothesis of the financial market, all material public information of the firm should reflect in the stock prices of the firm. In this case stock market analysis of a banking firm will be considered and various methods apply to understand its information content with respect to the value creation activities of the bank.

3.2 CALCULATION OF ECONOMIC-VALUE-ADDED (EVA) FOR BANKS

Value creation of shareholders using the Economic Value Added (EVA) method expresses the surplus value created by a company within a given period. This can also be explained as the firm’s profit net
of the cost of all capital. The EVA is computed as a company’s net operating profit after taxes (NOPAT) minus the of equity capital employed by the company. The cost of equity capital employed is the product of the expected return of shareholders fund and the equity capital of the bank (as reported on the balance sheet). The EVA is express as:

\[
\text{EVA} = \text{Net Operating Profit After Taxes} - (\% \text{Cost of Equity Capital} \times \text{Equity})
\]

A negative EVA value expresses that the company is not adding value but rather they are diminishing shareholders’ value whilst positive EVA signal creation of value as they added extra value to shareholders’ initial investment. EVA estimation will not based on NOPAT and invested Capital obtained at the same year but rather the invested capital used lag one year period compare with the period the NOPAT data used (Velez-Pareja, 2000). This is because shareholders invest fund today (beginning of the operating year) and expect their returns in the near future (at the end of the operating year period). In computing EVA, the method used to obtain the expected returns (cost of equity capital) and the NOPAT is very important.

3.2.1 Calculation of NOPAT

The calculation of NOPAT (Net Operating Profit After-Tax) should reflect the economics realities of the bank at the period of EVA evaluation. The use of traditional accounting principles (GAAP) distort the true profit of the firm and therefore need to be modified to obtain estimate economic profit. To obtain appropriate NOPAT reflecting the economic realities of a given period, various studies has establish more than 160 accounting adjustment on GAAP financial data. On realities all these adjustment can not be made on a single company. However the decision for the selection of adjustment on net income must be based the materiality of the adjustments and its effect on the behaviour of the management behaviour the extent to which these adjustment affect the EVA value computed and market value of the company.

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1 Al Ehrbar (1998) establishes that there may be several spectrum of EVA value based on the number of accounting Adjustments made during EVA calculation:
   • Using unadjusted GAAP operating profit and GAAP balance sheet capital will lead to the ‘basic EVA’ value.;
Across the banking sector two most common adjustments which occur are the provision of loss and the provision of tax. These distort the economic realities of the incomes since the tax paid and therefore need to be

3.2.2 Calculation of cost of Equity

Shareholders in invest their fund today expecting a return in the future. This return is the cost of equity they are expecting from the company. In monetary terms the cost of equity capital employed is the product of the %cost of equity and the shareholders’ capital used. This can be expressed as:

\[ K_t = R \times C_{t-1} \]

Where
- \( K_t \) is the cost of equity capital employed in monetary terms
- \( R \) is the % cost of equity or the expected return on equity
- \( C_{t-1} \) is the total equity capital employed at the beginning of the year.

However the % cost of equity capital can be calculated using the Capital Asset Pricing Model (CAPM). This CAPM\(^2\) method implies that the cost of equity is influenced by variables and expressed as:

\[ R = R_f + \beta (R_m - R_f) \]

Where
- \( R \) is the expected cost of equity

---

- The ‘basic EVA’ can be improved to obtain the “disclosed EVA” by making some standard adjustments to publicly available accounting data. This is usually adopted by external analysts;
- When “all” internal data that reflect the true economic condition of the company is used the ‘true EVA’ is obtained;
- The “tailored EVA” is obtained when specific internal information (e.g. business mix, organisation structure, business mix, strategies,) use to adjust accounting figures then ‘tailored EVA’ is obtained

\(^2\) CAPM (Capital Asset Pricing Model)
R_f is the risk free-rate which is considered as the 20-year gilts (UK government bond) yield

(R_m - R_f) is the market risk premium expected by an investor and 

β is defined as beta and is the market risk of the company and may vary periodically based on market conditions\(^3\). The beta is practically obtained by finding the slope of a regression of company’s stock returns against the market index returns (such as FTSE100 in UK) within a given period.

The estimated (unadjusted) beta obtained from simple regression of monthly firm’s stock return against market indices do not capture the all the risk associated with the stock relative to the market. This estimated beta can be improved using Bloomberg adjustment method with the following formula\(^4\):

\[
\text{Adjusted beta} = 0.66 \times \text{unadjusted beta} + 0.34
\]

The Bloomberg Adjustment formula increases beta values that are under 1 and lowers beta values that are higher than 1. Rosenberg et al. (1998) explains that the use of historical beta to estimate future is less effective than using alternative technique for the prediction. However it has been established that their initial prediction techniques are similar to the Bloomberg formula (Grinblatt and Titman, 1998, p175)

### 3.3 CALCULATIONS OF TRADITIONAL ACCOUNTING PERFORMANCE MEASUREMENT AND CONTROL VARIABLES

To obtain a complementary analysis, it is important to calculate both the traditional performance metrics and other control variables to understand in detail their respective information contents on annual basis. The following metrics with their respective denotes will be considered:

\(^3\) Market risk accounts for most of the risk of a well-diversified portfolio’, whiles ‘a stock sensitivity to changes in the value of the market portfolio is known as beta’ (Brealey et al., 2006, p169, 191).

\(^4\) The beta improvement account for the estimation error. The source of error is due to the volatility of the stock returns which leads to imprecise estimate. Another source of estimate error might be due to changes of other stocks either because of lack of trading or stale limit orders leading to investors not considering to use new information available to updates their orders (Grinblatt and Titman, 1998, p174)
**ROE:** Return on equity (ROE) for each banking firm is calculated as a ratio of net income to end-year-period equity and earning. ROE is an alternative measure of profitability used by banks to understand how management business activities has utilised shareholders’ equity as a scarce resources available to them. Risk adjusted ROE is calculated as the ratio of average ROE to the volatility (annual standard deviation) of ROE will explain the ROE obtain per each risk taken to use shareholders’ fund.

**NII:** Non-interest income divided by average assets for a bank at period of time measures the level of diversification of the bank. Fees income can be use to cross-subsidise the banking activities resulting in lower loan rate charge and deposit rate increase.

**EXP:** Banks can set a competitive advantage to create shareholders value by reducing and optimising the cost of their activities. The ratio of cost of operation to net income defines how the banks spend to generate per income for shareholders.

**KA:** The ratio of book value of equity to total asset for a particular bank defines the level of capital adequacy of the bank. Berger (1995) stress that well-capitalized banks experience lower expected bankruptcy and therefore reduce their costs of funding. Customers are more attracted to banks with a well-capitalized banks due to their stability, reliability and their ability to provide low loan rate, hence banks increasing their revenue.

### 3.4 CALCULATION OF STOCK MARKET PERFORMANCE MEASUREMENT

The business performances of the banks are expected to reflect on the stock prices of the bank. This implies that all material public information should have influence on the prices of the stock (semi-strong market efficiency). To have a comparative data with the information content obtained from the EVA and the traditional it is important that we calculate the following stock market performance measures:

**Rs:** This denotes the stock market return which includes the respective annual dividend paid and the capital gain/loss. The % stock market return is calculated as:

\[
Rs = \frac{(D + g)}{P_0}
\]
Where $D$ and $g$ are the annual dividend paid and capital gain respectively and $P_0$ is the initial stock price. The capital gain/loss, $g$ is obtained by using monthly stock prices of each bank to calculate monthly gain/loss and then sum all the 12 months gain/loss to obtain the annual gain/loss as follows:

$$R_s = \left(\frac{(P_{t+1} - P_t)}{P_t}\right) \times 100$$

$$R_t = \frac{\sum R_s}{N}$$

$$\sigma^2 = \frac{\sum (R_{i,s} - R_t)^2}{N}$$

$$RAR_{i,s} = \frac{R_t}{\sigma}$$

Where $P_t$ is the price of stock at the beginning of the week and $P_{t+1}$ is the stock price at the end of the week. In the UK the financial year ends in 31st December. Practically investors will only take informed decision after they have critically analysed (both quantitatively and qualitatively) the financial report published by the company. This implies that there is a gap between the time the banks publish any financial report and the time of market reactions. Regression will be used to find the correlation and explanatory variation between the annual mean returns of Barclays Plc and HSBC. This explanatory process will also include running a second correlation matrix using natural logarithmic variables or inputs. Effectively the logarithmic transformation tries to eliminate the non-linearity of the variables and any distortion arising from other influences.

The final part is concentrated on the informational content of the EVA, the traditional accounting performance method (ROE), the stock market returns and selected control variables. Regression analysis will be considered to obtain the correlation matrix and other explanatory content and their impact on shareholders economic value creation. This information content obtained will help to provide both trend analysis for Barclays and HSBC, and a common platform for comparative (cross-sectional) analysis between the two banks on how they utilities shareholders’ fund to create wealth, the risk involve and whether this profit activities have any association with the stock market performance. Since shareholders are residual receivers when firm goes bankruptcy and dividend payment by firms are not by any legislative obligation, the performance of the stock market is an integral part when
considering shareholders economic value creation. This implies that among other considerations, investors or shareholders will also take an informed decision on the stock prices base on the business performances of the firm.

3.5 DATA, SAMPLE CALCULATION AND REGRESSION CONSTRUCTION

Our data set includes information on equity market price movements and market returns and consolidated accounting returns, balance sheet, income statement and cash flows statement for Barclays plc and HSBC Group (HSBC) which are all publicly traded banks with their headquarters in UK. This sample covers a period of five years (2003-2007).

The equity market data were collected from the ‘Yahoo Finance’, a world wide website. These data are weekly traded stock prices movement for both the Barclays and HSBC. Data on FTSE100 Index (UK market index) weekly prices movement were also collected to serve as a benchmark for the stock market performance analysis. A total of 780 (52weeks*5*3) prices movement data were collected for Barclays, HSBC and FTSE100 Index. However there is a three months lag between the fiscal year ending for the firms (31st December) and the beginning of year of the data collected. This is because shareholders will only take informed decision on the performance of the firm after the financial report is published and then react on the stock market. Hence our stock market data starts from the first traded week in April and ends in the last traded week of the year (amounting to 52 weeks for each year under analysis).

The consolidated financial statements collected for HSBC and Barclays were all obtained from their respective official website. However the financial reports for HSBC are reported in US Dollar units and therefore were converted to British Pound. Exchange rates for this conversion are provided in each financial report of HSBC. The risk free rate collected was obtained from the UK gilt yield-curve for the HSBC Holdings group share option plan and other UK saving-related option plan (HSBC Holding report, 2007 p380) whiles the UK equity market premium obtained from ‘Yahoo Finance’.

Our sample calculations and regressions are all presented in Microsoft excel files. The files are group into four: ‘Value-creation1’, ‘Value-Creation2’, ‘Value-Creation3’ and ‘Value-
Creation4’. Each file has two sections (1 and 2) representing Barclays and HSBC. The contents are as follows:

The ‘Value-Creation1’ contains the selected inputs from the financial reports from Barclays and HSBC. Each section also contains calculated control variables, ROE analysis, and cost of equity valuation, EVA values and EVA per equity quantitative and regression inputs and analysis.

The ‘Value-Creation2’ also contains the quantitative analysis of net interest income adjusted for equity and volatility (risk). Finally ‘Value-Creation3’ and 4 contains the stock market performance analysis for HSBC, Barclays and FSTE100 Index which serves as a market benchmark for public traded companies in UK and a market returns regression analysis and graphical presentations for the two banks respectively.
CHAPTER FOUR

EMPIRICAL RESULT AND DISCUSSION

SUMMARY

This chapter focuses on our empirical results using HSBC and Barclays plc as our case studies. Traditional accounting (ROA and ROE), innovation (EVA or EVA/E) methods and the stock market performance measurement were computed using public information such as financial reports and stock market data available on these two banks from 2003-2007. After a correlation matrix was run between these performance metrics and some control values obtained, it was established that EVA/E have strong explanation power to the variations of the stock market returns for Barclays whiles ROA have strong explanation power to the stock market returns variations although all performance metrics do have some level of explanation to the variations of the stock market returns of both banks.

Comparing both banks average performances, Barclays deliver higher EVA per equity and ROE than HSBC but due to the high volatilities of Barclays business activities HSBC outperformed Barclays when EVA/E and ROE are risk adjusted and seems to reflect on the stock market with higher returns for HSBC shareholders.

4.1 INTRODUCTION

To embark on our investigation into the values creation in these two banks it is important to analyse their performances and again get into details on their respective performance and value creation attributions.

We will analyse each bank in detail based on three important areas: the analysis of control variables and accounting performance measurement such as ROE and ROA, the analysis of EVA method of performance measurement and the analysis of the stock market performances. These areas mentioned are analysed together to find how they associate with each other and their influence on shareholders value creation.
Finally a comparative analysis between the banks would be undertaken on which bank creates more economics value for their shareholders.

**4.2 ANALYSIS OF BARCLAYS PLC**

Modern bank focus on two important areas to generate revenue: provision of loans to customers for interest rate charged and providing other services such as exchange rate, money transfer etc for commission and fees and other non-interest income. Over the five-year period (2003-2007) under discussion Barclays show some signs of decreasing their revenue from interest income as a percentage of total equity at the end of each period. A record of 40.09% in 2003 to 29.591% in 2007, though there was a rise to 40.76 folds for 100 folds of equity recorded at end of 2004. However revenue generated from commission, fees and other non-interest income seems to continuing gaining momentum. This can be explained from measuring efficiency of banking as percentage of non-interest income to the sum of interest and non-interest income and also from the ratio of non-interest income to interest income. In 2007 Barclays recorded great performance of generating net non-interest income (NIN) of 80.21 units for every 100 units of interest income (IN) recorded compared to 64.55, 70.65 and 78.50 in 2002, 2005 and 2006 respectively whiles the efficiency (EFF) measures 39.23, 41.50, 41.40, 43.98 and 44.51% from 2003-2007 respectively. This efficiency was however supported by management struggling to stabilise its operating expense as a percentage of shareholders’ equity from 44.0% in 2003 to 40.64% in 2007 though it emerge both upward and downward trend between 2003 and 2006.

On the basis of this data Barclays seems to continuing charting economies of scope and product diversification and possibly trying to practice cost leadership as is gradually moving away from traditional loan services as mostly the major way of banks’ revenue generation to more fees and non-income revenue collection as it continues reducing it cost of operating. With respect to it capital base, Barclays shows a downward trend on its equity fraction in total assets from the period under discussion.

On the profitability indices for Barclays both the ROA and ROE continues to experience unstabilised upward trend of ROE. The bank recorded 17.02% in 2007 after generating all highest of 20.05% in 2006 compare to 17.48, 19.86 and 18.65% in 2003, 2004 and 2005 respectively whiles ROA generated within the period was around 0.65, 0.67, 0.53, 0.54 and
0.46% from 2003 and 2007 respectively. On average the bank produced ROE of 18.61% with 95% statistical assurance that this average is between 17.42 and 19.89%. However since investors are concern with the risk involve in using their fund, Barclays has been measured to provide shareholders an average of 13.65 units of ROE for a unit of risk taken within this 5-year period.

Since ROA and ROA do not provide any clear information on how shareholders value is maximised it is very important to find an alternative performance metrics. Kimball, (1998) said ‘a firm that uses a performance metric based on ROE will tend to underinvest and grow more slowly than it should’. He explains further that a business unit who’s ROE are in excess of risk-adjusted hurdle rate tends to maximised shareholders return. This implies that maximising EVA mean investing in project until the last project provide ROE equals to the opportunity cost of capital employed.

Again we applied the performance metric on Barclays and its respective annual EVA measured. We experienced a consistent increase of EVA value across the period. This indicates that Barclays is added value to shareholders fund in across the period. However we measured the value created to each shareholder’s equity capital used and obtained a downward trend (except 2003 which obtained the highest of 25.09%) in percentage though there exit value creation. EVA per equity capital of 21.14, 21.49, 25.09, 18.73 and 17.79% were recorded from 2003 to 2005 respectively. On average Barclays generated 20.45% of EVA per equity capital, dispersed between 17.87% and 23.82% statistically significant at 0.05. Finding the risk-EVA per equity capital trade-off for investors we obtained risk-adjusted EVA per equity capital of approximately 7.33. This implies that on average every unit of equity capital received by Barclays form shareholders, 7.33 units of economic value is created for taking a unit of risk annually.

In a semi-strong, efficient market where most of the information is incorporated into prices, stock value performance is, as it is widely accepted (Brealey and Myers,1991, pp 915), the best measure of estimating whether firms are creating value for shareholders or not.

To embark on examining whether there is any relationship between this value created by the banks through its business operations to its shareholders and the value created on the stock market for shareholders we first of all need to analyse the capital market performance of the bank. The stock market price has experienced to some extend a high degree of fluctuations
within the five-year period. This has affected its annual arithmetic mean return from 2003-2005 with 2004 and 2005 experiencing the highest return of 22.0% and 24.81% respectively compared to 7.63 and 15.00% for 2006 and 2004 respectively with the worse market return of -33.13% experienced for 2007 period. However market performance for Barclays outperformed its benchmark, the FTSE100 except 2007 where Barclays recorded -33.13% compared to -5.92% for FTSE100. The market shows upward trend with respect to the total risk for Barclays within the period. Both the market (systematic) and specific (unsystematic) risk also prove to follow upward direction with the total risk of the firm stock market performance. 2007 recorded the highest of 38.12% of total risk compared to 16.76 and 25.43% in 2005 and 2006 respectively, while the market obtained 16.69, 12.98 and 8.75% for 2007, 2006 and 2005 respectively. On average Barclay’s stock market generated 7.28% annually. This implies that at its average market annual volatility of 25.56% shareholders received an excess return of 9.56% over alternative investment in the average UK government bond (Gilts) for every risk the shareholders take to give their fund to Barclays. On the other side the FTSE 100 outperformed the Barclays in excess average of 11.86% for each risk taken in both the market portfolio and Barclay’s stocks.

Holmstrom and Tirole (1993) establish that stock markets serve to monitor managerial performance because the stock price incorporates performance information that cannot be extracted from a firm's current or future data. This implies that the information that is reflected in a firm's share price is important for structuring managerial incentives to build up a firm's productivity, and hence economic growth in aggregate. It is therefore important to measure the information content of this managerial performance and its association with the value creation in the sock market. In doing so we ran all performance metrics computed and its compositions, control variables and the performance metrics obtained from the stock market in a correlation matrix to understand their relationship with each other.

Our first correlation matrix ran indicates that there is a correlation (R= 0.772) between the value created per equity by Barclays expressed as EVA/E and its stock marker returns (MR), and a correlation (R) of 0.895 between EVA/E and the stock market returns adjusted for risk (RAR). Thus 59.60% and 80.10% (thus coefficient of determination, \( R^2 = (0.772)^2 \) and \( 0.895^2 \)) of the market returns (MR) and risk-adjusted returns (RAR) can be explained by the per equity value created by Barclays. There was also a correlation of 0.455 between the stock market returns and the returns on equity (ROE) explaining that about 20.70% of the market return can be explained by ROE. There is also a positive relationship between the ROE and
per equity value created hence with explanatory content of 2.50%. though both ROE and EVA/E provide some degree of association with the stock market performance, however it is important that the economic value created (EVA/E) seems to be superior in its explanation content.

Again in getting better information about business performance and stock performance we took a second run of the correlation matrix using natural logarithmic inputs of all the performance metrics mentioned above and including the ratios of net interest income to total shareholders equity (IN/TSE), return on assets (ROA) and net non-interest income to net interest income (NIN/IN). The logarithmic inputs are necessary to eliminate non-linearity and effectively remove distortion arising from inflation and other influences on the chosen inputs that are common to all banks.

Our empirical results on this process provide important positive relationship between four of our inputs (ratio of net interest income to total shareholders equity (IN/TSE), EVA/E, ROA and ROE) and the market returns (MR and RAR). The correlation between per equity value created, and the market returns, MR and that of the risk-adjusted market return, RAR are 0.744 and 0.742. This explains that about 55.35% of the risk-adjusted market returns is explain by the per equity value created whereas 55.0% of the market returns (MR) can be explained by the per equity value created by Barclays. Again both our traditional performance methods, ROA and ROE also have 46.92% and 25.30% explanatory content respectively with the stock market returns. There is a correlation between the net interest income and the market returns with information content of about 46.10%. However our performance metrics seems to have associations with the market returns the EVA/E still prove to explain strong correlation with the market performance. This seems to be in direction of Stewart (1994, p. 75) who establish that EVA stands well out from the crowd as the single best measure of wealth creation and is almost 50% better than its closest accounting-based competitor such as ROE and ROA in explaining changes in shareholder wealth. Uyemura, Kantor and Petit (1996) explain that that EVA has a high correlation with market value added and thereby stock price, while O’Byrne (1996) estimated that changes in EVA explains more variation in long-term stock returns than changes in earnings.

Our final regression analysis on Barclays was based on using the logarithmic independent variables of EVA to understand their relationship with it. It was observed that the equity
capital charge (C-C), the provision for loss (P-L), the profit before tax (PBT) were all having high correlation with the EVA.

4.3 ANALYSIS OF HSBC

The bank efficiency measured continuous to increase progressive from 2003 to 2007 recording 20.87, 29.67, 31.57, 33.26 and 36.79% respectively. Again the bank ratio of non interest income to interest income also prove to be increasing from throughout the five-year period recording 40.61, 42.20, 46.135, 49.82 and 58.21% respectively whiles net interest income to equity capital also decreases continuously throughout the period from 35.37% in 2003 to 31.90, 30.0, and 27.91% in 2005, 2006 and 2007 respectively. These increases indicate HSBC effort of generating more revenue from fees and commission thus diversifying its revenue base whiles reducing it major dependant on interest-based revenue such as loans etc.

On the performance indicator the bank’s ROE and ROA seems to wave within a short wavelength of 14.75 to 17.23% with a mean of 15.77% for ROE and between 1.15 and 0.95% with mean of 1.042% for ROA. The ROE adjusted for its risk is also recorded as 17.77%. We calculated the economic value created by the bank to understand how shareholders’ fund has been used and experienced that the bank seems to maintain a stabilised value creation per equity from 2005 to 2007 (19.75%, 19.08%, and 19.30% respectively) whiles there was a decline from 19.28% to 13.97% between 2003 and 2004. This performance provides annual EVA per equity (EVA/E) mean of 18.30% with 95% confident assurance that this mean will fall between 15.74% and 20.81%. This implies that shareholders of HSBC have to absorb 1 unit of risk to obtain 7.548 units of value created (EVA) for every unit (1) of equity capital given to the bank. It is very important that we investigate whether these effort by the banks provide their owners any extra gains on the stock market. This implies that there is a need to analysed the market performance and check whether shareholders reaction on the market also reflect their companies activities and effort to generate economic profit and growth for their fund.

The stock market performance for HSBC experienced it all time low of annual average return of 1.32% in 2007 compare to 2.52% and 10.12% in 2006 and 2004 respectively within the period under discussion. It recorded about 20.00% and 25.14% in 2005 and 2003...
respectively. However totals market risk continues to increase to 18.30% in 2007 though there was a decline in market risk to 12.96 % in 2004 compare to 16.04% in 2003. This behaviour of HSBC market volatility compounded with its continuous level of association with the market portfolio (FTSE100) seems to increase both the systematic (market) and unsystematic (specific) risk especially from 2003 to 2007. However the specific risk explains in level of internal diversification. On average HSBC stock was able to generate annual return of 11.83% for its shareholders within the five year period under investigation. On the basis on shareholders’ risk-return trade-off, the market generated on average of 83.19% returns for every risk that shareholders take. In totality HSBC outperformed on average both the government bond in excess of 49.15% and the marker portfolio, FTSE100 excess of 42.83% for a given risk (RAR) taken by shareholders.

Upon our regression we obtain very interesting correlation that seems to be different from that of the Barclays plc. In our first run of the correlation matrix there exists a relationship between ROE and EVA/E with correlation of 0.298. This explains that about 8.88% of the EVA/E content can be explained by the ROE. Again, the correlation between per equity value created by the bank and the stock market returns is 0.1428 thus EVA/E explains just about 2.00% of the stock market returns variations whiles the EVA/E also explains about 3.53% of the information content of the risk-adjusted market returns (RAR).

Our data was transformed for the second run of our regression using logarithmic variables and other inputs were included such as ROA, IN/TSE and NIN/IN. The correlation between risk-adjusted return and EVA/E was 0.081 and between EVA/E and market return (MR) was 0.122. This establishes that only 0.66% of the risk-adjusted market return is explained by EVA/E and 1.49% of EVA/E explains the information content of the market return (MR). The ROA has correlation of 0.293 with the risk-adjusted market whiles it has correlation of 0.001 with the market return (MR). On the other hand the correlation between ROA and RAR is 0.884 establishing that ROA explains about 78.14% of the variation of the RAR whiles the ROA again explains about 50.69% of the variation of the market returns (MR).surprisingly we also establish a correlation between IN/TSE and the market returns of 0.653 and RAR of 0.61 and with ROA of 0.637. According to Stiroh (2004) and Stiroh and Rumble (2006), as mentioned above, higher correlation between non-interest income and interest income can be due to possible cross-selling of different products to the same customer. The ROA seems to be superior to explain the information content or variation of the stock market performance.
and hence does not support various empirical establishments such as by Biddle, Bowen and Wallace (1997) Chen and Dodd (1997), Lehn and Makhija (1997), Rogerson (1997) and Bao and Bao (1996; 1998), among others that the EVA is always superior in explaining the stock market variations. Contrary to their findings, Chen and Dodd (1997) find out that not a single EVA measure (average EVA per share, return on capital, change of standardised EVA, capital growth and return on capital minus the cost of capital) is able to account for more than 26 percent of the variation in stock returns. Chen and Dodd (1997) result support our empirical result for HSBC where we obtained about 2.00% of EVA/E explaining market returns and 3.53% explaining the variations in risk-adjusted market return.

4.4 COMPARATIVE EMPIRICAL DISCUSSION

Both the Barclays plc and HSBC have their parent banks in UK and with their respective subsidiaries spread globally. The two banks continue to dominate in UK high streets with intense competition. Our empirical result shows that both banks continue to decrease their operating expenses and increasing their non interest income indicating their ability to take cost advantage and diversification or product mix to increase revenue base for profit maximization and shareholders value creation. However HSBC seems to dominate in cost leadership practices relative to Barclays as it is measured as a ratio of operating expense to total shareholders’ equity (OEXP/TSE), thus we recorded 26.43, 27.92, 30.05, 26.88 and 28.83% for HSBC compared with Barclays with 44.03, 50.92, 43.09, 46.27, and 40.64% from 2003 to 2007 respectively. On the other hand Barclays seems to provide evidence of generating more net income from both non interest income for every interest income they generate (NIN/IN) and more interest income to equity capital (IN/TSE) relative to HSBC. Due to high volatility of Barclays’ income generation relative to HSBC, their risk adjusted interest and non interest income is dominated by that of HSBC (check ‘Value-Creation2’). This high volatility continues to embed in their performances relative to HSBC which seems to have control on their revenue base activities resulting to some extent a smooth or slight wavy income across the period. Considering both the accounting (ROE) and innovative (EVA) performance measurements Barclays provided average values of 18.61 and 20.80% respectively which outperformed HSBC with average values 15.77% for ROE and 18.30% EVA/E. Contrary to these performance average values above, the risk-adjusted ROE and EVA per equity give 13.65 and 7.33 units for every unit of risk taken by Barclays.
respectively. HSBC again outperformed Barclays by providing adjusted ROE of 17.30 units and EVA/E of 7.55 units for every unit of risk taken by HSBC.

On the stock market, shareholders seem to recognise each bank’s volatility of their business operations and reward accordingly as the price movement for Barclays provide higher deviation compared to HSBC. On average the volatility of both companies were increasing throughout the five-year period. Barclays produce an annual average return of 7.28% with volatility of 25.56% compared to HSBC with annual average return of 11.83% with volatility of 14.22%. This provides an annual average risk-adjusted return of 83.19% for HSBC and 28.50% for Barclays. The low level of specific risk for HSBC relative to Barclays clearly establishes how HSBC is internally diversified compared to Barclay. It would not be surprising to establish that the correlation between the average annual market returns of the two banks is 0.754 as they are very competitive industrial rivals, hence 56.86% of Barclays returns variation is explain by HSBC.

The performance measurements (ROA, ROE and EVA/E) of both banks show some evidence of correlation with the stock market value creation. However the economic added value (EVA) has superior relationship with the market returns (stock market value creation) whereas HSBC association with the stock market return is dominated by its ROA.

4.5 CONCLUSION

A number of empirical studies have been undertaken on the information content firm’s performance measurement methods on the on the stock market. There exit one group who support that information content of the economic value added (EVA) performance methods has superior explanations to the variation the value added for shareholders on the stock market. Contrary to the first group, this group do support that both the innovative (EVA) and the tradition accounting (ROA, ROE, net income, etc) methods of performance measurement do explain the variation of the stock market performance. The aim of this paper is to investigate ‘shareholders’ economic value creation’ in two UK established international banks; the HBSC Group and Barclays plc and make comparative analysis. Our method of investigation is focus on applying both the traditional accounting method and the innovation (Economic Value Added (EVA)) to establish the one which provide superior explanation to
the value created for the shareholders on the stock market. We also design control variables and decompose the EVA into its independent variable to understand how they influence performance of the banks and hence their value creation activities. We chose five-year (2003-2007) data from each bank including their financial statements and stock market prices movement data for this empirical study. However our EVA data were not chosen from Stern Stewart database but designed to suit the economic behaviour of the banking sector.

Our results suggest that the EVA per equity provide a superior information content of the stock market returns of Barclays relative to all the performance indicators applied. Upon decomposing the EVA to its independent variable we experienced at all independent variable have do explain the information content of EVA for Barclays but the capital charged(C-C) have the highest explanatory content. On the other hand HSBC shareholder value created on the stock market could be explain very well by the their ROA compare to other performance metrics applied whiles EVA variations could be well explained by provision for losses.

Our analysis establish that on average Barclays seems to perform better on their business and value creation activities when measured simply without considering the level of volatility in their chosen value creation activities. Interestingly shareholders do measure the two companies based on their risk-return trade-off. This affect shareholders reaction on the stock market and hence HSBC performed superior in shareholders value creation on the stock market compare to Barclays.

Our empirical study on these two banks provide mix conclusion on which performance method strongly capture explanatory power of the shareholders value creation on the stock market. Other academics researchers such as: Acheampong Y.J., Wetzstein M.E. 2001, Chen and Dodd, 1997; Rogerson, 1997; Lehn and Makhija, 1997 Riahi-Belkaoui, 1993) establish similar mix conclusions.

On the other hand Biddle (1998) suggests that the market itself may be inefficient, and thereby failing to recognise the ‘benefits’ of EVA. This can be described as a market with earning short-sightedness. DeLong et al. (1990) and Jegadeesh and Titman (1993) also concluded that positive feedback traders do to force prices of equities to overreact and hence move away from their long-run values temporarily as these “trend-chasers” do reinforce stock price movements even when there is no fundamental information.
Our final conclusion is that management should examine more closely which components of performance metrics ‘contribute to, or subtract from’ information content of shareholders value creation (Biddle’s et al., 1997) and more importantly, research should be undertaken in this area to establish clearly the method of performance measurements that undoubtedly have superior information content to shareholders economic value creation.
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